



PROJECT MANUAL

**DEMOLITION OF THE ROUNDHOUSE & ANNEX
UNIVERSITY OF SOUTH CAROLINA**

**STATE PROJECT NO: H27-Z005
A/E COMMISSION NO. 12101**

SEPTEMBER 24, 2012



**JUMPER CARTER SEASE/ARCHITECTS, P.A.
412 MEETING STREET * WEST COLUMBIA, S.C. 29169**

DIVISION 0 **BIDDING AND CONTRACT DOCUMENTS**

SE-310	Request for Advertisement/Invitation for Construction Bids (07/20/11)
AIA-A701-1997	Instructions to Bidders
00201-OSE	Standard Supplemental Instructions to Bidders (07/28/11)
AIA-A310-2010	Bid Bond (2010 Edition)
SE-330	Standard Bid Form (09/21/11)
AIA-101-2007	Standard Form of Agreement Between Owner & Contractor
00501-OSE	Standard Modifications to AIA A101 (07/11/11)
AIA-A201-2007	General Conditions of the Contract for Construction
00811-OSE	Standard Supplementary Conditions (09/07/11)
-----	USC Supplemental General Conditions for Construction Projects
SE-355	Performance Bond (2011)
SE-357	Labor & Material Payment Bond (08/09/11)
SE-480	Construction Change Order (2011)
-----	Contractor's One Year Guarantee
-----	Campus Vehicle Expectations

DIVISION 1 **GENERAL REQUIREMENTS**

011000	Summary
011010-A	Special Conditions
012000	Schedule of Completion
012100	Allowances
012400	Contract Modification Procedures
012900	Payment Procedures
013100	Project Management and Coordination
013200	Construction Progress Documentation
014200	References
015000	Temporary Facilities and Controls
015240	Construction Waste Management
017700	Closeout Procedures
018000	List of Drawings

DIVISION 2 **EXISTING CONDITIONS**

022600	Hazardous Material Assessment Summary
022600A	Hazardous Material Assessment – Golf Trailer
022600B	Hazardous Material Assessment – Annex
022600C	Hazardous Material Assessment – Roundhouse
022623	Asbestos Abatement Procedures
024116	Building Demolition

END OF SECTION 000010

SE-310
REQUEST FOR ADVERTISEMENT

2011 Edition
Rev. 7/20/2011

PROJECT NAME: Demolition of the Roundhouse & Annex

PROJECT NUMBER: H27-Z005

PROJECT LOCATION: University of South Carolina

Contractor may be subject to performance appraisal at close of project

BID SECURITY REQUIRED? Yes No

PERFORMANCE & PAYMENT BONDS REQUIRED? Yes No

CONSTRUCTION COST RANGE: \$175,000 - \$200,000

DESCRIPTION OF PROJECT: Demolition, removal and proper disposal of structures, site improvements, foundations, and utilities and preparation of ground for new construction. Small and minority business participation is encouraged. Bidders are responsible for obtaining all updates to bidding documents from the USC Purchasing website: <http://purchasing.sc.edu>. See [Facilities /Construction Solicitation and Awards](#).

A/E NAME: Jumper Carter Sease Architects

A/E CONTACT:L. Todd Sease, AIA, LEED AP

A/E ADDRESS: Street/PO Box:412 Meeting Street

City: West Columbia

State: South Carolina ZIP: 29169-

EMAIL: todd@jcsarchitects.com

TELEPHONE: (803) 791-1020

FAX: (803) 791-1022

All questions & correspondence concerning this Invitation shall be addressed to the A/E.

BIDDING DOCUMENTS/PLANS MAY BE OBTAINED FROM: purchasing.sc.edu

PLAN DEPOSIT AMOUNT: \$0.00 **IS DEPOSIT REFUNDABLE:** Yes No

Only those Bidding Documents/Plans obtained from the above listed source(s) are official. Bidders rely on copies of Bidding Documents/Plans obtained from any other source at their own risk.

BIDDING DOCUMENTS/PLANS ARE ALSO ON FILE FOR VIEWING PURPOSES ONLY AT *(list name and location for each plan room or other entity):*

purchasing.sc.edu

PRE-BID CONFERENCE? Yes No **MANDATORY ATTENDANCE?** Yes No

DATE: 10/11/2012 **TIME:** 10:00 AM **PLACE:** 743 Greene Street, Columbia, SC 29208; Conference Room 53

A site visit will be conducted immediately following the pre-bid for prospective contractors, subcontractors, and suppliers. This will be the only site visit and is highly recommended.

AGENCY: University of South Carolina

NAME OF AGENCY PROCUREMENT OFFICER: Kay Keisler

ADDRESS: Street/PO Box:743 Greene Street

City: Columbia

State: South Carolina ZIP: 29208-

EMAIL: kkeisler@fmc.sc.edu

TELEPHONE: (803) 777-5812

FAX: (803) 777-7334

BID CLOSING DATE: 10/25/2012 **TIME:** 2:00 PM **LOCATION:** 743 Greene Street, Columbia, SC 29208; Conference Room 53

BID DELIVERY ADDRESSES:

HAND-DELIVERY:

Attn: Kay Keisler

University of South Carolina

743 Greene Street

Columbia, SC 29208

MAIL SERVICE:

Attn: Kay Keisler

University of South Carolina

743 Greene Street

Columbia, SC 29208

SE-310
REQUEST FOR ADVERTISEMENT

2011 Edition
Rev. 7/20/2011

IS PROJECT WITHIN AGENCY CONSTRUCTION CERTIFICATION? (Agency *MUST* check one) Yes No

APPROVED BY (*Office of State Engineer*): _____

DATE: _____

AIA- A701 (1997)
Instructions To Bidders

Original AIA Document on file at the office of

Jumper Carter Sease Architects
412 Meeting Street
West Columbia, SC 29169
(803) 791-1020

OSE FORM 00201

STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

OWNER: University of South Carolina

PROJECT NUMBER: H27-Z005

PROJECT NAME: USC Demolition of the Roundhouse & Annex

PROJECT LOCATION: University of South Carolina

PROCUREMENT OFFICER: Kay Keisler

1. STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

1.1. These Standard Supplemental Instructions To Bidders amend or supplement Instructions To Bidders (AIA Document A701-1997) and other provisions of Bidding and Contract Documents as indicated below.

1.2. Compliance with these Standard Supplemental Instructions is required by the Office of State Engineer (OSE) for all State projects when competitive sealed bidding is used as the method of procurement.

1.3. All provisions of A701-1997, which are not so amended or supplemented, remain in full force and effect.

1.4. Bidders are cautioned to carefully examine the Bidding and Contract Documents for additional instructions or requirements.

2. MODIFICATIONS TO A701-1997

2.1. *Delete Section 1.1 and insert the following:*

1.1 Bidding Documents, collectively referred to as the **Invitation for Bids**, include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement, Instructions to Bidders (A-701), Supplementary Instructions to Bidders, the bid form (SE-330), the Intent to Award Notice (SE-370), and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda issued prior to execution of the Contract, and other documents set forth in the Bidding Documents. Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101, 2007 Edition as modified by OSE Form 00501 – Standard Modification to Agreement Between Owner and Contractor. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201, 2007 Edition as modified by OSE Form 00811 – Standard Supplementary Conditions.

2.2. *In Section 1.8, delete the words “and who meets the requirements set forth in the Bidding Documents”.*

2.3. *In Section 2.1, delete the word “making” and substitute the word “submitting.”*

2.4. *In Section 2.1.1:*

After the words “Bidding Documents,” delete the word “or” and substitute the word “and.”

Insert the following at the end of this section:

Bidders are expected to examine the Bidding Documents and Contract Documents thoroughly and should request an explanation of any ambiguities, discrepancies, errors, omissions, or conflicting statements. Failure to do so will be at the Bidder’s risk. Bidder assumes responsibility for any patent ambiguity that Bidder does not bring to the Owner’s attention prior to bid opening.

2.5. *In Section 2.1.3, insert the following after the term “Contract Documents” and before the period:*

and accepts full responsibility for any pre-bid existing conditions that would affect the Bid that could have been ascertained by a site visit. As provided in Regulation 19-445.2042(B), A bidder’s failure to attend an advertised pre-bid conference will not excuse its responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the State.

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2.6. *Insert the following Sections 2.2 through 2.6:*

2.2 CERTIFICATION OF INDEPENDENT PRICE DETERMINATION

GIVING FALSE, MISLEADING, OR INCOMPLETE INFORMATION ON THIS CERTIFICATION MAY RENDER YOU SUBJECT TO PROSECUTION UNDER SECTION 16-9-10 OF THE SOUTH CAROLINA CODE OF LAWS AND OTHER APPLICABLE LAWS.

(a) By submitting an bid, the bidder certifies that—

(1) The prices in this bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to—

- (i) Those prices;
- (ii) The intention to submit an bid; or
- (iii) The methods or factors used to calculate the prices offered.

(2) The prices in this bid have not been and will not be knowingly disclosed by the bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the bidder to induce any other concern to submit or not to submit an bid for the purpose of restricting competition.

(b) Each signature on the bid is considered to be a certification by the signatory that the signatory—

(1) Is the person in the bidder's organization responsible for determining the prices being offered in this bid, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; or

(2)(i) Has been authorized, in writing, to act as agent for the bidder's principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification [As used in this subdivision (b)(2)(i), the term "principals" means the person(s) in the bidder's organization responsible for determining the prices offered in this bid];

(ii) As an authorized agent, does certify that the principals referenced in subdivision (b)(2)(i) of this certification have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification.

(c) If the bidder deletes or modifies paragraph (a)(2) of this certification, the bidder must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

2.3 DRUG FREE WORKPLACE

By submitting a bid, the Bidder certifies that Bidder will maintain a drug free workplace in accordance with the requirements of Title 44, Chapter 107 of South Carolina Code of Laws, as amended.

2.4 CERTIFICATION REGARDING DEBARMENT AND OTHER RESPONSIBILITY MATTERS

(a) (1) By submitting an Bid, Bidder certifies, to the best of its knowledge and belief, that-

(i) Bidder and/or any of its Principals-

(A) Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any state or federal agency;

(B) Have not, within a three-year period preceding this bid, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in

OSE FORM 00201**STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS**

connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of bids; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.

(ii) Bidder has not, within a three-year period preceding this bid, had one or more contracts terminated for default by any public (Federal, state, or local) entity.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

(b) Bidder shall provide immediate written notice to the Procurement Officer if, at any time prior to contract award, Bidder learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) If Bidder is unable to certify the representations stated in paragraphs (a)(1), Bid must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Bidder's responsibility. Failure of the Bidder to furnish additional information as requested by the Procurement Officer may render the Bidder nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Bidder is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Bidder knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the State, the Procurement Officer may terminate the contract resulting from this solicitation for default.

2.5 ETHICS CERTIFICATE

By submitting a bid, the bidder certifies that the bidder has and will comply with, and has not, and will not, induce a person to violate Title 8, Chapter 13 of the South Carolina Code of Laws, as amended (ethics act). The following statutes require special attention: Section 8-13-700, regarding use of official position for financial gain; Section 8-13-705, regarding gifts to influence action of public official; Section 8-13-720, regarding offering money for advice or assistance of public official; Sections 8-13-755 and 8-13-760, regarding restrictions on employment by former public official; Section 8-13-775, prohibiting public official with economic interests from acting on contracts; Section 8-13-790, regarding recovery of kickbacks; Section 8-13-1150, regarding statements to be filed by consultants; and Section 8-13-1342, regarding restrictions on contributions by contractor to candidate who participated in awarding of contract. The state may rescind any contract and recover all amounts expended as a result of any action taken in violation of this provision. If contractor participates, directly or indirectly, in the evaluation or award of public contracts, including without limitation, change orders or task orders regarding a public contract, contractor shall, if required by law to file such a statement, provide the statement required by Section 8-13-1150 to the procurement officer at the same time the law requires the statement to be filed.

2.6 RESTRICTIONS APPLICABLE TO BIDDERS & GIFTS

Violation of these restrictions may result in disqualification of your bid, suspension or debarment, and may constitute a violation of the state Ethics Act. (a) After issuance of the solicitation, ***bidder agrees not to discuss this procurement activity in any way with the Owner or its employees, agents or officials.*** All communications must be solely with the Procurement Officer. This restriction may be lifted by express written permission from the Procurement Officer. This restriction expires once a contract has been formed. (b) Unless otherwise approved in writing by the Procurement

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Officer, *bidder agrees not to give anything to the Owner, any affiliated organizations, or the employees, agents or officials of either, prior to award.* (c) Bidder acknowledges that the policy of the State is that a governmental body should not accept or solicit a gift, directly or indirectly, from a donor if the governmental body has reason to believe the donor has or is seeking to obtain contractual or other business or financial relationships with the governmental body. Regulation 19-445.2165(C) broadly defines the term donor.

2.7. Delete Section 3.1.1 and substitute the following:

3.1.1 Bidders may obtain complete sets of the Bidding Documents from the issuing office designated in the Advertisement in the number and for the deposit sum, if any, stated therein. If so provided in the Advertisement, the deposit will be refunded to all plan holders who return the Bidding Documents in good condition within ten days after receipt of Bids. The cost of replacement of missing or damaged documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the Bidding Documents and the Bidder's deposit will be refunded.

2.8. Delete the language of Section 3.1.2 and insert the word "Reserved."

2.9. In Section 3.1.4, delete the words "and Architect may make" and substitute the words "has made."

2.10. Insert the following Section 3.1.5

3.1.5 All persons obtaining Bidding Documents from the issuing office designated in the Advertisement shall provide that office with Bidder's contact information to include the Bidder's name, telephone number, mailing address, and email address.

2.11. In Section 3.2.2:

Delete the words "and Sub-bidders"

Delete the word "seven" and substitute the word "ten"

2.12. In Section 3.2.3:

In the first Sentence, insert the word "written" before the word "Addendum."

Insert the following at the end of the section:

As provided in Regulation 19-445.2042(B), nothing stated at the pre-bid conference shall change the Bidding Documents unless a change is made by written Addendum.

2.13. Insert the following at the end of Section 3.3.1:

Reference in the Bidding Documents to a designated material, product, thing, or service by specific brand or trade name followed by the words "or equal" and "or approved equal" shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition.

2.14. Delete Section 3.3.2 and substitute the following:

3.3.2 No request to substitute materials, products, or equipment for materials, products, or equipment described in the Bidding Documents and no request for addition of a manufacturer or supplier to a list of approved manufacturers or suppliers in the Bidding Documents will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids established in the Invitation for Bids. Any subsequent extension of the date for receipt of Bids by addendum shall not extend the date for receipt of such requests unless the addendum so specifies. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

2.15. Delete Section 3.4.3 and substitute the following:

3.4.3 Addenda will be issued no later than 120 hours prior to the time for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

OSE FORM 00201**STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS****2.16. Insert the following Sections 3.4.5 and 3.4.6:**

3.4.5 When the date for receipt of Bids is to be postponed and there is insufficient time to issue a written Addendum prior to the original Bid Date, Owner will notify prospective Bidders by telephone or other appropriate means with immediate follow up with a written Addendum. This Addendum will verify the postponement of the original Bid Date and establish a new Bid Date. The new Bid Date will be no earlier than the fifth (5th) calendar day after the date of issuance of the Addendum postponing the original Bid Date.

3.4.6. If an emergency or unanticipated event interrupts normal government processes so that bids cannot be received at the government office designated for receipt of bids by the exact time specified in the solicitation, the time specified for receipt of bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal government processes resume. In lieu of an automatic extension, an Addendum may be issued to reschedule bid opening. If state offices are closed at the time a pre-bid or pre-proposal conference is scheduled, an Addendum will be issued to reschedule the conference. Useful information may be available at: http://www.scemd.org/scgovweb/weather_alert.html

2.17. In Section 4.1.1, delete the word “forms” and substitute the words “SE-330 Bid Form.”**2.18. Delete Section 4.1.2 and substitute the following:**

4.1.2 Any blanks on the bid form to be filled in by the Bidder shall be legibly executed in a non-erasable medium. Bids shall be signed in ink or other indelible media.

2.19. Delete Section 4.1.3 and substitute the following:

4.1.3 Sums shall be expressed in figures.

2.20. Insert the following at the end of Section 4.1.4:

Bidder shall not make stipulations or qualify his bid in any manner not permitted on the bid form. An incomplete Bid or information not requested that is written on or attached to the Bid Form that could be considered a qualification of the Bid, may be cause for rejection of the Bid.

2.21. Delete Section 4.1.5 and substitute the following:

4.1.5 All requested Alternates shall be bid. The failure of the bidder to indicate a price for an Alternate shall render the Bid non-responsive. Indicate the change to the Base Bid by entering the dollar amount and marking, as appropriate, the box for “ADD TO” or “DEDUCT FROM”. If no change in the Base Bid is required, enter “ZERO” or “No Change.” For add alternates to the base bid, Subcontractor(s) listed on page BF-2 of the Bid Form to perform Alternate Work may be used for both Alternates and Base Bid Work if Alternates are accepted.

2.22. Delete Section 4.1.6 and substitute the following:

4.1.6 Pursuant to Title 11, Chapter 35, Section 3020(b)(i) of the South Carolina Code of Laws, as amended, Section 7 of the Bid Form sets forth a list of subcontractor specialties for which Bidder is required to list only the subcontractors Bidder will use to perform the work of each listed specialty. Bidder must follow the Instructions in the Bid Form for filling out this section of the Bid Form. Failure to properly fill out Section 7 may result in rejection of Bidder’s bid as non-responsive.

2.23. Delete Section 4.1.7 and substitute the following:

4.1.7 Each copy of the Bid shall state the legal name of the Bidder and the nature of legal form of the Bidder. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.

2.24. Delete Section 4.2.1 and substitute the following:

4.2.1 If required by the Invitation for Bids, each Bid shall be accompanied by a bid security in an amount of not less than five percent of the Base Bid. The bid security shall be a bid bond or a certified cashier’s check. The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

OSE FORM 00201**STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS****2.25. Delete Section 4.2.2 and substitute the following:**

4.2.2 If a surety bond is required, it shall be written on AIA Document A310, Bid Bond, and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of the power of attorney. The bid bond shall:

- .1** Be issued by a surety company licensed to do business in South Carolina;
- .2** Be issued by a surety company having, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty", which company shows a financial strength rating of at least five (5) times the contract price.
- .3** Be enclosed in the bid envelope at the time of Bid Opening, either in paper copy or as an electronic bid bond authorization number provided on the Bid Form and issued by a firm or organization authorized by the surety to receive, authenticate and issue binding electronic bid bonds on behalf the surety.

2.26. Delete Section 4.2.3 and substitute the following:

4.2.3 By submitting a bid bond via an electronic bid bond authorization number on the Bid Form and signing the Bid Form, the Bidder certifies that an electronic bid bond has been executed by a Surety meeting the standards required by the Bidding Documents and the Bidder and Surety are firmly bound unto the State of South Carolina under the conditions provided in this Section 4.2.

2.27. Insert the following Section 4.2.4:

4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and performance and payment bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn or (c) all Bids have been rejected.

2.28. Delete Section 4.3.1 and substitute the following:

4.3.1 All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall, unless hand delivered by the Bidder, be addressed to the Owner's designated purchasing office as shown in the Invitation for Bids. The envelope shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail or special delivery service (UPS, Federal Express, etc.), the envelope should be labeled "BID ENCLOSED" on the face thereof. Bidders hand delivering their Bids shall deliver Bids to the place of the Bid Opening as shown in the Invitation for Bids. Whether or not Bidders attend the Bid Opening, they shall give their Bids to the Owner's procurement officer or his/her designee as shown in the Invitation for Bids prior to the time of the Bid Opening.

2.29. Insert the following Section 4.3.6 and substitute the following:

4.3.5 The official time for receipt of Bids will be determined by reference to the clock designated by the Owner's procurement officer or his/her designee. The procurement officer conducting the Bid Opening will determine and announce that the deadline has arrived and no further Bids or bid modifications will be accepted. All Bids and bid modifications in the possession of the procurement officer at the time the announcement is completed will be timely, whether or not the bid envelope has been date/time stamped or otherwise marked by the procurement officer.

2.30. Delete Section 4.4.2 and substitute the following:

4.4.2 Prior to the time and date designated for receipt of Bids, a Bid submitted may be withdrawn in person or by written notice to the party receiving Bids at the place designated for receipt of Bids. Withdrawal by written notice shall be in writing over the signature of the Bidder.

2.31. In Section 5.1, delete everything following the caption "OPENING OF BIDS" and substitute the following:

5.1.1 Bids received on time will be publicly opened and will be read aloud. Owner will not read aloud Bids that Owner determines, at the time of opening, to be non-responsive. .

5.1.2 At bid opening, Owner will announce the date and location of the posting of the Notice of Intended Award.

5.1.3 Owner will send a copy of the final Bid Tabulation to all Bidders within ten (10) working days of the Bid Opening.

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5.1.4 If Owner determines to award the Project, Owner will, after posting a Notice of Intended Award, send a copy of the Notice to all Bidders.

5.1.5 If only one Bid is received, Owner will open and consider the Bid.

2.32. *In Section 5.2, insert the section number “5.2.1” before the words of the “The Owner” at the beginning of the sentence.*

2.33. *Insert the following Sections 5.2.2 and 5.2.3:*

5.2.2 The reasons for which the Owner will reject Bids include, but are not limited to:

- .1** Failure by a Bidder to be represented at a Mandatory Pre-Bid Conference or site visit;
- .2** Failure to deliver the Bid on time;
- .3** Failure to comply with Bid Security requirements, except as expressly allowed by law;
- .4** Listing an invalid electronic Bid Bond authorization number on the bid form;
- .5** Failure to Bid an Alternate, except as expressly allowed by law;
- .6** Failure to list qualified Subcontractors as required by law;
- .7** Showing any material modification(s) or exception(s) qualifying the Bid;
- .8** Faxing a Bid directly to the Owner or their representative; or
- .9** Failure to include a properly executed Power-of-Attorney with the bid bond.

5.2.3 The Owner may reject a Bid as nonresponsive if the prices bid are materially unbalanced between line items or sub-line items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the Owner even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

2.34. *Delete Section 6.1 and substitute the following:*

6.1 CONTRACTOR'S RESPONSIBILITY

Owner will make a determination of Bidder's responsibility before awarding a contract. Bidder shall provide all information and documentation requested by the Owner to support the Owner's evaluation of responsibility. Failure of Bidder to provide requested information is cause for the Owner, at its option, to determine the Bidder to be non-responsible

2.35. *Delete the language of Section 6.2 and insert the word “Reserved.”*

2.36. *Delete the language of Sections 6.3.2, 6.3.3, and 6.3.4 and insert the word “Reserved” after each Section Number.*

2.37. *Insert the following Section 6.4*

6.4 CLARIFICATION

Pursuant to Section 11-35-1520(8), the Procurement Officer may elect to communicate with a Bidder after opening for the purpose of clarifying either the Bid or the requirements of the Invitation for Bids. Such communications may be conducted only with Bidders who have submitted a Bid which obviously conforms in all material aspects to the Invitation for Bids and only in accordance with Appendix D (Paragraph A(6)) to the Manual for Planning and Execution of State Permanent Improvement, Part II. Clarification of a Bid must be documented in writing and included with the Bid. Clarifications may not be used to revise a Bid or the Invitation for Bids. [Section 11-35-1520(8); R.19-445.2080]

2.38. *Delete Section 7.1.2 and substitute the following:*

7.1.2 The performance and payment bonds shall conform to the requirements of Section 11.4 of the General Conditions of the Contract. If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid.

2.39. *Delete the language of Section 7.1.3 and insert the word “Reserved.”*

2.40. *In Section 7.2, insert the words “CONTRACT, CERTIFICATES OF INSURANCE” into the caption after the word “Delivery.”*

OSE FORM 00201**STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS****2.41. Delete Section 7.2.1 and substitute the following:**

7.2.1 After expiration of the protest period, the Owner will tender a signed Contract for Construction to the Bidder and the Bidder shall return the fully executed Contract for Construction to the Owner within seven days thereafter. The Bidder shall deliver the required bonds and certificate of insurance to the Owner not later than three days following the date of execution of the Contract. Failure to deliver these documents as required shall entitle the Owner to consider the Bidder's failure as a refusal to enter into a contract in accordance with the terms and conditions of the Bidder's Bid and to make claim on the Bid Security for re-procurement cost.

2.42. Delete the language of Section 7.2.2 and insert the word "Reserved."**2.43. Delete the language of Article 8 and insert the following:**

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on South Carolina Modified AIA Document A101, 2007, Standard Form of Agreement Between Owner and Contractor as modified by OSE Form 00501 – Standard Modification to Agreement Between Owner and Contractor.

2.44. Insert the following Article 9:**ARTICLE 9 MISCELLANEOUS****9.1 NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING
IMPORTANT TAX NOTICE - NONRESIDENTS ONLY**

Withholding Requirements for Payments to Nonresidents: Section 12-8-550 of the South Carolina Code of Laws requires persons hiring or contracting with a nonresident conducting a business or performing personal services of a temporary nature within South Carolina to withhold 2% of each payment made to the nonresident. The withholding requirement does not apply to (1) payments on purchase orders for tangible personal property when the payments are not accompanied by services to be performed in South Carolina, (2) nonresidents who are not conducting business in South Carolina, (3) nonresidents for contracts that do not exceed \$10,000 in a calendar year, or (4) payments to a nonresident who (a) registers with either the S.C. Department of Revenue or the S.C. Secretary of State and (b) submits a Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to the person letting the contract.

For information about other withholding requirements (e.g., employee withholding), contact the Withholding Section at the South Carolina Department of Revenue at 803-898-5383 or visit the Department's website at: www.sctax.org

This notice is for informational purposes only. This Owner does not administer and has no authority over tax issues. All registration questions should be directed to the License and Registration Section at 803-898-5872 or to the South Carolina Department of Revenue, Registration Unit, Columbia, S.C. 29214-0140. All withholding questions should be directed to the Withholding Section at 803-898- 5383.

PLEASE SEE THE "NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING" FORM (FORM NUMBER I-312) LOCATED AT:
<http://www.sctax.org/Forms+and+Instructions/withholding/default.htm>.

9.2 CONTRACTOR LICENSING

Contractors and Subcontractors listed in Section 7 of the Bid Form who are required by the South Carolina Code of Laws to be licensed, must be licensed at the time of bidding.

9.3 SUBMITTING CONFIDENTIAL INFORMATION

For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the word "CONFIDENTIAL" every page, or portion thereof, that Bidder contends contains information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-40(a)(1), or (b) privileged & confidential, as that phrase is used in Section 11-35-410. For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the words "TRADE SECRET" every page, or portion thereof, that Bidder contends contains a trade secret as that term is defined by Section 39-8-20 of the Trade Secrets Act. For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the word "PROTECTED" every page, or portion thereof, that Bidder contends is protected by Section 11-35-1810. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire bid as confidential, trade secret, or protected! If your bid, or any part thereof, is improperly marked as confidential or trade

OSE FORM 00201**STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS**

secret or protected, the State may, in its sole discretion, determine it nonresponsive. If only portions of a page are subject to some protection, do not mark the entire page. By submitting a response to this solicitation, Bidder (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, & documents submitted during negotiations), unless the page is conspicuously marked "TRADE SECRET" or "CONFIDENTIAL" or "PROTECTED", (2) agrees that any information not marked, as required by these bidding instructions, as a "Trade Secret" is not a trade secret as defined by the Trade Secrets Act, & (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure. In determining whether to release documents, the State will detrimentally rely on Bidders's marking of documents, as required by these bidding instructions, as being either "Confidential" or "Trade Secret" or "PROTECTED". By submitting a response, Bidder agrees to defend, indemnify & hold harmless the State of South Carolina, its officers & employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney's fees, arising out of or resulting from the State withholding information that Bidder marked as "confidential" or "trade secret" or "PROTECTED".

9.4 POSTING OF INTENT TO AWARD

Notice of Intent to Award, SE-370, will be posted at the following location:

Room or Area of Posting: Lobby

Building Where Posted: Facilities Management Center

Address of Building: 743 Greene Street, Columbia, SC 29208

WEB site address (if applicable): purchasing.sc.edu

Posting date will be announced at bid opening. In addition to posting the notice, the Owner will promptly send all responsive bidders a copy of the notice of intent to award and the final bid tabulation

9.5 PROTEST OF SOLICITATION OR AWARD

Any prospective bidder, offeror, contractor, or subcontractor who is aggrieved in connection with the solicitation of a contract shall protest within fifteen days of the date of issuance of the applicable solicitation document at issue. Any actual bidder, offeror, contractor, or subcontractor who is aggrieved in connection with the intended award or award of a contract shall protest within ten days of the date notification of intent to award is posted in accordance with Title 11, Chapter 35, Section 4210 of the South Carolina Code of Laws, as amended. A protest shall be in writing, shall set forth the grounds of the protest and the relief requested with enough particularity to give notice of the issues to be decided, and must be received by the State Engineer within the time provided.

Any protest must be addressed to the CPO, Office of State Engineer, and submitted in writing:

(a) by email to protest-ose@mmo.sc.gov,

(b) by facsimile at 803-737-0639, or

(c) by post or delivery to 1201 Main Street, Suite 600, Columbia, SC 29201.

By submitting a protest to the foregoing email address, you (and any person acting on your behalf) consent to receive communications regarding your protest (and any related protests) at the e-mail address from which you sent your protest.

9.6 SOLICITATION INFORMATION FROM SOURCES OTHER THAN OFFICIAL SOURCE

South Carolina Business Opportunities (SCBO) is the official state government publication for State of South Carolina solicitations. Any information on State agency solicitations obtained from any other source is unofficial and any reliance placed on such information is at the bidder's sole risk and is without recourse under the South Carolina Consolidated Procurement Code.

9.7 BUILDER'S RISK INSURANCE

Bidder's are directed to Article 11.3 of the South Carolina Modified AIA Document A201, 2007 Edition, which, unless provided otherwise in the bid documents, requires the contractor to provide builder's risk insurance on the project.

OSE FORM 00201

STANDARD SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

9.8 TAX CREDIT FOR SUBCONTRACTING WITH MINORITY FIRMS

Pursuant to Section 12-6-3350, taxpayers, who utilize certified minority subcontractors, may take a tax credit equal to 4% of the payments they make to said subcontractors. The payments claimed must be based on work performed directly for a South Carolina state contract. The credit is limited to a maximum of fifty thousand dollars annually. The taxpayer is eligible to claim the credit for 10 consecutive taxable years beginning with the taxable year in which the first payment is made to the subcontractor that qualifies for the credit. After the above ten consecutive taxable years, the taxpayer is no longer eligible for the credit. The credit may be claimed on Form TC-2, "Minority Business Credit." A copy of the subcontractor's certificate from the Governor's Office of Small and Minority Business (OSMBA) is to be attached to the contractor's income tax return. Taxpayers must maintain evidence of work performed for a State contract by the minority subcontractor. Questions regarding the tax credit and how to file are to be referred to: SC Department of Revenue, Research and Review, Phone: (803) 898-5786, Fax: (803) 898-5888. The subcontractor must be certified as to the criteria of a "Minority Firm" by the Governor's Office of Small and Minority Business Assistance (OSMBA). Certificates are issued to subcontractors upon successful completion of the certification process. Questions regarding subcontractor certification are to be referred to: Governor's Office of Small and Minority Business Assistance, Phone: (803) 734-0657, Fax: (803) 734-2498. Reference: SC §11-35-5010 – Definition for Minority Subcontractor & SC §11-35-5230 (B) – Regulations for Negotiating with State Minority Firms.

§ 9.9 OTHER SPECIAL CONDITIONS OF THE WORK

1. See Article 3.104 and 3.105 of 00811-OSE Standard Supplemental Conditions Modifying Article 11.4 of AIA Document A201, 1997 Edition, requiring the contractor to provide the builder's risk insurance on the project.
2. Contractor shall comply with the attached "Certification Regarding Illegal Immigration (Nov. 2008).

END OF DOCUMENT

AIA- A310 (2010)
Bid Bond

Original AIA Document on file at the office of

Jumper Carter Sease Architects
412 Meeting Street
West Columbia, SC 29169
(803) 791-1020

**SE-330 – LUMP SUM BID
BID FORM**

Bidders shall submit bids on only Bid Form SE-330.

BID SUBMITTED BY: _____
(Bidder's Name)

BID SUBMITTED TO: University of South Carolina
(Owner's Name)

FOR PROJECT: PROJECT NAME Demolition of the Roundhouse & Annex
PROJECT NUMBER H27-Z005

OFFER

§ 1. In response to the Invitation for Construction Bids and in compliance with the Instructions to Bidders for the above-named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the Owner on the terms included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

§ 2. Pursuant to Section 11-32-3030(1) of the SC Code of Laws, as amended, Bidder has submitted Bid Security as follows in the amount and form required by the Bidding Documents:

Bid Bond with Power of Attorney Electronic Bid Bond Cashier's Check

(Bidder check one)

§ 3. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into this Bid:

ADDENDUM No: _____

§ 4. Bidder accepts all terms and conditions of the Invitation for Bids, including, without limitation, those dealing with the disposition of Bid Security. Bidder agrees that this Bid, including all Bid Alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of 60 Days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Owner.

§ 5. Bidder herewith offers to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the following items of construction work:

§ 6.1 BASE BID WORK *(as indicated in the Bidding Documents and generally described as follows):* Demolition, removal and proper disposal of structures, site improvements, foundations, and utilities and preparation of ground for new construction.

_____, which sum is hereafter called the Base Bid.
(Bidder - insert Base Bid Amount on line above)

**SE-330 – LUMP SUM BID
BID FORM**

§ 6.2 BID ALTERNATES - as indicated in the Bidding Documents and generally described as follows:

ALTERNATE # 1 (Brief Description): N/A

ADD TO or DEDUCT FROM BASE BID: _____

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

ALTERNATE # 2 (Brief Description): N/A

ADD TO or DEDUCT FROM BASE BID: _____

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

ALTERNATE # 3 (Brief Description): N/A

ADD TO or DEDUCT FROM BASE BID: _____

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

**SE-330 – LUMP SUM BID
 BID FORM**

§ 7. LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i), CHAPTER 35, TITLE 11 OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED – (See *Instructions on the following page BF-2A*)

Bidder shall use the below-listed Subcontractors in the performance of the Subcontractor Specialty work listed:

SUBCONTRACTOR SPECIALTY By License Classification and/or Subclassification (Completed by Owner)	SUBCONTRACTOR'S PRIME CONTRACTOR'S NAME (Must be completed by Bidder) BASE BID	SUBCONTRACTOR'S PRIME CONTRACTOR'S SC LICENSE NUMBER
ALTERNATE 1		
ALTERNATE 2		
ALTERNATE 3		

If a Bid Alternate is accepted, Subcontractors listed for the Bid Alternate shall be used for the work of both the Alternate and the Base Bid work.

INSTRUCTIONS FOR SUBCONTRACTOR LISTING

1. Section 7 of the Bid Form sets forth a list of subcontractor specialties for which bidder is required to identify by name the subcontractor(s) Bidder will use to perform the work of each listed specialty. Bidder must identify only the subcontractor(s) who will perform the work and no others.
2. For purposes of subcontractor listing, a Subcontractor is an entity who will perform work or render service to the prime contractor to or about the construction site. Material suppliers, manufacturers, and fabricators that will not perform physical work at the site of the project but will only supply materials or equipment to the bidder or proposed subcontractor(s) are not subcontractors and Bidder should not insert their names in the spaces provided on the bid form. Likewise, Bidder should not insert the names of sub-subcontractors in the spaces provided on the bid form but only the names of those entities with which bidder will contract directly.
3. Bidder must only insert the names of subcontractors who are qualified to perform the work of the listed specialties as specified in the Bidding Documents and South Carolina Licensing Laws.
4. If under the terms of the Bidding Documents, Bidder is qualified to perform the work of a specialty listed and Bidder does not intend to subcontract such work but to use Bidder's own employees to perform such work, the Bidder must insert its own name in the space provided for that specialty.
5. If Bidder intends to use multiple subcontractors to perform the work of a single specialty listing, Bidder must insert the name of each subcontractor Bidder will use, preferably separating the name of each by the word **“and”**. If Bidder intends to use both his own employees to perform a part of the work of a single specialty listing and to use one or more subcontractors to perform the remaining work for that specialty listing, bidder must insert his own name and the name of each subcontractor, preferably separating the name of each with the word **“and”**.
6. Bidder may not list subcontractors in the alternative nor in a form that may be reasonably construed at the time of bid opening as a listing in the alternative. A listing that requires subsequent explanation to determine whether or not it is a listing in the alternative is non-responsive. If bidder intends to use multiple entities to perform the work for a single specialty listing, bidder must clearly set forth on the bid form such intent. Bidder may accomplish this by simply inserting the word **“and”** between the name of each entity listed for that specialty. Owner will reject as non-responsive a listing that contains the names of multiple subcontractors separated by a blank space, the word **“or”**, a virgule (that is a /), or any separator that the Owner may reasonably interpret as a listing in the alternative.
7. If Bidder is awarded the contract, bidder must, except with the approval of the owner for good cause shown, use the listed entities to perform the work for which they are listed.
8. If bidder is awarded the contract, bidder will not be allowed to substitute another entity as subcontractor in place of a subcontractor listed in Section 7 of the Bid except for one or more of the reasons allowed by the SC Code of Laws.
9. Bidder's failure to insert a name for each listed specialty subcontractor will render the Bid non-responsive.

**SE-330 – LUMP SUM BID
BID FORM**

§ 8. LIST OF MANUFACTURERS, MATERIAL SUPPLIERS, AND SUBCONTRACTORS OTHER THAN SUBCONTRACTORS LISTED IN SECTION 7 ABOVE (FOR INFORMATION ONLY): Pursuant to instructions in the Invitation for Bids, if any, Bidder will provide to Owner upon the Owner's request and within 24 hours of such request, a listing of manufacturers, material suppliers, and subcontractors, other than those listed in Section 7 above, that Bidder intends to use on the project. Bidder acknowledges and agrees that this list is provided for purposes of determining responsibility and not pursuant to the subcontractor listing requirements of SC Code Ann § 11-35-3020(b)(i).

§ 9. TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES

a. **CONTRACT TIME:** Bidder agrees that the Date of Commencement of the Work shall be established in a Notice to Proceed to be issued by the Owner. Bidder agrees to substantially complete the Work within **90** calendar days from the Date of Commencement, subject to adjustments as provided in the Contract Documents.

b. **LIQUIDATED DAMAGES:** Bidder further agrees that from the compensation to be paid, the Owner shall retain as Liquidated Damages the sum of **\$0.00** for each calendar day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. This sum is intended by the parties as the predetermined measure of compensation for actual damages, not as a penalty for nonperformance.

§ 10. AGREEMENTS

a. Bidder agrees that this bid is subject to the requirements of the law of the State of South Carolina.

b. Bidder agrees that at any time prior to the issuance of the Notice to Proceed for this Project, this Project may be canceled for the convenience of, and without cost to, the State.

c. Bidder agrees that neither the State of South Carolina nor any of its agencies, employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project canceled for any reason prior to the issuance of the Notice to Proceed.

§ 11. ELECTRONIC BID BOND

By signing below, the Principal is affirming that the identified electronic bid bond has been executed and that the Principal and Surety are firmly bound unto the State of South Carolina under the terms and conditions of the AIA Document A310, Bid Bond, included in the Bidding Documents.

Electronic Bid Bond Number: _____

Signature and Title: _____

**SE-330 – LUMP SUM BID
BID FORM**

BIDDER'S TAXPAYER IDENTIFICATION

FEDERAL EMPLOYER'S IDENTIFICATION NUMBER: _____

OR

SOCIAL SECURITY NUMBER: _____

CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATIONS

Classification(s) & Limits: _____

Subclassification(s) & Limits: _____

SC Contractor's License Number(s): _____

BY SIGNING THIS BID, THE PERSON SIGNING REAFFIRMS ALL REPRESENTATIONS AND CERTIFICATIONS MADE BY BOTH THE PERSON SIGNING AND THE BIDDER, INCLUDING WITHOUT LIMITATION, THOSE APPEARING IN ARTICLE 2 OF THE INSTRUCTIONS TO BIDDER. THE INVITATION FOR BIDS, AS DEFINED IN THE INSTRUCTIONS TO BIDDERS, IS EXPRESSLY INCORPORATE BY REFERENCE.

SIGNATURE

BIDDER'S LEGAL NAME: _____

ADDRESS: _____

BY: _____
(Signature)

DATE: _____

TITLE: _____

TELEPHONE: _____

EMAIL: _____

AIA- A101 (2007)
Standard Form of Agreement Between
Owner and Contractor

Original AIA Document on file at the office of

Jumper Carter Sease Architects
412 Meeting Street
West Columbia, SC 29169
(803) 791-1020

OSE FORM 00501 STANDARD MODIFICATIONS TO AGREEMENT BETWEEN OWNER AND CONTRACTOR

OWNER: University of South Carolina

PROJECT NUMBER: H27-Z005

PROJECT NAME: Demolition of the Roundhouse & Annex

1. STANDARD MODIFICATIONS TO AIA A101-2007

1.1. These Standard Modifications amend or supplement the *Standard Form of Agreement Between Owner and Contractor* (AIA Document A101-2007) and other provisions of Bidding and Contract Documents as indicated below.

1.2. All provisions of A101-2007, which are not so amended or supplemented, remain in full force and effect.

2. MODIFICATIONS TO A101

2.1. *Insert the following at the end of Article 1:*

Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101, 2007 Edition as modified by OSE Form 00501 – Standard Modification to Agreement Between Owner and Contractor. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201, 2007 Edition as modified by OSE Form 00811 – Standard Supplementary Conditions.

2.2. *Delete Section 3.1 and substitute the following:*

3.1 The Date of Commencement of the Work shall be the date fixed in a Notice to Proceed issued by the Owner. The Owner shall issue the Notice to Proceed to the Contractor in writing, no less than seven days prior to the Date of Commencement. Unless otherwise provided elsewhere in the contract documents, and provided the contractor has secured all required insurance and surety bonds, the contractor may commence work immediately after receipt of the Notice to Proceed.

2.3. *Delete Section 3.2 and substitute the following:*

3.2 The Contract Time shall be measured from the Date of Commencement as provided in Section 9(a) of the Bid Form (SE-330) for this Project. Contractor agrees that if the Contractor fails to achieve Substantial Completion of the Work within the Contract Time, the Owner shall be entitled to withhold or recover from the Contractor liquidated damages in the amounts set forth in Section 9(b) of the Bid Form (SE-330, subject to adjustments of this Contract Time as provided in the Contract Documents.

2.4. *In Section 5.1.1, insert the words “and Owner” after the phrase “Payment submitted to the Architect.”*

2.5. *Delete Section 5.1.3 and substitute the following:*

5.1.3 The Owner shall make payment of the certified amount to the Contractor not later than 21 days after receipt of the Application for Payment.

2.6. *In Section 5.1.6, Insert the following after the phrase “Subject to other provisions of the Contract Documents”:*

and subject to Title 12, Chapter 8, Section 550 of the South Carolina Code of Laws, as amended (Withholding Requirements for Payments to Non-Residents)

In the spaces provided in Sub-Sections 1 and 2 for inserting the retainage amount, insert “three and one-half percent (3.5%).”

OSE FORM 00501
STANDARD MODIFICATIONS TO AGREEMENT BETWEEN
OWNER AND CONTRACTOR

2.7. In Section 5.1.8, delete the word “follows” and the colon and substitute the following:

set forth in S.C. Code Ann. § 11-35-3030(4).

2.8. In Section 5.1.9, delete the words “Except with the Owner’s prior approval, the” before the word “Contractor.”

2.9. In Section 5.2.2, delete the number 30 and substitute the number 21, delete everything following the words “Certificate for Payment” and place a period at the end of the resulting sentence.

2.10. Delete the language of Sections 6.1 and 6.2 and substitute the word “Reserved” for the deleted language of each Section .

2.11. Delete the language of Section 8.2 and substitute the word “Reserved.”

2.12. In Section 8.3, make the word “Representative” in the title plural, delete everything following the title, and substitute the following:

8.3.1 Owner designates the individual listed below as its Senior Representative (“Owner’s Senior Representative”), which individual has the responsibility for and, subject to Section 7.2.1 of the General Conditions, the authority to resolve disputes under Section 15.6 of the General Conditions:

Name: Tom Opal
Title: Sr. Project Manager
Address: 743 Greene Street, Columbia, SC 29208
Telephone: (803) 777-7076 **FAX:** (803) 777-8739
Email: tnopal@fmc.sc.edu

8.3.2 Owner designates the individual listed below as its Owner’s Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions:

Name: Ann Derrick
Title: Project Manager
Address: 743 Greene Street; Columbia, SC 29208
Telephone: (803) 777-5811 **FAX:** (803) 777-7334
Email: aderrick@fmc.sc.edu

2.13. In Section 8.4, make the word “Representative” in the title plural, delete everything following the title, and substitute the following:

8.4.1 Contractor designates the individual listed below as its Senior Representative (“Contractor’s Senior Representative”), which individual has the responsibility for and authority to resolve disputes under Section 15.6 of the General Conditions:

Name: _____
Title: _____
Address: _____
Telephone: _____ **FAX:** _____
Email: _____

OSE FORM 00501
STANDARD MODIFICATIONS TO AGREEMENT BETWEEN
OWNER AND CONTRACTOR

8.4.2 Contractor designates the individual listed below as its Contractor's Representative, which individual has the authority and responsibility set forth in Section 3.1.1 of the General Conditions:

Name: _____
Title: _____
Address: _____
Telephone: _____ **FAX:** _____
Email: _____

2.14. *Add the following Section 8.6.1:*

8.6.1 The Architect's representative:

Name: L. Todd Sease, AIA, LEED AP
Title: Architect
Address: 412 Meeting Street, West Columbia, SC 29169
Telephone: (803) 791-1020 **FAX:** (803) 791-1022
Email: todd@jcsarchitects.com

2.15. *In Section 9.1.7, Sub-Section 2, list the following documents in the space provided for listing documents:*

Invitation for Construction Bids (SE-310)
Instructions to Bidders (AIA Document A701-1997)
Standard Supplemental Instructions to Bidders (OSE Form 00201)
Contractor's Bid (Completed SE-330)
Notice of Intent to Award (Completed SE-370)
Certificate of procurement authority issued by the SC Budget & Control Board

2.16. *In Article 10, delete everything after the first sentence.*

END OF DOCUMENT

AIA- A201 (2007)
General Conditions of the Contract
for Construction

Original AIA Document on file at the office of

Jumper Carter Sease Architects
412 Meeting Street
West Columbia, SC 29169
(803) 791-1020

OSE FORM 00811
STANDARD SUPPLEMENTARY CONDITIONS

OWNER: University of South Carolina
PROJECT NUMBER: H27-Z005
PROJECT NAME: Demolition of the Roundhouse & Annex

1 GENERAL CONDITIONS

The *General Conditions of the Contract for Construction*, AIA Document A201, 2007 Edition, Articles 1 through 15 inclusive, is a part of this Contract and is incorporated as fully as if herein set forth. For brevity, AIA Document A201 is also referred to in the Contract Documents collectively as the "General Conditions."

2 STANDARD SUPPLEMENTARY CONDITIONS

2.1 The following supplements modify, delete and/or add to the General Conditions. Where any portion of the General Conditions is modified or any paragraph, Section or clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of the General Conditions shall remain in effect.

2.2 Unless otherwise stated, the terms used in these Standard Supplementary Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

3 MODIFICATIONS TO A201-2007

3.1 *Insert the following at the end of Section 1.1.1:*

Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101, 2007 Edition as modified by OSE Form 00501 – Standard Modification to Agreement Between Owner and Contractor. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201, 2007 Edition as modified by OSE Form 00811 – Standard Supplementary Conditions.

3.2 *Delete the language of Section 1.1.8 and substitute the word “Reserved.”*

3.3 *Add the following Section 1.1.9:*

1.1.9 NOTICE TO PROCEED

Notice to Proceed is a document issued by the Owner to the Contractor, with a copy to the Architect, directing the Contractor to begin prosecution of the Work in accordance with the requirements of the Contract Documents. The Notice to Proceed shall fix the date on which the Contract Time will commence.

3.4 *Insert the following at the end of Section 1.2.1:*

In the event of patent ambiguities within or between parts of the Contract Documents, the contractor shall 1) provide the better quality or greater quantity of Work, or 2) comply with the more stringent requirement, either or both in accordance with the Architect’s interpretation.

3.5 *Delete Section 1.5.1 and substitute the following:*

1.5.1 The Architect and the Architect’s consultants shall be deemed the authors and owners of their respective Instruments of Service and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as a violation of the Architect’s or Architect’s consultants’ reserved rights.

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3.6 *Delete Section 2.1.1 and substitute the following:*

2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization, except as provided in Section 7.1.2. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's Representative. [Reference § 8.2 of the Agreement.]

3.7 *Delete Section 2.1.2 and substitute the following:*

2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to post Notice of Project Commencement pursuant to Title 29, Chapter 5, Section 23 of the South Carolina Code of Laws, as amended..

3.8 *Delete Section 2.2.3 and substitute the following:*

2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. Subject to the Contractor's obligations, including those in Section 3.2, the Contractor shall be entitled to rely on the accuracy of information furnished by the Owner pursuant to this Section but shall exercise proper precautions relating to the safe performance of the Work.

3.9 *Replace the period at the end of the last sentence of Section 2.2.4 with a semicolon and insert the following after the inserted semicolon:*

"however, the Owner does not warrant the accuracy of any such information requested by the Contractor that is not otherwise required of the Owner by the Contract Documents. Neither the Owner nor the Architect shall be required to conduct investigations or to furnish the Contractor with any information concerning subsurface characteristics or other conditions of the area where the Work is to be performed beyond that which is provide in the Contract Documents."

3.10 *Delete Section 2.2.5 and substitute the following:*

2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor with ten copies of the Contract Documents. The Contractor may make reproductions of the Contract Documents pursuant to Section 1.5.2. All copies of the drawings and specifications, except the Contractor's record set, shall be returned or suitably accounted for to the Owner, on request, upon completion of the Work.

3.11 *Add the following Sections 2.2.6 and 2.2.7:*

2.2.6 The Owner assumes no responsibility for any conclusions or interpretation made by the Contractor based on information made available by the Owner.

2.2.7 The Owner shall obtain, at its own cost, general building and specialty inspection services as required by the Contract Documents. The Contractor shall be responsible for payment of any charges imposed for reinspections.

3.12 *Delete Section 2.4 and substitute the following:*

2.4 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect, including but not limited to providing necessary resources, with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Directive shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

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3.13 *Insert the following at the end of Section 3.2.1:*

The Contractor acknowledges that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Owner, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Owner.

3.14 *In the third sentence of Section 3.2.4, insert the word “latent” before the word “errors.”*

3.15 *In the last sentence of Section 3.3.1, insert the words “by the Owner in writing” after the word “instructed.”*

3.16 *Delete the third sentence of Section 3.5 and substitute the following sentences:*

Work, materials, or equipment not conforming to these requirements shall be considered defective. Unless caused by the Contractor or a subcontractor at any tier, the Contractor’s warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage.

3.17 *Insert the following at the end of Section 3.6:*

The Contractor shall comply with the requirements of Title 12, Chapter 9 of the South Carolina Code of Laws, as amended, regarding withholding tax for nonresidents, employees, contractors and subcontractors.

3.18 *In Section 3.7.1, delete the words “the building permit as well as for other” and insert the following sentence at the end of this section:*

Pursuant to Title 10, Chapter 1, Section 180 of the South Carolina Code of Laws, as amended, no local general or specialty building permits are required for state buildings.

3.19 *Delete the last sentence of Section 3.7.5 and substitute the following:*

Adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 7.3.3.

3.20 *Delete the last sentence of Section 3.8.2.3 and substitute the following:*

The amount of the Change Order shall reflect the difference between actual costs, as documented by invoices, and the allowances under Section 3.8.2.1.

3.21 *In Section 3.9.1, insert a comma after the word “superintendent” in the first sentence and insert the following after the inserted comma:*

acceptable to the Owner,

3.22 *Delete Section 3.9.2 and substitute the following:*

3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner the name and qualifications of a proposed superintendent. The Owner may reply within 14 days to the Contractor in writing stating (1) whether the Owner has reasonable objection to the proposed superintendent or (2) that the

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Owner requires additional time to review. Failure of the Owner to reply within the 14-day period shall constitute notice of no reasonable objection.

3.23 *After the first sentence in Section 3.9.3, insert the following sentence:*

The Contractor shall notify the Owner, in writing, of any proposed change in the superintendent, including the reason therefore, prior to making such change.

3.24 *Delete Section 3.10.3 and substitute the following:*

3.10.3 Additional requirements, if any, for the construction schedule are as follows:
(Check box if applicable to this Contract))

The construction schedule shall be in a detailed precedence-style critical path management (CPM) or primavera-type format satisfactory to the Owner and the Architect that shall also (1) provide a graphic representation of all activities and events that will occur during performance of the work; (2) identify each phase of construction and occupancy; and (3) set forth dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents (hereinafter referred to as "Milestone Dates"). Upon review and acceptance by the Owner and the Architect of the Milestone Dates, the construction schedule shall be deemed part of the Contract Documents and attached to the Agreement as Exhibit "A." If not accepted, the construction schedule shall be promptly revised by the Contractor in accordance with the recommendations of the Owner and the Architect and resubmitted for acceptance. The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedule and shall promptly advise the Owner of any delays or potential delays. Whenever the approved construction schedule no longer reflects actual conditions and progress of the work or the Contract Time is modified in accordance with the terms of the Contract Documents, the Contractor shall update the accepted construction schedule to reflect such conditions. In the event any progress report indicates any delays, the Contractor shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary. In no event shall any progress report constitute an adjustment in the Contract Time, any Milestone Date, or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to Change Order.

3.25 *Add the following Section 3.10.4:*

3.10.4 Owner's review and acceptance of Contractor's schedule is not conducted for the purpose of either determining its accuracy and completeness or approving the construction means, methods, techniques, sequences or procedures. The Owner's approval shall not relieve the Contractor of any obligations. Unless expressly addressed in a Modification, the Owner's approval of a schedule shall not change the Contract Time.

3.26 *Add the following Section 3.12.5.1:*

3.12.5.1 The fire sprinkler shop drawings shall be prepared by a licensed fire sprinkler contractor and shall accurately reflect actual conditions affecting the required layout of the fire sprinkler system. The fire sprinkler contractor shall certify the accuracy of his shop drawings prior to submitting them for review and approval. The fire sprinkler shop drawings shall be reviewed and approved by the Architect's engineer of record who, upon approving the sprinkler shop drawings will submit them to the State Fire Marshal or other authorities having jurisdiction for review and approval. The Architect's engineer of record will submit a copy of the State Fire Marshal's approval letter to the Contractor, Architect, and OSE. Unless authorized in writing by OSE, neither the Contractor nor subcontractor at any tier shall submit the fire sprinkler shop drawings directly to the State Fire Marshal or other authorities having jurisdiction for approval.

3.27 *In the fourth sentence of Section 3.12.10, after the comma following the words "licensed design professional," insert the following:*

who shall comply with reasonable requirements of the Owner regarding qualifications and insurance and

3.28 *In Section 3.13, insert the section number "3.13.1" before the opening words "The Contractors shall."*

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3.29 Add the following Sections 3.13.2 and 3.13.3:

3.13.2 Protection of construction materials and equipment stored at the Project site from weather, theft, vandalism, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall perform the work in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the site of the Work shall be free from all debris, building materials, and equipment likely to cause hazardous conditions.

3.13.3 The Contractor and any entity for whom the Contractor is responsible shall not erect any sign on the Project site without the prior written consent of the Owner.

3.30 *In the first sentence of Section 3.18.1, after the parenthetical “...(other than the Work itself),...” and before the word “...but...”, insert the following:*

including loss of use resulting therefrom,

3.31 *Delete Section 4.1.1 and substitute the following:*

4.1.1 The Architect is that person or entity identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

3.32 *Insert the following at the end of Section 4.2.1:*

Any reference in the Contract Documents to the Architect taking action or rendering a decision with a “reasonable time” is understood to mean no more than fourteen days, unless otherwise specified in the Contract Documents or otherwise agreed to by the parties.

3.33 *Delete the first sentence of Section 4.2.2 and substitute the following:*

The Architect will visit the site as necessary to fulfill its obligation to the Owner for inspection services, if any, and, at a minimum, to assure conformance with the Architect’s design as shown in the Contract Documents and to observe the progress and quality of the various components of the Contractor’s Work, and to determine if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents.

3.34 *Delete the first sentence of Section 4.2.3 and substitute the following:*

On the basis of the site visits, the Architect will keep the Owner informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work.

3.35 *In Section 4.2.5, after the words “evaluations of the” and before the word “Contractor’s,” insert the following:*

Work completed and correlated with the

3.36 *Delete the first sentence of Section 4.2.11 and substitute the following:*

4.2.11 The Architect will, in the first instance, interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. Upon receipt of such request, the Architect will promptly provide the non-requesting party with a copy of the request.

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3.37 *Insert the following at the end of Section 4.2.12:*

If either party disputes the Architects interpretation or decision, that party may proceed as provided in Article 15. The Architect's interpretations and decisions may be, but need not be, accorded any deference in any review conducted pursuant to law or the Contract Documents.

3.38 *Delete Section 4.2.14 and substitute the following:*

The Architect will review and respond to requests for information about the Contract Documents so as to avoid delay to the construction of the Project. The Architect's response to such requests will be made in writing with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information. Any response to a request for information must be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. Unless issued pursuant to a Modification, supplemental Drawings or Specifications will not involve an adjustment to the Contract Sum or Contract Time.

3.39 *Delete Section 5.2.1 and substitute the following:*

5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, within fourteen days after posting of the Notice of Intent to Award the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (excluding Listed Subcontractors but including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Owner may reply within 14 days to the Contractor in writing stating (1) whether the Owner has reasonable objection to any such proposed person or entity. Failure of the Owner to reply within the 14 day period shall constitute notice of no reasonable objection.

3.40 *Delete Section 5.2.2 and substitute the following:*

5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner has made reasonable and timely objection. The Owner shall not direct the Contractor to contract with any specific individual or entity for supplies or services unless such supplies and services are necessary for completion of the Work and the specified individual or entity is the only source of such supply or services.

3.41 *In the first sentence of Section 5.2.3, delete the words "...or Architect..." in the two places they appear.*

3.42 *Delete the words "...or Architect..." in the in the first sentence of Section 5.2.4 and insert the following sentence at the end of Section 5.2.4:*

The Contractor's request for substitution must be made to the Owner in writing accompanied by supporting information.

3.43 *Add the following Section 5.2.5:*

5.2.5 A Subcontractor identified in the Contractor's Bid in response the specialty subcontractor listing requirements of Section 7 of the Bid Form (SE-330) may only be substituted in accordance with and as permitted by the provisions of Title 11, Chapter 35, Section 3021 of the South Carolina Code of Laws, as amended. A proposed substitute for a Listed Subcontractor shall be subject to the Owner's approval as set forth is Section 5.2.3.

3.44 *In Section 5.3, delete everything following the heading "SUBCONTRACTUAL RELATIONS" and insert the following Sections 5.3.1, 5.3.2, 5.3.3, and 5.3.4:*

5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not

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prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise herein or in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.2 Without limitation on the generality of Section 5.3.1, each Subcontract agreement and each Sub-subcontract agreement shall include, and shall be deemed to include, the following Sections of these General Conditions: 3.2, 3.5, 3.18, 5.3, 5.4, 6.2.2, 7.3.3, 7.5, 7.6, 13.1, 13.12, 14.3, 14.4, and 15.1.6.

§ 5.3.3 Each Subcontract Agreement and each Sub-subcontract agreement shall exclude, and shall be deemed to exclude, Sections 13.2.1 and 13.6 and all of Article 15, except Section 15.1.6, of these General Conditions. In the place of these excluded sections of the General Conditions, each Subcontract Agreement and each Sub-subcontract may include Sections 13.2.1 and 13.6 and all of Article 15, except Section 15.1.6, of AIA Document A201-2007, Conditions of the Contract, as originally issued by the American Institute of Architects.

§ 5.3.4 The Contractor shall assure the Owner that all agreements between the Contractor and its Subcontractor incorporate the provisions of Subparagraph 5.3.1 as necessary to preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the work to be performed by Subcontractors so that the subcontracting thereof will not prejudice such rights. The Contractor’s assurance shall be in the form of an affidavit or in such other form as the Owner may approve. Upon request, the Contractor shall provide the Owner or Architect with copies of any or all subcontracts or purchase orders.

3.45 *Delete the last sentence of Section 5.4.1.*

3.46 *Add the following Sections 5.4.4, 5.4.5 and 5.4.6:*

§ 5.4.4 Each subcontract shall specifically provide that the Owner shall only be responsible to the subcontractor for those obligations of the Contractor that accrue subsequent to the Owner’s exercise of any rights under this conditional assignment.

§ 5.4.5 Each subcontract shall specifically provide that the Subcontractor agrees to perform portions of the Work assigned to the Owner in accordance with the Contract Documents.

§ 5.4.6 Nothing in this Section 5.4 shall act to reduce or discharge the Contractor’s payment bond surety’s obligations to claimants for claims arising prior to the Owner’s exercise of any rights under this conditional assignment.

3.47 *Delete the language of Section 6.1.4 and substitute the word “Reserved.”*

3.48 *Insert the following at the end of Section 7.1.2:*

If the amount of a Modification exceeds the limits of the Owner’s Construction Change Order Certification (reference Section 9.1.7.2 of the Agreement), then the Owner’s agreement is not effective, and Work may not proceed, until approved in writing by the Office of State Engineer.

3.49 *Delete Section 7.2.1 and substitute the following:*

7.2.1 A Change Order is a written instrument prepared by the Architect (using State Form SE-480 “Construction Change Order”) and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;

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- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

3.50 *Add the following Sections 7.2.2, 7.2.3, 7.2.4, and 7.2.5:*

7.2.2 If a Change Order provides for an adjustment to the Contract Sum, the adjustment must be calculated in accordance with Section 7.3.3.

7.2.3 At the Owner’s request, the Contractor shall prepare a proposal to perform the work of a proposed Change Order setting forth the amount of the proposed adjustment, if any, in the Contract Sum; and the extent of the proposed adjustment, if any, in the Contract Time. Any proposed adjustment in the Contract sum shall be prepared in accordance with Section 7.2.2. The Owner’s request shall include any revisions to the Drawings or Specifications necessary to define any changes in the Work. Within fifteen days of receiving the request, the Contractor shall submit the proposal to the Owner and Architect along with all documentation required by Section 7.6.

7.2.4 If the Contractor requests a Change Order, the request shall set forth the proposed change in the Work and shall be prepared in accordance with Section 7.2.3. If the Contractor requests a change to the Work that involves a revision to either the Drawings or Specifications, the Contractor shall reimburse the Owner for any expenditures associated with the Architects’ review of the proposed revisions, except to the extent the revisions are accepted by execution of a Change Order.

7.2.5 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, any adjustments to the Contract Sum or the Contract Time.

3.51 *Delete 7.3.3 and substitute the following:*

7.3.3 PRICE ADJUSTMENTS

§ 7.3.3.1 If any Modification, including a Construction Change Directive, provides for an adjustment to the Contract Sum, the adjustment shall be based on whichever of the following methods is the most valid approximation of the actual cost to the contractor, with overhead and profit as allowed by Section 7.5:

- .1 Mutual acceptance of a lump sum;
- .2 Unit prices stated in the Contract Documents, except as provided in Section 7.3.4, or subsequently agreed upon;
- .3 Cost attributable to the events or situations under applicable clauses with adjustment of profits or fee, all as specified in the contract, or subsequently agreed upon by the parties, or by some other method as the parties may agree; or
- .4 As provided in Section 7.3.7.

§ 7.3.3.2 Consistent with Section 7.6, costs must be properly itemized and supported by substantiating data sufficient to permit evaluation before commencement of the pertinent performance or as soon after that as practicable. All costs incurred by the Contractor must be justifiably compared with prevailing industry standards. Except as provided in Section 7.5, all adjustments to the Contract Price shall be limited to job specific costs and shall not include indirect costs, overhead, home office overhead, or profit.

3.52 *Delete Section 7.3.7 and substitute the following:*

7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall make an initial determination, consistent with Section 7.3.3, of the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in Section 7.5. In such case, and also under Section 7.3.3.1.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

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- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work.

3.53 *Delete Section 7.3.8 and substitute the following:*

7.3.8 Using the percentages stated in Section 7.5, any adjustment to the Contract Sum for deleted work shall include any overhead and profit attributable to the cost for the deleted Work.

3.54 *Add the following Sections 7.5 and 7.6:***7.5 AGREED OVERHEAD AND PROFIT RATES**

7.5.1 For any adjustment to the Contract Sum for which overhead and profit may be recovered, other than those made pursuant to Unit Prices stated in the Contract Documents, the Contractor agrees to charge and accept, as full payment for overhead and profit, the following percentages of costs attributable to the change in the Work. The percentages cited below shall be considered to include all indirect costs including, but not limited to: field and office managers, supervisors and assistants, incidental job burdens, small tools, and general overhead allocations. The allowable percentages for overhead and profit are as follows:

- .1 To the Contractor for work performed by the Contractor's own forces, 17% of the Contractor's actual costs.
- .2 To each Subcontractor for work performed by the Subcontractor's own forces, 17% of the subcontractor's actual costs.
- .3 To the Contractor for work performed by a subcontractor, 10% of the subcontractor's actual costs (not including the subcontractor's overhead and profit).

7.6 PRICING DATA AND AUDIT**§ 7.6.1 Cost or Pricing Data.**

Upon request of the Owner or Architect, Contractor shall submit cost or pricing data prior to execution of a Modification which exceeds \$500,000. Contractor shall certify that, to the best of its knowledge and belief, the cost or pricing data submitted is accurate, complete, and current as of a mutually determined specified date prior to the date of pricing the Modification. Contractor's price, including profit, shall be adjusted to exclude any significant sums by which such price was increased because Contractor furnished cost or pricing data that was inaccurate, incomplete, or not current as of the date specified by the parties. Notwithstanding Subparagraph 9.10.4, such adjustments may be made after final payment to the Contractor.

§ 7.6.2 Cost or pricing data means all facts that, as of the date specified by the parties, prudent buyers and sellers would reasonably expect to affect price negotiations significantly. Cost or pricing data are factual, not judgmental; and are verifiable. While they do not indicate the accuracy of the prospective contractor's judgment about estimated future costs or projections, they do include the data forming the basis for that judgment. Cost or pricing data are more than historical accounting data; they are all the facts that can be reasonably expected to contribute to the soundness of estimates of future costs and to the validity of determinations of costs already incurred.

§ 7.6.3 Records Retention.

As used in Section 7.6, the term "records" means any books or records that relate to cost or pricing data that Contractor is required to submit pursuant to Section 7.6.1. Contractor shall maintain records for three years from the date of final payment, or longer if requested by the chief procurement officer. The Owner may audit Contractor's records at reasonable times and places.

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3.55 Delete Section 8.2.2 and substitute the following:

8.2.2 The Contractor shall not knowingly commence operations on the site or elsewhere prior to the effective date of surety bonds and insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such surety bonds or insurance.

3.56 Delete Section 8.3.1 and substitute the following:

8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the control of the Contractor and any subcontractor at any tier; or by delay authorized by the Owner pending dispute resolution; or by other causes that the Architect determines may justify delay, then to the extent such delay will prevent the Contractor from achieving Substantial Completion within the Contract Time and provided the delay (1) is not caused by the fault or negligence of the Contractor or a subcontractor at any tier and (2) is not due to unusual delay in the delivery of supplies, machinery, equipment, or services when such supplies, machinery, equipment, or services were obtainable from other sources in sufficient time for the Contractor to meet the required delivery, the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

3.57 Insert the following at the end of Section 9.1:

All changes to the Contract Sum shall be adjusted in accordance with Section 7.3.3.

3.58 Delete Section 9.2 and substitute the following:

9.2 SCHEDULE OF VALUES

9.2.1 The Contractor shall submit to the Architect, within ten days of full execution of the Agreement, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor’s Applications for Payment. As requested by the Architect, the Contractor and each Subcontractor shall prepare a trade payment breakdown for the Work for which each is responsible, such breakdown being submitted on a uniform standardized format approved by the Architect and Owner. The breakdown shall be divided in detail, using convenient units, sufficient to accurately determine the value of completed Work during the course of the Project. The Contractor shall update the schedule of values as required by either the Architect or Owner as necessary to reflect:

- .1** the description of Work (listing labor and material separately);
- .2** the total value;
- .3** the percent and value of the Work completed to date;
- .4** the percent and value of previous amounts billed; and
- .5** the current percent completed and amount billed.

9.2.2 Any schedule of values or trade breakdown that fails to include sufficient detail, is unbalanced, or exhibits "front-loading" of the value of the Work shall be rejected. If a schedule of values or trade breakdown is used as the basis for payment and later determined to be inaccurate, sufficient funds shall be withheld from future Applications for Payment to ensure an adequate reserve (exclusive of normal retainage) to complete the Work.

3.59 Delete Section 9.3.1 and substitute the following:

Monthly, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2., for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor’s right to payment as the Owner or Architect may require (such as copies of requisitions from Subcontractors and material suppliers) and shall reflect retainage and any other adjustments provided in Section 5 of the Agreement. If required by the Owner or Architect, the Application for Payment shall be accompanied by a current construction schedule.

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3.60 In Section 9.3.2, add the following words to the end of the second sentence:

provided such materials or equipment will be subsequently incorporated in the Work

Insert the following at the end of Section 9.3.2:

The Contractor shall 1) protect such materials from diversion, vandalism, theft, destruction, and damage, 2) mark such materials specifically for use on the Project, and 3) segregate such materials from other materials at the storage facility. The Architect and the Owner shall have the right to make inspections of the storage areas at any time.

3.61 *In Section 9.4.2, in the first sentence, after the words “Work has progressed to the point indicated,” insert the following:*

in both the Application for Payment and, if required to be submitted by the Contractor, the accompanying current construction schedule

In the last sentence, delete the third item starting with “(3) reviewed copies” and ending with “Contractor’s right to payment,”

3.62 *In Section 9.5.1, in the first sentence, delete the word “may” after the opening words “The Architect” and substitute the word “shall.”*

In Section 9.5.1, insert the following sentence after the first sentence:

The Architect shall withhold a Certificate of Payment if the Application for Payment is not accompanied by the current construction schedule required by Section 3.10.1.

3.63 *In Section 9.6.2, delete the word “The...” at the beginning of the first sentence and substitute the following:*

Pursuant to Chapter 6 of Title 29 of the South Carolina Code of Laws, as amended, the

3.64 *Delete Section 9.7 and substitute following:*

9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment to the Owner, through no fault of the Contractor, within seven days after receipt of the Contractor’s Application for Payment, or if the Owner does not pay the Contractor within seven days after the time established in the Contract Documents the amount certified by the Architect or awarded by a final dispute resolution order, then the Contractor may, upon seven additional days’ written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased, in accordance with the provisions of Section 7.3.3, by the amount of the Contractor’s reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

3.65 *Insert the following words at the end of the sentence in Section 9.8.1:*

and when all required occupancy permits, if any, have been issued and copies of same have been delivered to the Owner.

3.66 *In Section 9.8.2, insert the word “written” after the word “comprehensive” and before the word “list.”*

3.67 *Delete Section 9.8.3 and substitute the following:*

9.8.3.1 Upon receipt of the Contractor’s list, the Architect, with the Owner and any other person the Architect or the Owner choose, will make an inspection on a date and at a time mutually agreeable to the Architect, Owner, and Contractor, to determine whether the Work or designated portion thereof is substantially complete. The Contractor shall furnish access for the inspection and testing as provided in this Contract. The inspection shall include a

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demonstration by the Contractor that all equipment, systems and operable components of the Work function properly and in accordance with the Contract Documents. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion. If more than one Substantial Completion inspection is required, the Contractor shall reimburse the Owner for all costs of reinspections or, at the Owner's option, the costs may be deducted from payments due to the Contractor.

9.8.3.2 If the Architect and Owner concur in the Contractor's assessment that the Work or a portion of the Work is safe to occupy, the Owner and Contractor may arrange for a Certificate of Occupancy Inspection by OSE. The Owner, Architect, and Contractor shall be present at OSE's inspection. Upon verifying that the Work or a portion of the Work is substantially complete and safe to occupy, OSE will issue, as appropriate, a Full or Partial Certificate of Occupancy.

3.68 *In the second sentence of Section 9.8.5, delete the words "and consent of surety, if any."*

3.69 *In the first sentence of Section 9.9.1, delete the words "Section 11.3.1.5" and substitute the words "Section 11.3.1.3."*

3.70 *Delete Section 9.10.1 and substitute the following:*

9.10.1 Unless the parties agree otherwise in the Certificate of Substantial Completion, the Contractor shall achieve Final Completion no later than thirty days after Substantial Completion. Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect, with the Owner and any other person the Architect or the Owner choose, will make an inspection on a date and at a time mutually agreeable to the Architect, Owner, and Contractor, and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. If more than one Final Completion inspection is required, the Contractor shall reimburse the Owner for all costs of reinspections or, at the Owner's option, the costs may be deducted from payments due to the Contractor. If the Contractor does not achieve final completion within thirty days after Substantial Completion or the timeframe agreed to by the parties in the Certificate of Substantial Completion, whichever is greater, the Contractor shall be responsible for any additional Architectural fees resulting from the delay.

3.71 *Delete the first sentence of Section 9.10.2 and substitute the following:*

Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, (6) required Training Manuals, (7) equipment Operations and Maintenance Manuals, (8) any certificates of testing, inspection or approval required by the Contract Documents and not previously provided (9) all warranties and guarantees required under or pursuant to the Contract Documents, and (10) one copy of the Documents required by Section 3.11.

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3.72 Delete the first sentence of Section 9.10.3 and substitute the following:

If, after Substantial Completion of the Work, final completion thereof is delayed 60 days through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted.

3.73 Delete Section 9.10.5 and substitute the following:

§9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those specific claims in stated amounts that have been previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

3.74 Add the following Section 9.10.6:

9.10.6 If OSE has not previously issued a Certificate of Occupancy for the entire Project, the Parties shall arrange for a representative of OSE to participate in the Final Completion Inspection. Representatives of the State Fire Marshal's Office and other authorities having jurisdiction may be present at the Final Completion Inspection or otherwise inspect the completed Work and advise the Owner whether the Work meets their respective requirements for the Project.

3.75 Delete Section 10.3.1 and substitute the following:

10.3.1 If the Contractor encounters a hazardous material or substance which was not discoverable as provided in Section 3.2.1 and not required by the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons or serious loss to real or personal property resulting from such material or substance encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing. Hazardous materials or substances are those hazardous, toxic, or radioactive materials or substances subject to regulations by applicable governmental authorities having jurisdiction, such as, but not limited to, the S.C. Department of Health and Environmental Control, the U.S. Environmental Protection Agency, and the U.S. Nuclear Regulatory Commission.

3.76 Insert the following at the end of Section 10.3.2:

In the absence of agreement, the Architect will make an interim determination regarding any delay or impact on the Contractor's additional costs. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15. Any adjustment in the Contract Sum shall be determined in accordance with Section 7.3.3.

3.77 Delete Section 10.3.3 and substitute the following:

10.3.3 The Work in the affected area shall be resumed immediately following the occurrence of any one of the following events: (a) the Owner causes remedial work to be performed that results in the absence of hazardous materials or substances; (b) the Owner and the Contractor, by written agreement, decide to resume performance of the Work; or (c) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority or as evidenced by a written report to both the Owner and the Contractor, which is prepared by an environmental engineer reasonably satisfactory to both the Owner and the Contractor.

3.78 In Section 10.3.5, delete the word "The" at the beginning of the sentence and substitute the following:

In addition to its obligations under Section 3.18, the

3.79 Delete the language of Section 10.3.6 and substitute the word "Reserved."

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3.80 *Insert the following at the end of Section 10.4:*

The Contractor shall immediately give the Architect notice of the emergency. This initial notice may be oral followed within five days by a written notice setting forth the nature and scope of the emergency. Within fourteen days of the start of the emergency, the Contractor shall give the Architect a written estimate of the cost and probable effect of delay on the progress of the Work.

3.81 *Delete 11.1.2 and substitute the following:*

11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified below or required by law, whichever coverage is greater. Coverages shall be written on an occurrence basis and shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor’s completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

- (1) COMMERCIAL GENERAL LIABILITY:
 - (a) General Aggregate (per project) \$1,000,000
 - (b) Products/Completed Operations \$1,000,000
 - (c) Personal and Advertising Injury \$1,000,000
 - (d) Each Occurrence \$1,000,000
 - (e) Fire Damage (Any one fire) \$50,000
 - (f) Medical Expense (Any one person) \$5,000

- (2) BUSINESS AUTO LIABILITY (including All Owned, Non-owned, and Hired Vehicles):
 - (a) Combined Single Limit \$1,000,000

- (3) WORKER’S COMPENSATION:
 - (a) State Statutory
 - (b) Employers Liability \$100,000 Per Acc.
 \$500,000 Disease, Policy Limit
 \$100,000 Disease, Each Employee

In lieu of separate insurance policies for Commercial General Liability, Business Auto Liability, and Employers Liability, the Contractor may provide an umbrella policy meeting or exceeding all coverage requirements set forth in this Section 11.1.2. The umbrella policy limits shall not be less than \$3,000,000.

3.82 *Delete Section 11.1.3 and substitute the following:*

11.1.3 Prior to commencement of the Work, and thereafter upon replacement of each required policy of insurance, Contractor shall provide to the Owner a written endorsement to the Contractor’s general liability insurance policy that:

- (i) names the Owner as an additional insureds for claims caused in whole or in part by the Contractor’s negligent acts or omissions during the Contractor’s operations;
- (ii) provides that no material alteration, cancellation, non-renewal, or expiration of the coverage contained in such policy shall have effect unless all additional insureds have been given at least ten (10) days prior written notice of cancellation for non-payment of premiums and thirty (30) days prior written notice of cancellation for any other reason; and
- (iii) provides that the Contractor’s liability insurance policy shall be primary, with any liability insurance of the Owner as secondary and noncontributory.

Prior to commencement of the Work, and thereafter upon renewal or replacement of each required policy of insurance, Contractor shall provide to the Owner a signed, original certificate of liability insurance (ACORD 25). Consistent with this Section 11.1, the certificate shall identify the types of insurance, state the limits of liability for each type of coverage, name the Owner a Consultants as Certificate Holder, provide that the general aggregate limit applies per project, and provide that coverage is written on an occurrence basis. Both the certificates and the

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endorsements must be received directly from either the Contractor's insurance agent or the insurance company. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, naming the Owner as an additional insured for claims made under the Contractor's completed operations, and otherwise meeting the above requirements, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

3.83 *Delete Section 11.1.4 and substitute the following:*

11.1.4 A failure by the Owner either (i) to demand a certificate of insurance or written endorsement required by Section 11.1, or (ii) to reject a certificate or endorsement on the grounds that it fails to comply with Section 11.1 shall not be considered a waiver of Contractor's obligations to obtain the required insurance.

3.84 *In Section 11.3.1, delete the first sentence and substitute the following:*

Unless otherwise provided in the Contract Documents, the Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis.

3.85 *Delete the language of Section 11.3.1.2 and substitute the word "Reserved."*

3.86 *Delete the language of Section 11.3.1.3 and substitute the word "Reserved."*

3.87 *Delete Section 11.3.2 and substitute the following:*

11.3.2 BOILER AND MACHINERY INSURANCE

The Contractor shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall both be named insureds.

3.88 *Delete Section 11.3.3 and substitute the following:*

11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. To the extent any losses are covered and paid for by such insurance, the Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

3.89 *Delete Section 11.3.4 and substitute the following:*

11.3.4 If the Owner requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Contractor shall, if possible, include such insurance, and the cost thereof shall be charged to the Owner by appropriate Change Order.

3.90 *Delete the language of Section 11.3.5 and substitute the word "Reserved."*

3.91 *Delete Section 11.3.6 and substitute the following:*

11.3.6 Before an exposure to loss may occur, the Contractor shall file with the Owner a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Owner.

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3.92 Delete the first sentence of Section 11.3.7 and substitute the following:

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent the property insurance provided by the Contractor pursuant to this Section 11.3 covers and pays for the damage, except such rights as they have to proceeds of such insurance held by the Contractor as fiduciary.

3.93 Delete the first sentence of Section 11.3.8 and substitute the following:

A loss insured under the Contractor's property insurance shall be adjusted by the Contractor as fiduciary and made payable to the Contractor as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10.

3.94 Delete Section 11.3.9 and substitute the following:

11.3.9 If required in writing by a party in interest, the Contractor as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Contractor's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Contractor shall deposit in a separate account proceeds so received, which the Contractor shall distribute in accordance with such agreement as the parties in interest may reach. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor.

3.95 Delete Section 11.3.10 and substitute the following:

11.3.10 The Contractor as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Contractor's exercise of this power; if such objection is made, the dispute shall be resolved in the manner provided in the contract between the parties in dispute as the method of binding dispute resolution. The Contractor as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with a final order or determination issued by the appropriate authority having jurisdiction over the dispute..

3.96 Delete Section 11.4.1 and substitute the following:

11.4.1 Before commencing any services hereunder, the Contractor shall provide the Owner with Performance and Payment Bonds, each in an amount not less than the Contract Price set forth in Article 4 of the Agreement. The Surety shall have, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty". In addition, the Surety shall have a minimum "Best Financial Strength Category" of "Class V", and in no case less than five (5) times the contract amount. The Performance Bond shall be written on Form SE-355, "Performance Bond" and the Payment Bond shall written on Form SE-357, "Labor and Material Payment Bond", and both shall be made payable to the Owner.

3.97 Delete Section 11.4.2 and substitute the following:

11.4.2 The Performance and Labor and Material Payment Bonds shall:

- .1** be issued by a surety company licensed to do business in South Carolina;
- .2** be accompanied by a current power of attorney and certified by the attorney-in-fact who executes the bond on the behalf of the surety company; and
- .3** remain in effect for a period not less than one (1) year following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer.

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3.98 *Add the following Sections 11.4.3 and 11.4.4:*

11.4.3 Any bonds required by this Contract shall meet the requirements of the South Carolina Code of Laws and Regulations, as amended.

11.4.4 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

3.99 *Delete Section 12.1.1 and substitute the following:*

12.1.1 If a portion of the Work is covered contrary to the requirements specifically expressed in the Contract Documents, including inspections of work-in-progress required by all authorities having jurisdiction over the Project, it must, upon demand of the Architect or authority having jurisdiction, be uncovered for observation and be replaced at the Contractor’s expense without change in the Contract Time.

3.100 *In Section 12.2.2.1, delete the words “and to make a claim for breach of warranty” at the end of the third sentence.*

3.101 *In Section 12.2.2.3, add the following to the end of the sentence:*

unless otherwise provided in the Contract Documents.

3.102 *Insert the following at the end of Section 12.2.4:*

If, prior to the date of Substantial Completion, the Contractor, a Subcontractor, or anyone for whom either is responsible, uses or damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment, or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

3.103 *Delete Section 13.1 and substitute the following:*

13.1 GOVERNING LAW

The Contract, any dispute, claim, or controversy relating to the Contract, and all the rights and obligations of the parties shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the State of South Carolina, except its choice of law rules.

3.104 *Delete Section 13.2, including its Sub-Sections 13.2.1 and 13.2.2, and substitute the following:*

13.2 SUCCESSORS AND ASSIGNS

The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole, or in part, without written consent of the other and then only in accordance with and as permitted by Regulation 19-445.2180 of the South Carolina Code of Regulations, as amended. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

3.105 *Delete Section 13.3 and substitute the following:*

13.3 WRITTEN NOTICE

Unless otherwise permitted herein, all notices contemplated by the Contract Documents shall be in writing and shall be deemed given:

- .1** upon actual delivery, if delivery is by hand;
- .2** upon receipt by the transmitting party of confirmation or reply, if delivery is by electronic mail, facsimile, telex or telegram;
- .3** upon receipt, if delivery is by the United States mail.

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Notice to Contractor shall be to the address provided in Section 8.3.2 of the Agreement. Notice to Owner shall be to the address provided in Section 8.2.2 of the Agreement. Either party may designate a different address for notice by giving notice in accordance with this paragraph.

3.106 *In Section 13.4.1, insert the following at the beginning of the sentence:*

Unless expressly provided otherwise,

3.107 *Add the following Section 13.4.3:*

13.4.3 Notwithstanding Section 9.10.4, the rights and obligations which, by their nature, would continue beyond the termination, cancellation, rejection, or expiration of this contract shall survive such termination, cancellation, rejection, or expiration, including, but not limited to, the rights and obligations created by the following clauses:

- 1.5** Ownership and Use of Drawings, Specifications and Other Instruments of Service;
- 3.5** Warranty
- 3.17** Royalties, Patents and Copyrights
- 3.18** Indemnification
- 7.6** Cost or Pricing Data
- 11.1** Contractor's Liability Insurance
- 11.4** Performance and Payment Bond
- 15.1.6** Claims for Listed Damages
- 15.1.7** Waiver of Claims Against the Architect
- 15.6** Dispute Resolution
- 15.4** Service of Process

3.108 *Delete Section 13.6 and substitute the following:*

13.6 INTEREST

Payments due to the Contractor and unpaid under the Contract Documents shall bear interest only if and to the extent allowed by Title 29, Chapter 6, Article 1 of the South Carolina Code of Laws. Amounts due to the Owner shall bear interest at the rate of one percent a month or a pro rata fraction thereof on the unpaid balance as may be due.

3.109 *Delete the language of Section 13.7 and substitute the word "Reserved."*

3.110 *Add the following Sections 13.8 through 13.16:*

13.8 PROCUREMENT OF MATERIALS BY OWNER

The Contractor accepts assignment of all purchase orders and other agreements for procurement of materials and equipment by the Owner that are identified as part of the Contract Documents. The Contractor shall, upon delivery, be responsible for the storage, protection, proper installation, and preservation of such Owner purchased items, if any, as if the Contractor were the original purchaser. The Contract Sum includes, without limitation, all costs and expenses in connection with delivery, storage, insurance, installation, and testing of items covered in any assigned purchase orders or agreements. Unless the Contract Documents specifically provide otherwise, all Contractor warranty of workmanship and correction of the Work obligations under the Contract Documents shall apply to the Contractor's installation of and modifications to any Owner purchased items,.

13.9 INTERPRETATION OF BUILDING CODES

As required by Title 10, Chapter 1, Section 180 of the South Caroline Code of Laws, as amended, OSE shall determine the enforcement and interpretation of all building codes and referenced standards on state buildings. The Contractor shall refer any questions, comments, or directives from local officials to the Owner and OSE for resolution.

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13.10 MINORITY BUSINESS ENTERPRISES

Contractor shall notify Owner of each Minority Business Enterprise (MBE) providing labor, materials, equipment, or supplies to the Project under a contract with the Contractor. Contractor’s notification shall be via the first monthly status report submitted to the Owner after execution of the contract with the MBE. For each such MBE, the Contractor shall provide the MBE’s name, address, and telephone number, the nature of the work to be performed or materials or equipment to be supplied by the MBE, whether the MBE is certified by the South Carolina Office of Small and Minority Business Assistance, and the value of the contract.

13.11 SEVERABILITY

If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

13.12 ILLEGAL IMMIGRATION

Contractor certifies and agrees that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agrees to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable both to Contractor and its subcontractors or sub-subcontractors; or (b) that Contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractors language requiring its subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14. (An overview is available at www.procurement.sc.gov)

13.13 SETOFF

The Owner shall have all of its common law, equitable, and statutory rights of set-off.

13.14 DRUG-FREE WORKPLACE

The Contractor certifies to the Owner that Contractor will provide a Drug-Free Workplace, as required by Title 44, Chapter 107 of the South Carolina Code of Laws, as amended.

13.15 FALSE CLAIMS

According to the S.C. Code of Laws § 16-13-240, "a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty" of a crime.

13.16 NON-INDEMNIFICATION:

Any term or condition is void to the extent it requires the State to indemnify anyone. It is unlawful for a person charged with disbursements of state funds appropriated by the General Assembly to exceed the amounts and purposes stated in the appropriations. (§ 11-9-20) It is unlawful for an authorized public officer to enter into a contract for a purpose in which the sum is in excess of the amount appropriated for that purpose. It is unlawful for an authorized public officer to divert or appropriate the funds arising from any tax levied and collected for any one fiscal year to the payment of an indebtedness contracted or incurred for a previous year. (§ 11-1-40)

3.111 *Delete Section 14.1.1 and substitute the following:*

14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 45 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1** Issuance of an order of a court or other public authority having jurisdiction that requires substantially all Work to be stopped; or

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- .2 An act of government, such as a declaration of national emergency that requires substantially all Work to be stopped.
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents and the Contractor has stopped work in accordance with Section 9.7

3.112 *Insert the following at the end of Section 14.1.3:*

Any adjustment to the Contract Sum pursuant to this Section shall be made in accordance with the requirements of Article 7.

3.113 *In Section 14.1.4, replace the word “repeatedly” with the word “persistently.”*

3.114 *Delete Section 14.2.1 and substitute the following:*

14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials, or otherwise fails to prosecute the Work, or any separable part of the Work, with the diligence, resources and skill that will ensure its completion within the time specified in the Contract Documents, including any authorized adjustments;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the Contract Documents and the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

3.115 *In Section 14.2.2, delete the parenthetical statement “, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action,” immediately following the word “Owner” in the first line.*

3.116 *In Section 14.2.4, replace the words “Initial Decision Maker” with the word “Architect”*

3.117 *Add the following Section 14.2.5:*

14.2.5 If, after termination for cause, it is determined that the Owner lacked justification to terminate under Section 14.2.1, or that the Contractor’s default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Owner under Section 14.4.

3.118 *Delete the second sentence of Section 14.3.2 and substitute the following:*

Any adjustment to the Contract Sum made pursuant to this section shall be made in accordance with the requirements of Article 7.3.3.

3.119 *Delete Section 14.4.1 and substitute the following:*

14.4.1 The Owner may, at any time, terminate the Contract, in whole or in part for the Owner’s convenience and without cause. The Owner shall give written notice of the termination to the Contractor specifying the part of the Contract terminated and when termination becomes effective.

3.120 *Delete Section 14.4.2 and substitute the following:*

14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner’s convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work;

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- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and
- .4 complete the performance of the Work not terminated, if any.

3.121 *Delete Section 14.4.3 and substitute the following:*

14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, costs incurred by reason of such termination, and any other adjustments otherwise allowed by the Contract. Any adjustment to the Contract Sum made pursuant to this Section 14.4 shall be made in accordance with the requirements of Article 7.3.3.

3.122 *Add the following Sections 14.4.4, 14.4.5, and 14.5:*

14.4.4 Contractor's failure to include an appropriate termination for convenience clause in any subcontract shall not (i) affect the Owner's right to require the termination of a subcontract, or (ii) increase the obligation of the Owner beyond what it would have been if the subcontract had contained an appropriate clause.

14.4.5 Upon written consent of the Contractor, the Owner may reinstate the terminated portion of this Contract in whole or in part by amending the notice of termination if it has been determined that:

- .1 the termination was due to withdrawal of funding by the General Assembly, Governor, or Budget and Control Board or the need to divert project funds to respond to an emergency as defined by Regulation 19-445.2110(B) of the South Carolina Code of Regulations, as amended;
- .2 funding for the reinstated portion of the work has been restored;
- .3 circumstances clearly indicate a requirement for the terminated work; and
- .4 reinstatement of the terminated work is advantageous to the Owner.

14.5 CANCELLATION AFTER AWARD BUT PRIOR TO PERFORMANCE

Pursuant to Title 11, Chapter 35 and Regulation 19-445.2085 of the South Carolina Code of Laws and Regulations, as amended, this contract may be canceled after award but prior to performance.

3.123 *Insert the following sentence after the second sentence of Section 15.1.1:*

A voucher, invoice, payment application or other routine request for payment that is not in dispute when submitted is not a Claim under this definition.

3.124 *Delete Section 15.1.2 and substitute the following:***15.1.2 NOTICE OF CLAIMS**

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Architect. Such notice shall include sufficient information to advise the Architect and other party of the circumstances giving rise to the claim, the specific contractual adjustment or relief requested and the basis of such request. Claims by either party arising prior to the date final payment is due must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later except as stated for adverse weather days in Section 15.1.5.2. By failing to give written notice of a Claim within the time required by this Section, a party expressly waives its claim.

3.125 *Delete Section 15.1.3 and substitute the following:***15.1.3 CONTINUING CONTRACT PERFORMANCE**

Pending final resolution of a Claim, including any administrative review allowed under Section 15.6, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will issue Certificates for Payment in accordance with the initial decisions and determinations of the Architect.

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3.126 *Insert the following at the end of Section 15.1.5.1:*

Claims for an increase in the Contract Time shall be based on one additional calendar day for each full calendar day that the Contractor is prevented from working.

3.127 *Insert the following Sub-Sections at the end of Section 15.1.5.2:*

- .1** Claims for adverse weather shall be based on actual weather conditions at the job site or other place of performance of the Work, as documented in the Contractor's job site log.
- .2** For the purpose of this Contract, a total of five (5) calendar days per calendar month (non-cumulative) shall be anticipated as "adverse weather" at the job site, and such time will not be considered justification for an extension of time. If, in any month, adverse weather develops beyond the five (5) days, the Contractor shall be allowed to claim additional days to compensate for the excess weather delays only to the extent of the impact on the approved construction schedule. The remedy for this condition is for an extension of time only and is exclusive of all other rights and remedies available under the Contract Documents or imposed or available by law.
- .3** The Contractor shall submit monthly with their pay application all claims for adverse weather conditions that occurred during the previous month. The Architect shall review each monthly submittal in accordance with Section 15.5 and inform the Contractor and the Owner promptly of its evaluation. Approved days shall be included in the next Change Order issued by the Architect. Adverse weather conditions not claimed within the time limits of this Subparagraph shall be considered to be waived by the Contractor. Claims will not be allowed for adverse weather days that occur after the scheduled (original or adjusted) date of Substantial Completion.

3.128 *Delete Section 15.1.6 and substitute the following:*

15.1.6 CLAIMS FOR LISTED DAMAGES

Notwithstanding any other provision of the Contract Documents, including Section 1.2.1, but subject to a duty of good faith and fair dealing, the Contractor and Owner waive Claims against each other for listed damages arising out of or relating to this Contract.

15.1.6.1 For the Owner, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) costs suffered by a third party unable to commence work, (vi) attorney's fees, (vii) any interest, except to the extent allowed by Section 13.6 (Interest), (viii) lost revenue and profit for lost use of the property, (ix) costs resulting from lost productivity or efficiency.

15.1.6.2 For the Contractor, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) attorney's fees, (vi) any interest, except to the extent allowed by Section 13.6 (Interest); (vii) unamortized equipment costs; and, (viii) losses incurred by subcontractors for the types of damages the Contractor has waive as against the Owner. Without limitation, this mutual waiver is applicable to all damages due to either party's termination in accordance with Article 14. Nothing contained in this Section shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents. This mutual waiver is not applicable to amounts due or obligations under Section 3.18 (Indemnification).

3.129 *Add the following Section 15.1.7:*

15.1.7 WAIVER OF CLAIMS AGAINST THE ARCHITECT

Notwithstanding any other provision of the Contract Documents, including Section 1.2.1, but subject to a duty of good faith and fair dealing, the Contractor waives all claims against the Architect and any other design professionals who provide design and/or project management services to the Owner, either directly or as independent contractors or subcontractors to the Architect, for listed damages arising out of or relating to this Contract. The listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v)

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attorney's fees, (vi) any interest; (vii) unamortized equipment costs; and, (viii) losses incurred by subcontractors for the types of damages the Contractor has waived as against the Owner. This mutual waiver is not applicable to amounts due or obligations under Section 3.18 (Indemnification).

3.130 *Delete the language of Sections 15.2, 15.3, and 15.4, including all Sub-Sections, and substitute the word "Reserved" for the deleted language of each Section and Sub-Section.*

3.131 *Add the following Sections 15.5 and 15.6 with their sub-sections:*

15.5 CLAIM AND DISPUTES - DUTY OF COOPERATION, NOTICE, AND ARCHITECTS**INITIAL DECISION**

15.5.1 Contractor and Owner are fully committed to working with each other throughout the Project to avoid or minimize claims. To further this goal, Contractor and Owner agree to communicate regularly with each other and the Architect at all times notifying one another as soon as reasonably possible of any issue that if not addressed may cause loss, delay, and/or disruption of the Work. If claims do arise, Contractor and Owner each commit to resolving such claims in an amicable, professional, and expeditious manner to avoid unnecessary losses, delays, and disruptions to the Work.

15.5.2 Claims shall first be referred to the Architect for initial decision. An initial decision shall be required as a condition precedent to resolution pursuant to Section 15.6 of any Claim arising prior to the date of final payment, unless 30 days have passed after the Claim has been referred to the Architect with no decision having been rendered, or after all the Architect's requests for additional supporting data have been answered, whichever is later. The Architect will not address claims between the Contractor and persons or entities other than the Owner.

15.5.3 The Architect will review Claims and within ten days of the receipt of a Claim (1) request additional supporting data from the claimant or a response with supporting data from the other party or (2) render an initial decision in accordance with Section 15.5.5.

15.5.4 If the Architect requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Architect when the response or supporting data will be furnished or (3) advise the Architect that all supporting data has already been provided. Upon receipt of the response or supporting data, the Architect will render an initial decision in accordance with Section 15.5.5.

15.5.5 The Architect will render an initial decision in writing; (1) stating the reasons therefor; and (2) notifying the parties of any change in the Contract Sum or Contract Time or both. The Architect will deliver the initial decision to the parties within two weeks of receipt of any response or supporting data requested pursuant to Section 16.4, or within such longer period as may be mutually agreeable to the parties. If the parties accept the initial decision, the Architect shall prepare a Change Order with appropriate supporting documentation for the review and approval of the parties and the Office of State Engineer. If either the Contractor, Owner, or both, disagree with the initial decision, the Contractor and Owner shall proceed with dispute resolution in accordance with the provisions of Section 15.6.

15.5.6 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

15.6 DISPUTE RESOLUTION

15.6.1 If a claim is not resolved pursuant to Section 15.5 to the satisfaction of either party, both parties shall attempt to resolve the dispute at the field level through discussions between Contractor's Representative and Owner's Representative. If a dispute cannot be resolved through Contractor's Representative and Owner's Representative, then the Contractor's Senior Representative and the Owner's Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than twenty-one days after such a request is made, to attempt to resolve such dispute. Prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving their dispute. The meetings required by this Section are a condition precedent to resolution pursuant to Section 15.6.2.

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15.6.2 If after meeting in accordance with the provisions of Section 15.6.1, the Senior Representatives determine that the dispute cannot be resolved on terms satisfactory to both the Contractor and the Owner, then either party may submit the dispute by written request to South Carolina’s Chief Procurement Officer for Construction (CPOC). Except as otherwise provided in Article 15, all claims, claims, or controversies relating to the Contract shall be resolved exclusively by the appropriate Chief Procurement Officer in accordance with Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws, or in the absence of jurisdiction, only in the Court of Common Pleas for, or in the absence of jurisdiction a federal court located in, Richland County, State of South Carolina. Contractor agrees that any act by the State regarding the Contract is not a waiver of either the State’s sovereign immunity or the State’s immunity under the Eleventh Amendment of the United State’s Constitution.

15.6.3 If any party seeks resolution to a dispute pursuant to Section 15.6.2, the parties shall participate in non-binding mediation to resolve the claim. If the claim is governed by Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws as amended and the amount in controversy is \$100,000.00 or less, the CPOC shall appoint a mediator, otherwise, the mediation shall be conducted by an impartial mediator selected by mutual agreement of the parties, or if the parties cannot so agree, a mediator designated by the American Arbitration Association (“AAA”) pursuant to its Construction Industry Mediation Rules. The mediation will be governed by and conducted pursuant to a mediation agreement negotiated by the parties or, if the parties cannot so agree, by procedures established by the mediator.

15.6.4 Without relieving any party from the other requirements of Sections 15.5 and 15.6, either party may initiate proceedings in the appropriate forum prior to initiating or completing the procedures required by Sections 15.5 and 15.6 if such action is necessary to preserve a claim by avoiding the application of any applicable statutory period of limitation or repose.

15.6.5 SERVICE OF PROCESS

Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any claims, claims, or controversies relating to the Contract; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided for the Contractor’s Senior Representative or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail.

3.132 Add the following Article 16:

ARTICLE 16 PROJECT-SPECIFIC REQUIREMENTS AND INFORMATION

16.1. Inspection Requirements: *(Indicate the inspection services required by the Contract)*

- Special Inspections are required and are not part of the Contract Sum. *(see section 01400)*
- Building Inspections are required and are not part of the Contract Sum. *(see section 01400)*
- Building Inspections are required and are part of the Contract Sum. The inspections required for this Work are : *(Indicate which services are required and the provider)*

- Civil: _____
- Structural: _____
- Mechanical: _____
- Plumbing: _____
- Electrical: _____
- Gas: _____
- Other *(list)*: _____

Remarks: Any required air monitoring will be by Owner

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16.1.1 Contractor shall schedule and request inspections in an orderly and efficient manner and shall notify the Owner whenever the Contractor schedules an inspection in accordance with the requirements of Section 16.1. Contractor shall be responsible for the cost of inspections scheduled and conducted without the Owner's knowledge and for any increase in the cost of inspections resulting from the inefficient scheduling of inspections.

16.2 List Cash Allowances, if any. *(Refer to attachments as needed. If none, enter NONE)*

\$10,000 Landscaping Allowance

16.3. Requirements for Record Drawings, if any. *(Refer to attachments as needed. If none, enter NONE)*

NONE

16.4. Requirements for Shop Drawings and other submittals, if any, including number, procedure for submission, list of materials to be submitted, etc. *(Refer to attachments as needed. If none, enter NONE)*

NONE

16.5. Requirements for signage, on-site office or trailer, utilities, restrooms, etc., in addition to the Contract, if any. *(Refer to attachments as needed. If none, enter NONE)*

NONE

16.6. Requirements for Project Cleanup in addition to the Contract, if any. *(Refer to attachments as needed. If none, enter NONE)*

NONE

16.7. List all attachments that modify these General Conditions. *(If none, enter NONE)*

NONE

USC SUPPLEMENTAL GENERAL CONDITIONS
FOR CONSTRUCTION PROJECTS

1. Contractor's employees shall take all reasonable means not to interrupt the flow of student traffic in building corridors, lobbies and stairs. All necessary and reasonable safety precautions shall be taken to prevent injury to building occupants while transporting materials and equipment through the building to the work area. Providing safe, accessible, plywood pedestrian ways around construction may be required if a suitable alternative route is not found.
2. Fraternalization between Contractor's employees and USC students, faculty or staff is strictly prohibited-zero tolerance!
3. USC will not tolerate rude, abusive or degrading behavior on the job site. Heckling and cat-calling directed toward students, faculty or staff or any other person on USC property is strictly prohibited. Any contractor whose employees violate this requirement will be assessed a fine of up to \$500 per violation.
4. Contractor's employees must adhere to the University's policy of maintaining a drug-free and smoke-free/tobacco-free workplace.
5. Contractor must sign a Contractor Key Receipt/Return form before any keys are issued. Keys must be returned immediately upon the completion of the work. The Contractor will bear the cost of any re-keying necessary due to the loss of or failure to return keys.
6. A welding permit must be issued by the University Fire Marshall before any welding can begin inside a building. Project Manager will coordinate.
7. Contractor must notify the University immediately upon the discovery of suspect materials such as those potentially containing asbestos or other such hazardous materials. These materials must not be disturbed until approved by the USC Project Manager.
8. At the beginning of the project, the USC Project Manager will establish the Contractor's lay down area. This area will also be used for the Contractor's work vehicles. No personal vehicles will be allowed in this area, or in any areas surrounding the construction site that are not regular or authorized parking lots. Personal vehicles must be parked in the perimeter parking lots. Parking permits can be obtained at the USC Parking Office located in the Pendleton Street parking garage. The lay down area will be clearly identified to the contractor by the PM, with a sketch or drawing provided to Parking. In turn, the contractor will mark off this area with a sign containing the project name, PM name and contact number, and end date. Where this area is subject to foot traffic, protective barriers will be provided as specified by the PM. The area will be maintained in a neat and orderly fashion. Vehicles parked in the lay down area (or designated parking areas) will be clearly marked or display a CPC furnished placard for identification.
9. Contractor will be responsible for providing its own temporary toilet facilities, unless prior arrangements are made with the USC Project Manager.
10. Use of USC communications facilities (telephones, computers, etc.) by the Contractor is prohibited, unless prior arrangements are made with the USC Project Manager.

11. For all projects over \$100,000, including IDC's, an SE-395, Contractor Performance Evaluation, will be completed by the USC Project Manager and reviewed with the GC at the beginning of the project and a copy given to the GC. At the end of the project the form will be completed and a Construction Performance rating will be established.
12. Contractor is responsible for removal of all debris from the site, and is required to provide the necessary dumpsters which will be emptied at least 2 times per week. Construction waste must not be placed in University dumpsters. THE CONSTRUCTION SITE MUST BE THOROUGHLY CLEANED WITH ALL TRASH PICKED UP AND PROPERLY DISPOSED OF ON A DAILY BASIS AND THE SITE MUST BE LEFT IN A SAFE AND SANITARY CONDITION EACH DAY. THE UNIVERSITY WILL INSPECT JOBS ITES REGULARLY AND WILL FINE ANY CONTRACTOR FOUND TO BE IN VIOLATION OF THIS REQUIREMENT AN AMOUNT OF UP TO \$1,000 PER VIOLATION.
13. Contractor must provide all O&M manuals, as-built drawings, and training of USC personnel on new equipment, controls, etc. prior to Substantial Completion. Final payment will not be made until this is completed.
14. Tree protection fencing is required to protect existing trees and other landscape features to be preserved within a construction area. The limits of this fence will be evaluated for each situation with the consultant, USC Arborist ad USC Project Manager. The tree protection fence shall be 5' high chain link fence unless otherwise approved by USC Project Manager. No entry or materials storage will be allowed inside the tree protection zone. A 4" layer of mulch shall be placed over the tree protection area to maintain moisture in the root zone.
15. Where it is necessary to cross walks, tree root zones (i.e. under canopy) or lawns the following measures shall be taken: For single loads up to 9,000 lbs., a ¾" minimum plywood base shall be placed over areas impacted. For single loads over 9,000 lbs., two layers of ¾" plywood is required.
16. For projects requiring heavy loads to cross walks tree root ones or lawns. A construction entry road consisting of 10' x 16' oak logging mates on 12" coarse, chipped, hardwood base. Mulch and logging mats shall be supplemented throughout the project to keep matting structurally functional.
17. Any damage to existing landscaping (including lawn areas) will be remediated before final payment is made.

(USC Arborist, Kevin Curtis, may be contacted at 777-0033, cell 315-0319)

Performance Bond

KNOW ALL MEN BY THESE PRESENTS, that *(Insert full name or legal title and address of Contractor)*

Name: _____
Address: _____

hereinafter referred to as "Contractor", and *(Insert full name and address of principal place of business of Surety)*

Name: _____
Address: _____

hereinafter called the "surety", are jointly and severally held and firmly bound unto *(Insert full name and address of Agency)*

Name: University of South Carolina
Address: 743 Greene Street
Columbia, SC 29208

hereinafter referred to as "Agency", or its successors or assigns, the sum of _____ (\$ _____), being the sum of the Bond to which payment to be well and truly made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ entered into a contract with Agency to construct

State Project Name: Demolition of the Roundhouse & Annex
State Project Number: H27-Z005
Brief Description of Awarded Work, as found on the SE-330, Bid Form: Demolition, removal and proper disposal of structures, site improvements, foundations, and utilities and preparation of ground for new construction.

in accordance with Drawings and Specifications prepared by *(Insert full name and address of A/E)*

Name: Jumper Carter Sease Architects
Address: 412 Meeting Street
West Columbia, SC 29169

which agreement is by reference made a part hereof, and is hereinafter referred to as the Contract.

IN WITNESS WHEREOF, Surety and Contractor, intending to be legally bound hereby, subject to the terms stated herein, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

DATED this _____ day of _____, 2 _____ BOND NUMBER _____
(shall be no earlier than Date of Contract)

CONTRACTOR

SURETY

By: _____
(Seal)

By: _____
(Seal)

Print Name: _____

Print Name: _____

Print Title: _____

Print Title: _____
(Attach Power of Attorney)

Witness: _____

Witness: _____

(Additional Signatures, if any, appear on attached page)

Performance Bond

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency for the full and faithful performance of the contract, which is incorporated herein by reference

2. If the Contractor performs the contract, the Surety and the Contractor have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.

3. The Surety's obligation under this Bond shall arise after:

3.1 The Agency has notified the Contractor and the Surety at the address described in paragraph 10 below, that the Agency is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If the Agency, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the Agency's right, if any, subsequently to declare a Contractor Default; or

3.2 The Agency has declared a Contractor Default and formally terminated the Contractor's right to complete the Contract.

4. The Surety shall, within 15 days after receipt of notice of the Agency's declaration of a Contractor Default, and at the Surety's sole expense, take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Agency, to perform and complete the Contract; or

4.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Agency for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the Agency and the contractor selected with the Agency's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the Agency the amount of damages as described in paragraph 7 in excess of the Balance of the Contract Sum incurred by the Agency resulting from the Contractor Default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and:

4.4.1 After investigation, determine the amount for which it may be liable to the Agency and, within 60 days of waiving its rights under this paragraph, tender payment thereof to the Agency; or

4.4.2 Deny liability in whole or in part and notify the Agency, citing the reasons therefore.

5. Provided Surety has proceeded under paragraphs 4.1, 4.2, or 4.3, the Agency shall pay the Balance of the Contract Sum to either:

5.1 Surety in accordance with the terms of the Contract; or

5.2 Another contractor selected pursuant to paragraph 4.3 to perform the Contract.

5.3 The balance of the Contract Sum due either the Surety or another contractor shall be reduced by the amount of damages as described in paragraph 7.

6. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond 15 days after receipt of written notice from the Agency to the Surety demanding that the Surety perform its obligations under this Bond, and the Agency shall be entitled to enforce any remedy available to the Agency.

6.1 If the Surety proceeds as provided in paragraph 4.4, and the Agency refuses the payment tendered or the Surety has denied liability, in whole or in part, then without further notice the Agency shall be entitled to enforce any remedy available to the Agency.

6.2 Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the Dispute Resolution process defined in the Contract Documents and the laws of the State of South Carolina.

7. After the Agency has terminated the Contractor's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Agency shall be those of the Contractor under the Contract, and the responsibilities of the Agency to the Surety shall those of the Agency under the Contract. To a limit of the amount of this Bond, but subject to commitment by the Agency of the Balance of the Contract Sum to mitigation of costs and damages on the Contract, the Surety is obligated to the Agency without duplication for:

7.1 The responsibilities of the Contractor for correction of defective Work and completion of the Contract; and

7.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and

7.3 Damages awarded pursuant to the Dispute Resolution Provisions of the Contract. Surety may join in any Dispute Resolution proceeding brought under the Contract and shall be bound by the results thereof; and

7.4 Liquidated Damages, or if no Liquidated Damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. The Surety shall not be liable to the Agency or others for obligations of the Contractor that are unrelated to the Contract, and the Balance of the Contract Sum shall not be reduced or set-off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Agency or its heirs, executors, administrators, or successors.

9. The Surety hereby waives notice of any change, including changes of time, to the contract or to related subcontracts, purchase orders and other obligations.

10. Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the address shown on the signature page.

11. Definitions

11.1 Balance of the Contract Sum: The total amount payable by the Agency to the Contractor under the Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts to be received by the Agency in settlement of insurance or other Claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Contract.

11.2 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform the Contract or otherwise to comply with the terms of the Contract.

**SE-357
Labor and Material Payment Bond**

KNOW ALL MEN BY THESE PRESENTS, that *(Insert full name or legal title and address of Contractor)*

Name: _____
Address: _____

hereinafter referred to as "Contractor", and *(Insert full name and address of principal place of business of Surety)*

Name: _____
Address: _____

hereinafter called the "surety", are jointly and severally held and firmly bound unto *(Insert full name and address of Agency)*

Name: University of South Carolina
Address: 743 Greene Street
Columbia, SC 29208

hereinafter referred to as "Agency", or its successors or assigns, the sum of _____ (\$ _____), being the sum of the Bond to which payment to be well and truly made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ entered into a contract with Agency to construct

Project Name: Demolition of the Roundhouse & Annex
Project Number: H27-Z005
Brief Description of Awarded Work, as found on the SE-330, Bid Form: Demolition, removal and proper disposal of structures, site improvements, foundations, and utilities and preparation of ground for new construction.

in accordance with Drawings and Specifications prepared by *(Insert full name and address of A/E)*

Name: Jumper Carter Sease Architects
Address: 412 Meeting Street
West Columbia, SC 29169

which agreement is by reference made a part hereof, and is hereinafter referred to as the Contract.

IN WITNESS WHEREOF, Surety and Contractor, intending to be legally bound hereby, subject to the terms stated herein, do each cause this Labor and Material Payment Bond to be duly executed on its behalf by its authorized officer, agent or representative.

DATED this _____ day of _____, 2_____, BOND NUMBER _____
(shall be no earlier than Date of Contract)

CONTRACTOR

SURETY

By: _____
(Seal)

By: _____
(Seal)

Print Name: _____

Print Name: _____

Print Title: _____

Print Title: _____
(Attach Power of Attorney)

Witness: _____

Witness: _____

(Additional Signatures, if any, appear on attached page)

SE-357**Labor and Material Payment Bond****NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT:**

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency to pay for all labor, materials and equipment required for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to the Agency, this obligation shall be null and void if the Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants; and
 - 2.2 Defends, indemnifies and holds harmless the Agency from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract.
3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.
4. With respect to Claimants, and subject to the provisions of Title 29, Chapter 5 and the provisions of §11-35-3030(2)(c) of the SC Code of Laws, as amended, the Surety's obligation under this Bond shall arise as follows:
 - 4.1 Every person who has furnished labor, material or rental equipment to the Contractor or its subcontractors for the work specified in the Contract, and who has not been paid in full therefore before the expiration of a period of ninety (90) days after the date on which the last of the labor was done or performed by him or material or rental equipment was furnished or supplied by him for which such claim is made, or the balance thereof, unpaid at the time of institution of such suit and to prosecute such action for the sum or sums justly due him.
 - 4.2 A remote claimant shall have a right of action on the payment bond upon giving written notice by certified or registered mail to the Contractor within ninety (90) days from the date on which such person did or performed the last of the labor or furnished or supplied the last of the material or rental equipment upon which such claim is made.
 - 4.3 Every suit instituted upon a payment bond shall be brought in a court of competent jurisdiction for the county or circuit in which the construction contract was to be performed, but no such suit shall be commenced after the expiration of one year after the day on which the last of the labor was performed or material or rental equipment was supplied by the person bringing suit.
5. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
 - 5.1 Send an answer to the Claimant, with a copy to the Agency, within sixty (60) days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 5.2 Pay or arrange for payment of any undisputed amounts.
 - 5.3 The Surety's failure to discharge its obligations under this paragraph 5 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a claim. However, if the Surety fails to discharge its obligations under this paragraph 5, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs to recover any sums found to be due and owing to the Claimant.
6. Amounts owed by the Agency to the Contractor under the

Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the Contractor furnishing and the Agency accepting this Bond, they agree that all funds earned by the contractor in the performance of the Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Agency's prior right to use the funds for the completion of the Work.

7. The Surety shall not be liable to the Agency, Claimants or others for obligations of the Contractor that are unrelated to the Contract. The Agency shall not be liable for payment of any costs or expenses of any claimant under this bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

9. Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the Agency or the contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

10. By the Contractor furnishing and the Agency accepting this Bond, they agree that this Bond has been furnished to comply with the statutory requirements of the South Carolina Code of Laws, as amended, and further, that any provision in this Bond conflicting with said statutory requirements shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

11. Upon request of any person or entity appearing to be a potential beneficiary of this bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

12. Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the laws of the State of South Carolina.

13. DEFINITIONS

13.1 Claimant: An individual or entity having a direct contract with the Contractor or with a Subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the Contractor and the Contractor's Subcontractors, and all other items for which a mechanic's lien might otherwise be asserted.

13.2 Remote Claimant: A person having a direct contractual relationship with a subcontractor of the Contractor or subcontractor, but no contractual relationship expressed or implied with the Contractor.

13.3 Contract: The agreement between the Agency and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

CONSTRUCTION CHANGE ORDER

Change Order No.:	
--------------------------	--

Agency: University of South Carolina
Project Number: H27-Z005
Project Name: Demolition of the Roundhouse & Annex

Contractor: _____
Contract Dated: _____ **For:** _____

This Contract is changed as follows: *(Insert description of change in space provided below)*

Adjustments in the Contract Sum:

1. Original Contract Sum: -----		
2. Change in Contract Sum by previously approved Change Orders: -----	<input type="text"/>	
3. Contract Sum prior to this Change Order: -----		<input type="text" value="\$0.00"/>
4. Amount of this Change Order: -----	<input type="text"/>	
5. New Contract Sum, including this Change Order: -----		<input type="text" value="\$0.00"/>

Adjustments in Contract Time:

1. Original Substantial Completion Date: -----		<input type="text"/>
2. Sum of previously approved increases and decreases: -----	<input type="text"/> Days	
3. Changes in Days for this Change Order: -----	<input type="text"/> Days	
4. New Substantial Completion Date: -----		<input type="text"/>

Contractor Acceptance:

BY: _____ **Date:** _____
(Signature of Representative)
Print Name: _____

Architect Recommendation for Acceptance:

BY: _____ **Date:** _____
(Signature of Representative)
Print Name: _____

Agency Acceptance and Certification

BY: _____ **Date:** _____
(Signature of Representative)
Print Name: _____

- Change is within Agency Construction Procurement Certification amount of _____
- Change is not within Agency Construction Procurement Certification amount

Office of the State Engineer Authorization for change not within Agency Construction Procurement Certification:

Signature of OSE Project Manager: _____
Date: _____

Project Name: USC Demolition of the Roundhouse & Annex
Project Number: H27-Z005
University of South Carolina

CONTRACTOR'S ONE YEAR GUARANTEE

STATE OF _____

COUNTY OF _____

We _____ as General Contractor on the above named project do hereby guarantee that all work executed under the requirements of the Contract Documents shall be free from defects due to faulty materials and/or workmanship for the period of one (1) year from the date of acceptance of the work by the Owner and/or Architect/Engineer, and hereby agree to remedy defects due to faulty materials and/or workmanship, and pay for any damage resulting therefrom, at no cost to the Owner, provided however, that the following are excluded from this guarantee:

Defects or failures resulting from abuse by the Owner; damage caused by fire, tornado, hail, hurricane, acts of God, wars, riots, or civil commotion.

(Name of Contracting Firm)

*By

Title

** Must be executed by an officer of the Contracting Firm.

SWORN TO before me this
_____ day of _____ 20 _____ (SEAL)
_____(STATE)

My commission expires _____

ONE YEAR GUARANTEE FORM

CAMPUS VEHICLE EXPECTATIONS

1. All motorized vehicles on the University campus are expected to travel and park on roadways and/or in parking stalls.
2. All motorized vehicle traffic on USC walkways must first receive the Landscape Manager's authorization. Violators may be subject to fines and penalties.
3. All motorized vehicles that leak or drip liquids are prohibited from traveling or parking on walks or landscaped areas.
4. Contractors, vendors, and delivery personnel are required to obtain prior to parking authorization before parking in a designated space. Violators may be subject to fines and/or penalties. See Item 10 below.
5. Drivers of equipment or motor vehicles that damage university hardscape or landscape will be held personally responsible for damages and restoration expense.
6. Vehicle drivers who park on landscape or drives must be able to produce written evidence of need or emergency requiring parking on same.
7. All vehicles parked on landscape, hardscape, or in the process of service delivery, must display adequate safety devices, i.e. flashing lights, cones, signage, etc.
8. All drivers of equipment and vehicles will be respectful of University landscape, equipment, structures, fixtures and signage.
9. All incidents of property damage will be reported to Parking Services or the Work Management Center.
10. Parking on campus is restricted to spaces designated by Parking Services at the beginning of the project. Once the project manager and contractor agree on how many spaces are needed, the project manager will obtain a placard for each vehicle. This placard must be hung from the mirror of the vehicle, otherwise a ticket will be issued and these tickets cannot be "fixed." Parking spaces are restricted to work vehicles only; no personal vehicles.

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
1. Work covered by the Contract Documents.
 2. Use of premises.
 3. Owner's occupancy requirements.
 4. Specification formats and conventions.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: **DEMOLITION OF THE ROUNDHOUSE & ANNEX**
- B. Project Location: **COLUMBIA, SOUTH CAROLINA**
- C. Owner: **UNIVERSITY OF SOUTH CAROLINA**
1. Owner's Representative: **ANN DERRICK, PROJECT MANAGER, FACILITIES PLANNING AND CONSTRUCTION, UNIVERSITY OF SOUTH CAROLINA**
- D. The Work consists of **DEMOLITION OF THE ROUNDHOUSE & ANNEX** per the contract documents.
- E. The project will be constructed under a single prime contract.

1.3 WORK UNDER OTHER CONTRACTS

- A. Concurrent Work: Owner may elect to award separate contract(s) for other construction operations at Project site. Those operations may be conducted simultaneously with work under this Contract.

1.4 USE OF PREMISES

- A. Use of Site: Limit use of premises to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Owner Occupancy: Allow for Owner occupancy of Project site.
 2. Driveways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

1.5 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 33-division format and CSI/CSC's "MasterFormat" 2004 Version numbering system.
1. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 – PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

1.0 GENERAL

1.1 SCOPE: This section lists known special conditions that exist or pertain to the Contract Documents.

1.2 SPECIAL CONDITIONS:

- A. ASBESTOS: It is the intent of the plans and specifications to specify only non-asbestos containing materials.** Asbestos is defined as follows:
ASBESTOS - The asbestiform varieties of serpentine (chrysotile), rie bekite (crocidolite), cummingtonite grunerite (amosite), anthrophyllite, actinolite, and tremolite.
Materials containing any form of asbestos in any percentages shall not be used. PRODUCTS SHALL BE ASBESTOS FREE. Suppliers supplying materials containing asbestos in any form or percentages shall be responsible for the removal of these materials if delivered or installed and any cleanup required, in addition to the installation of asbestos free materials.
- B. HEAVY METALS:** It is the intent of these plans and specifications to specify materials containing NO HEAVY METALS BY DESIGN. Heavy metals are defined as mercury, lead and other metals known to cause bodily harm. Lead products may be used in roofing applications. Lead soldering for any water or waste water is not allowed. Products containing heavy metals may be used only with the written permission of the architect. Cleanup for products, containing heavy metals, installed without written permission shall be at the contractors expense. Installation of new non-heavy metal products shall be at no cost to the owner.
- C. The Contractor, His Subcontractors and/or Personnel Employed by either shall:**
1. Remain in the designated work areas.
 2. Maintain a safe work site at all times.
 3. Schedule all work with the Owner.
 4. Remain fully clothed at all times on or around job site.
 5. Have no verbal contact with students or staff.
 6. Sunday work will be allowed.
 7. In accordance with State Law, this facility is a No Smoking Facility. An exterior smoking area will be established by the Owner and any smoking shall occur at that area.
 8. During rainy weather the general contractor shall maintain adequate forces on the job to keep water out of spaces at tie-ins and other similar areas where construction activities have compromised existing walls and roof systems. Also provide "dams", diversions, etc. as required to keep occupied spaces dry.

3.0 NOT USED

END OF SECTION

1.0 GENERAL

1.1 Time for Completion: Attention is directed to the fact that a clean site is urgently needed by the Owner and that time is of the essence; for this reason, it shall be agreed that the Contractor shall begin work and complete work as listed in the following schedule:

Building Area	Ordering of Materials	Start Date	Completion Date
ALL	Upon Notice to Proceed/Marking of Utilities	Upon Notice To Proceed	90 days from Notice To Proceed

1.2 SUBSTANTIAL COMPLETION (15 days prior to Completion date):

- A. The Contractor shall inspect the entire project with his subcontractors. A list of incorrect/incomplete items will be forwarded to the Architect. The Contractor shall immediately start correcting this list and date the items as they are completed. THE ARCHITECT NOR THE ENGINEERS WILL START THEIR PUNCH LIST PRIOR TO RECEIVING THE CONTRACTOR'S COMPLETED LIST.
- B. The final inspection shall be made by the Architect and his consultants after the contractors list with dated corrections is received by the Architect. A list of these incorrect/incomplete items will be forwarded to the contractor.
- C. Contractor shall have 15 calendar days prior to the completion date to correct all items on the architect's punch list, and at that time shall certify in writing that all items are correct and complete. Monies will be withheld from the contract until all Punch List items are acceptable by the Architect. The architect, alone, will determine amounts to be withheld and multiply this number by a factor of three (3). A minimum of 2-½% of the total project cost will be held until the punch list is 100% complete. Punch list shall be corrected at the owner's convenience.

END OF SECTION 012000

- 1.0 GENERAL
- 1.1 RELATED DOCUMENTS:
 - A. Drawings and general provisions of Contract including General & Supplementary Conditions and other Division-1 specification sections, apply to work of this section.
- 1.2 SCOPE: This section describes the allowances that are to be included in the contractor's bid and entered on the Form of Proposal
- 1.3 ALLOWANCE: The following allowances to be used as directed by Architect. Any unused portion of these allowances shall be credited to the Owner at the completion of the work. These allowances shall be considered actual costs and the contractor's profit, insurance, taxes, shipping, installation cost, and protection of installed products, will be figured in the bids, except as otherwise noted.
- 1.4 LANDSCAPING ALLOWANCE: \$10,000.00

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing contract modifications. These projects will utilize the AIA Documents listed.

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.

5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use AIA Document G709 for Proposal Requests.
- 1.4 CHANGE ORDER PROCEDURES
- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on form SE-480 Construction Change Order (2011).
- 1.5 CONSTRUCTION CHANGE DIRECTIVE
- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012400

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment. Contractor shall coordinate with owner.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including Application for Payment forms with Continuation Sheets.
 2. Submit the Schedule of Values to Owner at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
 3. Sub-schedules: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Submit draft of AIA Document G703 Continuation Sheets.
 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.

C. Payment Application Times: Progress payments shall be submitted to Architect by the 25th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

D. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.

E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Owner will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.

2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

F. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Owner by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.

2. When an application shows completion of an item, submit final or full waivers.

3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. List of Contractor's staff assignments.
 5. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 6. Initial progress report.
 7. Report of preconstruction conference.
 8. Certificates of insurance and insurance policies.
- I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating demolition operations on Project including, but not limited to, the following:

1. Requests for Information (RFIs).
2. Project meetings.

- B. Related Sections:

1. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
2. Division 23 Section "HVAC, Ductwork" for general installation, coordination drawings and efforts required with other trades adjacent to ductwork.

1.2 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during demolition.

1.3 COORDINATION

- A. Coordination: Coordinate demolition operations to ensure efficient and orderly removal of each part of the Work. Coordinate demolition operations that depend on each other for proper removal and disconnection.

1. Schedule demolition operations in sequence required to obtain the best results where removal of one part of the Work depends on removal of other components, before or after its own removal.

- B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other demolition activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's demolition schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Progress meetings.
5. Project closeout activities.

1.4 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 11. Contractor's signature.
 12. Attachments: Include sketches, descriptions, measurements, photos, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: AIA Document G716 or Contractor's software-generated form with substantially the same content as indicated above, acceptable to Architect. Form type will be determined at the Pre-construction Conference.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for coordination information already indicated in the Contract Documents.
 - b. Requests for adjustments in the Contract Time or the Contract Sum.
 - c. Incomplete RFIs or inaccurately prepared RFIs.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Maintain the log on a daily basis and make available for view to the Architect at any time requested. Submit log monthly. Include the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were dropped and not submitted.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.5 PROJECT MEETINGS

- A. General: Contractor will schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
- B. Preconstruction Conference: Contractor will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner, the Commissioning Authority, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Sustainable design requirements.
 - l. Use of the premises.
 - m. Work restrictions.
 - n. Working hours.

- o. Responsibility for temporary facilities and controls.
 - p. Construction waste management and recycling.
 - q. Parking availability.
 - r. Office, work, and storage areas.
 - s. Equipment deliveries and priorities.
 - t. First aid.
 - u. Security.
 - v. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Progress Meetings: Contractor will conduct progress meetings at weekly intervals.
- 1. Attendees: In addition to representatives of Owner, the Commissioning Authority, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of abatement operations.
 - 4) Access.
 - 5) Site utilization.
 - 6) Temporary facilities and controls.
 - 7) Progress cleaning.
 - 8) Quality and work standards.
 - 9) Status of correction of deficient items.
 - 10) Field observations.
 - 11) Status of RFIs.
 - 12) Status of proposal requests.
 - 13) Status of Change Orders.
 - 14) Documentation of information for payment requests.
 - 3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of demolition during performance of the Work, including the following:
1. Contractor's demolition schedule.
 2. Daily demolition reports.
 3. Field condition reports.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the demolition project. Activities included in a demolition schedule consume time and resources.
1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 2. Predecessor Activity: An activity that precedes another activity in the network.
 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a demolition project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Float: The measure of leeway in starting and completing an activity.
1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
1. PDF electronic file.
 2. Paper copies – 3 copies or greater as determined by the Architect.
- B. Contractor's Demolition Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

- C. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
- D. Daily Construction Reports: Submit at weekly intervals or as directed by the Architect.
- E. Field Condition Reports: Submit at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of demolition activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's demolition schedule with the schedule of values, list of subcontracts, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice of Award to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 10 days, unless specifically allowed by Architect.
 - 2. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 - 3. Punch List and Final Completion: Include not more than 15 days for punch list prior to final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
 2. Work under More Than One Contract: Include a separate activity for each contract.
 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 4. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Use of premises restrictions.
 - e. Provisions for future construction.
 - f. Seasonal variations.
 - g. Environmental control.
 5. Work Stages: Indicate important stages of construction for each major portion of the Work.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final completion, and the following interim milestones:
1. Completion date if different from the Final Completion date.
- E. Recovery Schedule: When periodic update indicates the Work is 10 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule.
- F. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
1. Utilize Primavera, Prolog, or other operating system acceptable to the architect and owner.
- 2.2 CONTRACTOR'S DEMOLITION SCHEDULE (CPM SCHEDULE)
- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. Start-up Network Diagram: Submit diagram within 14 days of date established for the Notice of Award. Outline significant demolition activities for the first 30 days of the project. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.
- C. CPM Schedule: Prepare Contractor's demolition schedule using a time-scaled CPM network analysis diagram for the Work.
1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 14 days after date established for the Notice of Award.
 - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.
 2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.

3. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to correlate with Contract Time.
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the start-up network diagram, prepare a skeleton network to identify probable critical paths.
1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Mobilization and demobilization.
 - b. Delivery.
 - c. Utility interruptions.
 - d. Installation.
 - e. Work by Owner that may affect or be affected by Contractor's activities.
 - f. Punch list and final completion.
 - g. Activities occurring following final completion.
 2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
 3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
- E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.
- F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list. Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
 2. Description of activity.
 3. Principal events of activity.
 4. Immediate preceding and succeeding activities.
 5. Early and late start dates.
 6. Early and late finish dates.
 7. Activity duration in workdays.
 8. Average size of workforce.
- G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
 2. Changes in early and late start dates.
 3. Changes in early and late finish dates.
 4. Changes in activity durations in workdays.
 5. Changes in the critical path.
 6. Changes in the Contract Time.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 7. Accidents.
 8. Meetings and significant decisions.
 9. Unusual events.
 10. Stoppages, delays, shortages, and losses.
 11. Meter readings and similar recordings.
 12. Emergency procedures.
 13. Orders and requests of authorities having jurisdiction.
 14. Change Orders received and implemented.
 15. Construction Change Directives received and implemented.
 16. Services connected and disconnected.
 17. Equipment or system tests and startups.
 18. Partial completions and occupancies.
 19. Substantial Completions authorized.
- B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S DEMOLITION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their

assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Reviewed": When used to convey Architect's action on Contractor's submittals, applications, and requests, "reviewed" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated. For standards and publications referenced in Chapter 35 of IBC 2003, and other codes referenced therein, the effective date shall be the date of the standard referenced in that code unless a more current publication is specified in the individual sections of this Project Manual.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

D. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from Access Board www.access-board.gov	(800) 872-2253 (202) 272-0080
CFR	Code of Federal Regulations Available from Government Printing Office www.gpoaccess.gov/cfr/index.html	(888) 293-6498 (202) 512-1530
CRD		
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point www.dodssp.daps.mil	(215) 697-6257
DSCC	Defense Supply Center Columbus (See FS) Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Ave, NW Washington DC 20460 www.epa.gov	(202) 272-0167
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Department of Defense Single Stock Point www.dodssp.daps.mil Available from General Services Administration www.fss.gsa.gov Available from National Institute of Building Sciences www.nibs.org	(215) 697-6257 (202) 501-1021 (202) 289-7800
FTMS	Federal Test Method Standard (See FS)	
ICC-ES ICC	Evaluation Service, Inc. www.icc-es.org (562) 699-0543	(800) 423-6587

MIL	(See MILSPEC)	
MIL-STD	(See MILSPEC)	
MILSPEC	Military Specification and Standards Available from Department of Defense Single Stock Point www.dodssp.daps.mil	(215) 697-6257
NES	(Formerly: National Evaluation Service) (See ICC-ES)	
OSHA		
UFAS	Uniform Federal Accessibility Standards Available from Access Board www.access-board.gov	(800) 872-2253 (202) 272-0080

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The) www.aluminum.org	(202) 862-5100
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
GANA	Glass Association of North America	(785) 271-0208

	www.glasswebsite.com	
GRI	(Now GSI)	
GS	Green Seal (202) 872-6400 www.greenseal.org	
NGA	National Glass Association www.glass.org	(703) 442-4890
PDCA	Painting & Decorating Contractors of America www.pdca.com (314) 514-7322	(800) 332-7322
UL	Underwriters Laboratories Inc. www.ul.com (847) 272-8800	(800) 285-4476
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association) www.wdma.com	(800) 223-2301 (847) 299-5200
C.	Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.	
BOCA	BOCA International, Inc. (See ICC)	
CABO	Council of American Building Officials (See ICC)	
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICBO	International Conference of Building Officials (See ICC)	
ICBO ES	ICBO Evaluation Service, Inc. (See ICC-ES)	
ICC	International Code Council (Formerly: CABO - Council of American Building Officials) www.iccsafe.org	(703) 931-4533
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org (562) 699-0543	(800) 423-6587
NES	National Evaluation Service (See ICC-ES)	
SBCCI	Southern Building Code Congress International, Inc. (See ICC)	

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CPSC	Consumer Product Safety Commission www.cpsc.gov (301) 504-6816	(800) 638-2772
DOC	Department of Commerce www.commerce.gov	(202) 482-2000
DOD	Department of Defense www.dodssp.daps.mil	(215) 697-6257
DOE	Department of Energy www.eren.doe.gov	(202) 586-9220
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
PHS	Office of Public Health and Science http://phs.os.dhhs.gov	(202) 690-7694
SD	State Department www.state.gov	(202) 647-4000
USDA	Department of Agriculture www.usda.gov	(202) 720-2791

E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CBHF	State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation www.dca.ca.gov/bhfti	(800) 952-5210 (916) 574-2041
CPUC	California Public Utilities Commission www.cpuc.ca.gov	(415) 703-2782

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Section:
 - 1. Division 01 Section "Summary" for work restrictions and limitations on utility interruptions.

1.2 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, testing agencies, and authorities having jurisdiction.
- B. Temporary Electricity:
 - 1. Cost: By Contractor.
- C. Temporary Heating:
 - 1. Cost of Energy: By Contractor.
- D. Temporary Cooling:
 - 1. Cost of Energy: By Contractor
- E. Temporary Water Service:
 - 1. Cost of Water Used: By Contractor

1.3 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in and ICC/ANSI A117.1.

1.4 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS (As needed to secure demolition area)

- A. Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts.
- B. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide concrete or galvanized steel bases for supporting posts.

2.2 TEMPORARY FACILITIES

- A. Toilet Facilities

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
 - 1. Locate facilities to limit site disturbance as specified in Division 01 Section "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

1. Provide and maintain suitable quality water service for construction operations at time of project mobilization.
 2. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.
- B. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
1. Provide power service required from utility source.

3.3 SUPPORT FACILITIES INSTALLATION

- A. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- B. Parking: Provide temporary parking areas for construction personnel.
- C. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
- D. Waste Disposal Facilities: Comply with requirements specified in Division 01 Section "Construction Waste Management and Disposal."
- E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with Division 01 Section "Execution" for progress cleaning requirements.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- B. Temporary Erosion and Sedimentation Control: Comply with requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- C. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- D. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- E. Site Enclosure Fence: Before demolition operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.

- F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- G. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- H. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
 - 1. Prohibit smoking in construction areas.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
 - 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

END OF SECTION 015000

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
 - 1. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

- A. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- B. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 IMPLEMENTATION

- A. General: Implement waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

3.2 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Burning: Burning of waste materials is not permitted on Owner's property,
- D. Disposal: Transport waste materials off Owner's property and legally dispose of them.

- E. Refer to Specification Section 024116 Building Demolition for recycling requirements.

END OF SECTION 015240

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

- 1. Inspection procedures.
- 2. Warranties.
- 3. Final cleaning.

- B. Related Sections include the following:

- 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

- 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
- 2. Complete final cleaning requirements.

- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Owner, that must be completed or corrected before certificate will be issued.

- 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
- 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

- 1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
- 2. Submit certified copy of Owner's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Owner. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled

requirements. Owner will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Include the following information at the top of each page:

- a. Project name.
- b. Date.
- c. Name of Architect.
- d. Name of Contractor.
- e. Page number.

1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Owner for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - b. Provide final grading, seeding and mulching.
 - c. Leave Project site clean and ready for Owner.

- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700

LIST OF DRAWINGS:

<u>DRAWING</u>	<u>DESCRIPTION</u>
T101	TITLE, INDEX & ABBREVIATIONS
D101	SITE DEMOLITION PLAN
D102	FIRST FLOOR DEMOLITION PLAN
D103	SECOND FLOOR DEMOLITION PLAN
D104	BUILDING SECTIONS
D105	EXISTING PHOTOGRAPHS
D106	EXISTING PHOTOGRAPHS

END OF SECTION 018000

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Demolition and removal of buildings, including removal of foundations.
2. Demolition and removal of structures.
3. Demolition and removal of site improvements.
4. Demolition and removal of capped and abandoned site utilities.
5. Preparation of ground for new construction.
6. Demolition materials recycling requirements: The Work of this contract shall provide for a minimum of **50%** by weight of the solid waste generated in the Work to be diverted from landfill disposal through a combination of re-use and recycling activities.
7. This section includes requirements for submittal of:
 - a. Contractor's Waste Management and Recycling Plan prior to the commencement of the Work.
 - b. Contractor's quantitative reports for demolition waste materials generated by the Contractor, as a condition of approval of progress payments.

1.2 DEFINITIONS [Note: refer to statutory definitions as required by state or local agencies or use the definitions below]

- A. Remove: Remove and legally dispose of items, except those identified for use in recycling, re-use, and salvage programs.
- B. Environmental Pollution and Damage: The presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human or animal life; affect other species of importance to humanity; or degrade the utility of the environment for aesthetic, cultural or historical purposes.
- C. Inert Fill: A permitted facility that accepts inert waste such as asphalt and concrete exclusively for the purpose of disposal.
 1. Inert Solids/Inert Waste: Non-liquid solid waste including, but not limited to, soil and concrete, that does not contain hazardous substances or soluble pollutants at concentrations in excess of water-quality standards established by a regional water board and does not contain significant quantities of decomposable solid waste.
- D. Class III Landfill: A landfill that accepts non-hazardous materials such as household, commercial, and industrial waste, resulting from construction, remodeling, repair, and demolition operations. A Class III landfill must have a solid waste facilities permit from the governing state/local entity.

- E. Demolition Waste: Building materials and solid waste resulting from cleanup, or demolition operations that are not hazardous. This term includes, but is not limited to, asphalt concrete, Portland cement concrete, brick, lumber, gypsum wallboard, cardboard and other associated packaging, roofing material, ceramic tile, carpeting, plastic pipe, and steel. The materials may include rock, soil, tree stumps, and other vegetative matter resulting from land clearing and landscaping for construction or land development projects.
- F. Chemical Waste: Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals and inorganic wastes.
- G. Recycling: The process of sorting, cleansing, treating and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating or thermally destroying solid waste.
- H. Reuse: The use, in the same or similar form as it was produced, of a material which might otherwise be discarded.
- I. Solid Waste: All putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, discarded home and industrial appliances, and other discarded solid and semisolid wastes. "Solid waste" does not include hazardous waste, radioactive waste, or medical waste as defined or regulated by State law.

1.3 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain property of the University of South Carolina, demolished materials shall become the Contractor's property and shall be removed, recycled, or disposed from Project site in an appropriate and legal manner.
 - 1. Arrange a meeting no less than ten (10) days prior to demolition with the Owner or Owner's representative and other designated representatives to review any salvageable items to determine if the University of South Carolina wants to retain ownership, and discuss Contractor's Waste Management and Recycling Plan.

1.04 SUBMITTALS

- A. Submittals for Construction Document phase:
 - 1. Qualification Data: For demolition firm.
- B. Submittals for Demolition phase:
 - 1. Proposed dust-control measures.

2. Proposed noise-control measures.
3. Schedule of demolition activities for Architect review indicating the following:
 - a. Detailed sequence of demolition and removal work, including start and end dates for each activity.
 - b. Dates for shutoff, capping, and continuation of utility services.
4. If hazardous materials are encountered and disposed of, landfill records indicating receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
5. Contractor's Waste Management and Recycling Plan:
 - a. Review Contract Documents and site conditions and estimate total Project C&D materials to be generated, names of landfills where Project C&D materials would normally be disposed of. Indicate types and quantities of materials under the Work that are anticipated to be feasible for on-site processing, and source-separation for re-use or recycling. Indicate procedures that will be implemented in this program to effect jobsite source-separation, such as, identifying a convenient location where dumpsters would be located, signage to identify materials to be placed in dumpsters, etc.,
 - ~~b. Contact Architect for a list of local reuse and recycling organizations and companies.~~
 - c. Prior to commencing the Work, Contractor's Waste Management and Recycling Plan. Submit in format provided (Section 02060A). Waste Management and Recycling Plan must include, but not be limited to, the following:
 - Contractor's name and project identification information;
 - Procedures to be used;
 - Materials to be re-used and recycled;
 - Estimated total quantities of materials generated in Project;
 - Names and locations of landfills, re-use and recycling facilities/sites;
 - Tonnage calculations that demonstrate that Contractor will re-use and recycle a minimum of 50% by weight of C&D materials generated in the Work.
 - d. Contractor's Waste Management and Recycling Plan must be reviewed by the Architect prior to the Start of Work.
 - e. Contractor's Waste Management and Recycling Plan will not otherwise relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures.
6. Contractor's Reuse, Recycling, and Disposal Report
 - a. Submit Contractor's Reuse, Recycling, and Disposal Report on the form provided (Section 02060B) with each application for progress payment. Failure to submit the form and its supporting documentation will render the application for progress payment incomplete and delay progress payments. If applicable, include manifests, weight tickets, receipts, and invoices specifically identifying the Project for re-used and recycled materials:

- Crushing of asphalt and concrete for use off-site;
 - Reuse of building materials or salvageable items;
 - Source-separated recycling facilities;
 - Mixed debris recycling facilities;
 - Recycling of material, including soils, as landfill alternative daily cover;
 - Delivery of soils or mixed inerts to an inert landfill or other use;
 - Disposal of soils or other materials at a landfill or transfer station;
 - Other (describe);
- b. Contractor's Reuse, Recycling, and Disposal Report must quantify all materials generated in the Work, disposed in Class III Landfills, or diverted from disposal through recycling. Indicate zero (0) if there is no quantity to report for a type of material. As indicated on the form:
- Report disposal or recycling either in tons or in cubic yards: if scales are available at disposal or recycling facility, report in tons; otherwise, report in cubic yards. Report in units for salvage items when no tonnage or cubic yard measurement is feasible.
 - Indicate locations to which materials are delivered for reuse, salvage, recycling, accepted as daily cover, inert backfill, or disposal in landfills or transfer stations.
 - Provide legible copies of weigh tickets, receipts, or invoices that specifically identify the project generating the material. Said documents must be from recyclers and/or disposal site operators that can legally accept the materials for the purpose of re-use, recycling, or disposal:

Indicate project title, project number, progress payment number, name of company completing the Contractor's Report and compiling backup documentation, the printed name, signature, and daytime phone number of the person completing the form, the beginning and ending dates of the period covered on the Contractor's Report, and the date that the Contractor's Report is completed.

7. At Project closeout:

- a. Record drawings: Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions.

1.05 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Engage a licensed demolition contractor and an experienced firm that has successfully completed demolition Work similar to that indicated for this Project.

- B. Regulatory Requirements: Comply with governing EPA notification regulations before starting demolition. Comply with hauling and disposal regulations of authorities having jurisdiction. Obtain and pay for all permits required.
- C. Pre-demolition Conference: The Architect and the USC Project Management team along with the Demolition Contractor will conduct conference at Project site.
 - 1. Review the environmental goals of this Project with Demolition Contractors and waste haulers and make a proactive effort to increase awareness of these goals among all labor forces on site.

1.06 PROJECT CONDITIONS

- A. Buildings to be demolished will be vacated and their use discontinued before start of Work.
- B. Existing conditions: It shall be the responsibility of the Contractor to familiarize himself with all existing conditions at the site which affects his work or which would be affected by his work. Conditions existing at the time of inspection for bidding purposes will be maintained by the owner in so far as practical, except for removal and salvage operations by the Owner prior to the scheduled demolition work.
- C. Storage or sale of removed items or materials on-site will not be permitted.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of demolition and recycling required.
- C. Survey condition of the building to determine whether removing any element might result in a structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during demolition.
- D. Perform surveys as the Work progresses to detect hazards resulting from demolition activities.

3.02 PREPARATION

- A. As part of the project scope, the Demolition Contractor shall prepare documents; and applications and shall obtain all government agency approvals and permits required for demolition activities.

- B. Conduct demolition operations and remove C&D materials to ensure no interference with roads, streets, walks, and other adjacent occupied and utilized facilities.
- C. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area.
 - 1. Erect temporary protection, such as fences and railings where required by authorities having jurisdiction.
 - a. Maintain temporary protection to people at exterior areas of the existing building where decorative medallion removal work is being done.
 - 2. Protect existing site improvements, appurtenances, and landscaping that are designated to remain in place.
 - 3. Comply with Fire and Safety Rules in performance of work, including the following:
 - a. Wherever a cutting torch or other equipment that might cause a fire is used, provide and maintain fire extinguishers nearby ready for immediate use. All possible users shall be instructed in use of fire extinguishers.
 - b. Hydrants shall be accessible at all times. No debris shall be permitted to accumulate within a radius of 50 feet of fire hydrants.

3.03 EXPLOSIVES

- A. Explosives: Use of explosives will not be permitted.

3.04 ENVIRONMENTAL CONTROLS

- A. Comply with federal, state and local regulations pertaining to water, air, solid waste, recycling, chemical waste, sanitary waste, sediment and noise pollution.
- B. Protection of Natural Resources: Preserve the natural resources within the project boundaries or restore to an equivalent condition.
 - 1. Confine demolition activities to areas defined by public roads, easements, and work area limits indicated on the drawings.
 - 2. Water Resources: Comply with applicable regulations concerning the direct or indirect discharge of pollutants to underground and natural surface waters.
 - a. Oily Substances: Prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water in such quantities as to affect normal use, aesthetics, or produce a measurable ecological impact on the area.
 - 1) Store and service construction equipment at areas designated for collection of oil wastes.

3. Dust Control, Air Pollution, and Odor Control: Prevent creation of dust, air pollution and odors.
 - a. Use appropriate methods to limit dust and dirt rising and scattering in air to lowest practical level.
 - b. Store volatile liquids, including fuels and solvents, in closed containers.
 - c. Properly maintain equipment to reduce gaseous pollutant emissions.

4. Noise Control: Perform demolition operations to minimize noise.
 - a. Repetitive, high level impact noise will be permitted only between the hours of 8:00 a.m. and 6:00 p. m. Repetitive impact noise on the property shall not exceed the following dB limitations:

<u>Sound Level in dB</u>	<u>Time Duration of Impact Noise</u>
70	More than 20 minutes in any hour
80	More than 10 minutes in any hour

5. Salvage, Re-Use, and Recycling Procedures
 - a. Identify re-use, salvage, and recycling facilities:
 - b. Develop and implement procedures to re-use, salvage, and recycle demolition materials, based on the Contract Documents, the Contractor's Waste Management and Recycling Plan, estimated quantities of available materials, and availability of recycling facilities. Procedures may include off-site recycling, source-separated recycling, salvage, and/or mixed debris recycling efforts.
 - c. Identify materials that are feasible for salvage, determine requirements for site storage, and transportation of materials to a salvage facility.
 - d. Source-separate construction, excavation and demolition materials including, but not limited to the following types:

- ◆ Asphalt
- ◆ Concrete, Concrete Block, Concrete Masonry Units (CMU)
- ◆ Asphalt Concrete
- ◆ Cement Fiber Products: Shingles, Panels, Siding
- ◆ Rigid Foam
- ◆ Glass
- ◆ Plastics
- ◆ Carpet and Carpet Padding
- ◆ Insulation
- ◆ Gypsum Board
- ◆ Porcelain Plumbing Fixtures

- ◆ Fluorescent Light Tubes: per Department of Toxic Substances Control Regulations
 - ◆ Green Materials (i.e. tree trimmings and land clearing debris)
 - ◆ Metal (ferrous and non-ferrous)
 - ◆ Red Clay Brick
 - ◆ Soil
 - ◆ Wood, Clean Dimensional Wood, Pallet Wood
 - ◆ Sheet Wood: Plywood, Oriented Strand Board (OSB), Particle Board
 - ◆ Acoustical ceiling tile and panels
 - ◆ Other materials as appropriate
- e. Develop and implement a program to transport loads of mixed (commingled) demolition materials that cannot be feasibly source separated to a mixed materials recycling facility [whenever available].

6. DISPOSAL PRACTICES AND WASTE HAULING

- a. Legally transport and dispose of materials that cannot be delivered to a source-separated or mixed recycling facility to a transfer station or disposal facility that can legally accept the materials for the purpose of disposal.
- b. Use a permitted waste hauler or Contractor's trucking services and personnel.
- c. Become familiar with the conditions for acceptance of excavation and demolition materials at recycling facilities, prior to delivering materials.
- d. Deliver to facilities that can legally accept excavation and demolition materials for purpose of re-use, recycling, composting, or disposal.
- e. Do not burn, bury or otherwise dispose of rubbish and waste materials on project site.

7. RE-USE AND DONATION OPTIONS

- a. Implement a re-use program to the greatest extent feasible. Options may include:
 - **[List any re-use or materials exchange organizations that are available to project / area].**

8. REVENUE

- a. Revenues or other savings obtained from recycled, re-used, or salvaged materials shall accrue to Contractor unless otherwise noted in the Contract Documents.

- b. Remove and transport C&D materials in a manner that will prevent spillage on adjacent surfaces, streets, and areas or dust being emitted into the atmosphere.
- c. Clean adjacent streets of dust, dirt, and C&D materials caused by demolition operations. At the end of each work day, return adjacent areas to condition existing before start of demolition.

3.05 DEMOLITION

- A. Building Demolition: Demolish buildings completely and remove from the site. Use methods required to complete Work within limitations of governing regulations and as follows:
 - 1. Locate demolition equipment throughout the building and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 2. Demolish concrete and masonry in sizes that will be suitable for acceptance at recycling or disposal facilities.
 - 3. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 4. Break up and remove concrete slabs on grade in small sizes, suitable for acceptance at recycling or disposal facilities, unless otherwise shown to remain.
 - 5. Remove all disconnected, abandoned utilities on site.
 - 6. Clean-up of construction area shall be continuous during demolition work, and after removal of all demolished material the area will be left raked and free of all trash and debris. All disturbed areas shall be graded to drain water and grassed.
- B. Below-Grade Construction: Demolish foundation walls and other below-grade construction, as follows:
 - 1. Completely remove below-grade construction, including foundation walls and footings.
 - 2. Break up and completely remove below-grade concrete slabs, in small sizes, suitable for acceptance at recycling or disposal facilities.
 - 3. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations to street level with satisfactory soil materials.
- C. Damages: Promptly repair damages to adjacent facilities caused by demolition operations.
- D. The entire demolition site area as shown on plans shall be graded smooth and level. Balance cut and fill with gradual slope (less than 1%) across area. Avoid creating areas which hold water. Protect existing trees and landscaping not scheduled to be removed.

3.06 HANDLING OF DEMOLISHED MATERIALS

- A. General: Promptly re-use, salvage, recycle, or dispose of demolished materials. Do not allow demolished materials to accumulate or be stored on-site for more than 3 working days.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off the University's property and legally reuse, salvage, recycle, or dispose of materials.

END OF SECTION 024116

022600 Hazardous Materials Summary

Hazardous Materials Assessments

Hazardous Materials Survey – Golf Trailer



University of South Carolina
743 Greene St
Columbia, SC 29208

Date of Inspection: 02/02/2012
Date of Written Report: 05/09/2012

Darryl H Washington II
University of South Carolina (BI-00568)
743 Greene St Columbia SC 2902-8
803-917-0291

Edward Pitts
University of South Carolina (BI-2534)
743 Greene St Columbia SC 29208
803-917-0517

Facility Inspected: Athletic Golf Trailer

COVER LETTER FOR GOLF TRAILER

Purpose of inspection: : The Round House Annex will be demolished as a part of the new athletic complex in the works.

Golf Trailer

Lot @ 1333 Rosewood Dr

Columbia Sc 29201

Asbestos was not detected in all the suspect materials sampled in this building. This building does not have any water lines in place, and is sitting in place on metal platform for trailers in the parking lot of the Rex Enrichment Athletic Center.

Signage Sheet for Inspectors

Title Asbestos and lead Supervisor

Name Edward Pitts

Signature Edward Pitts

Title Asbestos and lead Inspector

Name Dwight Washington II

Signature Dwight Washington II

Narrative of Building

Golf Trailer

This trailer is constructed of wood on the exterior, and has wood flooring in the interior. The roof materials are held in place by wood sheets and have asphalt 3tab shingles in place with felt underlayment paper on top of wood. The trailer is approximately (square footage) with no asbestos containing materials in place. The square footage of this building is less than 1500 square feet.

Exterior of Building

1. Wood
2. Shingles
3. Felt

Interior of Building

1. Sheetrock
2. Wood
3. Metal (studs)

Asbestos Containing Materials

1. N/A

Non Asbestos Containing Materials

1. Sheetrock
2. Shingles
3. Vinyl Base molding
4. Felt
5. Joint Compound
6. Textured Ceiling Spray

SCDHEC ISSUED
Asbestos ID Card

Edward H Pitts



SUPERAHERA	ASB-2347	Expires	11/06/12
CONSULTBI	ASB-21594		11/03/12

x Ed Pitts

SCDHEC ISSUED
Asbestos ID Card

Darryl H Washington



SUPERAHERA	SA-00397	Expires	11/06/12
CONSULTBI	BI-00568		11/03/12

x D. Washington

Executive Summary

Golf Trailer

Suspect Materials Positive for Asbestos

1. NONE

No suspect material was detected in the golf trailer. ALL samples taken accordingly per SCDHEC standards and regulations

Suspect Materials Negative for Asbestos Containing Materials

1. **Joint Compound**
 - Quantity- <1000 sq ft
 - Number of Samples: 7
 - Condition- Good
 - Location- walls and ceilings of trailer
 - Potential for Disturbance- Low
2. **Sheetrock**
 - Quantity- <3000 sq ft
 - Number of Samples: 7
 - Condition- Good
 - Location- Walls and ceiling of trailer
 - Potential for Disturbance- Low
3. **Textured Ceiling spray**
 - Quantity- <1000 sq ft
 - Number of Samples: 7
 - Condition- Good
 - Location- Ceiling of entire trailer
 - Potential for Disturbance- Low
4. **Felt Paper (blk)**
 - Quantity - <1000 sq ft
 - Number of Samples: 3 plus Tem
 - Condition- Good
 - Location- Under 3 tab shingles on roof
 - Potential for Disturbance- Low
5. **3 Tab Shingles (blk)**
 - Quantity- < 1000 sq ft

- Number of Samples: 3 plus Tem
- Condition- Good
- Location- Roofing of Trailer
- Potential for Disturbance

6. Black Vinyl Base Molding

- Quantity- 200 Lin ft
- Number of Samples: 3 plus Tem
- Condition- Good
- Location- Bottoms of walls of entire trailer
- Potential for Disturbance

Contractor is to verify all square footages, and not use ones listed for bidding purposes.

Reset Form

Print Form



Building # ATHLETIC OFFICE TRAILOR Sample Analysis Date: 02-02-2012 Turn Around Time 24 HRS
 Type of Analysis: Lead / Asbestos

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	1	TEXTURED CEILING SPRAY	OFFICE 1	F	G	>5000 SQ FT	LOW
A	2	TEXTURED CEILING SPRAY	LIVING ROOM	F	G	>5000 SQ FT	LOW
A	3	TEXTURED CEILING SPRAY	OUTSIDE OFFICE 3	F	G	>5000 SQ FT	LOW
A	4	TEXTURED CEILING SPRAY	STORAGE ROOM	F	G	>5000 SQ FT	LOW
A	5	TEXTURED CEILING SPRAY	OFFICE 2	F	G	>5000 SQ FT	LOW
A	6	TEXTURED CEILING SPRAY	MAIN OFFICE BACK AREA	F	G	>5000 SQ FT	LOW
A	7	TEXTURED CEILING SPRAY	OFFICE 3	F	G	>5000 SQ FT	LOW
B	8	SHEET ROCK	BIG OFFICE IN BACK	F	G	>5000 SQ FT	LOW
B	9	SHEET ROCK	STORAGE ROOM	F	G	>5000 SQ FT	LOW
B	10	SHEET ROCK	LIVING ROOM	F	G	>5000 SQ FT	LOW

License # ASBI-00568 FM# FM00386150 Signature [Signature] Requestor ANN DERRICK

Send lab results in PDF format as soon as possible to:
 Ed Pits 803-777-3296 Dearyl Washington 803-777-2399
 720 College St. 720 College St.
 Columbia, SC 29208 Columbia, SC 29208
 EHP@fmc.sc.edu WashinDH@fmc.sc.edu

Fax # 803-777-3990

1202297

Reset Form

Print Form



Sample Analysis

Type of Analysis: Lead / Asbestos Date:

Building #

Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
B	11	SHEET ROCK	OFFICE 1	F	G	>5000 SQ FT	LOW
B	12	SHEET ROCK	OFFICE 2	F	G	>5000 SQ FT	LOW
B	13	SHEET ROCK	OFFICE 3	F	G	>5000 SQ FT	LOW
C	14	JOINT COMPOUND	BIG OFFICE IN BACK	F	G	<1000 SQ FT	LOW
C	15	JOINT COMPOUND	OFFICE 3	F	G	<1000 SQ FT	LOW
C	16	JOINT COMPOUND	OFFICE 2	F	G	<1000 SQ FT	LOW
C	17	JOINT COMPOUND	LIVING ROOM	F	G	<1000 SQ FT	LOW
C	18	JOINT COMPOUND	OFFICE 1	F	G	<1000 SQ FT	LOW
C	19	JOINT COMPOUND	STORAGE ROOM	F	G	<1000 SQ FT	LOW
C	20	JOINT COMPOUND	STORAGE ROOM	F	G	<1000 SQ FT	LOW

License #

FM#

Signature

Requestor

1202297

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

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

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

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

Fax # 803-777-3990

Reset Form

Print Form



Building # _____ Sample Analysis _____ Turn Around Time _____
 Type of Analysis: Lead / Asbestos Date: _____

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
B	21	SHEET ROCK	STORAGE ROOM	F	G	>5000 SQ FT	LOW
D	22	BLACK VINYL BASE MOLD	ON ALL WALL MATERIAL OF TRAILOR	NF	G	<600 LIN FT	LOW
D	23	BLACK VINYL BASE MOLD	ON ALL WALL MATERIAL OF TRAILOR	NF	G	<600 LIN FT	LOW
D	24	BLACK VINYL BASE MOLD (Top 24)	ON ALL WALL MATERIAL OF TRAILOR	NF	G	<600 LIN FT	LOW
E	25	ROOFING FELT	UNDER SHINGLES ON ROOF OF TRAILOR	NF	G	<5000 SQ FT	LOW
E	26	ROOFING FELT	UNDER SHINGLES ON ROOF OF TRAILOR	NF	G	<5000 SQ FT	LOW
E	27	ROOFING FELT (Top 27)	UNDER SHINGLES ON ROOF OF TRAILOR	NF	G	<5000 SQ FT	LOW
F	28	3 TAB SHINGLES	ROOFING MATERIAL OF TRAILOR	NF	G	<5000 SQ FT	LOW
F	29	3 TAB SHINGLES	ROOFING MATERIAL OF TRAILOR	NF	G	<5000 SQ FT	LOW
F	30	3 TAB SHINGLES (Top 30)	ROOFING MATERIAL OF TRAILOR	NF	G	<5000 SQ FT	LOW

1202297

License # _____ FM# _____ Signature _____ Requestor _____

Send lab results in PDF format as soon as possible to:
 Ed Pitas 803-777-3296
 720 College St.
 Columbia, SC 29208
 EHP@fmc.sc.edu

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

Fax # 803-777-3990



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

Lab Use Only
 Lab Order ID: 1202297
 Client Code: _____

Company Contact Information	
Company: <u>University of South Carolina</u>	Contact: <u>Darryl Washington</u>
Address: <u>713 Greene St</u>	Phone: <input type="checkbox"/> : <u>803.922.0201</u>
<u>Columbia, SC 29208</u>	Fax: <input type="checkbox"/> :
	Email <input type="checkbox"/> : <u>wdwash@usca.edu</u>

Asbestos Test Types	
PLM EPA 600/R-93/116	<input checked="" type="checkbox"/>
Positive stop	<input checked="" type="checkbox"/>
PLM Point Count	<input type="checkbox"/>
PCM NIOSH 7400	<input type="checkbox"/>
TEM AHERA	<input type="checkbox"/>
TEM Level II	<input type="checkbox"/>
TEM NIOSH 7402	<input type="checkbox"/>
TEM Bulk Qualitative	<input type="checkbox"/>
TEM Bulk Chatfield	<input checked="" type="checkbox"/>
TEM Bulk Quantitative	<input type="checkbox"/>
TEM Wipe ASTM D6480-99	<input type="checkbox"/>
TEM Microvac ASTM D5755-02	<input type="checkbox"/>
TEM Water EPA 100.2	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Billing/Invoice Information	Turn Around Times	
	Company:	90 Min. <input type="checkbox"/>
Contact:	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input checked="" type="checkbox"/>	144 Hours <input type="checkbox"/>

PO Number: _____
 Project Name/Number: Round Hill Tractor

Sample ID #	Description/Location	Volume/Area	Comments

Total # of Samples 50

Relinquished by	Date/Time	Received by	Date/Time
		<u>[Signature]</u>	<u>2-10 10PM</u>



Bulk Asbestos Analysis

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



NVLAP[®]

NVLAP Lab Code: 200661-0

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

Attn: Darryl Washington

Lab Order ID: 1202297

Analysis ID: 1202297PLM

Date Received: 2/10/2012

Project: Round House Trailer

Date Reported: 2/10/2012

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
1	Textured ceiling spray	None Detected		100% Other	White Non Fibrous Heterogeneous
1202297PLM_1					Crushed
2	Textured ceiling spray	None Detected		100% Other	White Non Fibrous Heterogeneous
1202297PLM_2					Crushed
3	Textured ceiling spray	None Detected		100% Other	White Non Fibrous Heterogeneous
1202297PLM_3					Crushed
4	Textured ceiling spray	None Detected		100% Other	White Non Fibrous Heterogeneous
1202297PLM_4					Crushed
5	Textured ceiling spray	None Detected		100% Other	White Non Fibrous Heterogeneous
1202297PLM_5					Crushed
6	Textured ceiling spray	None Detected		100% Other	White Non Fibrous Heterogeneous
1202297PLM_6					Crushed
7	Textured ceiling spray	None Detected		100% Other	White Non Fibrous Heterogeneous
1202297PLM_7					Crushed
8	Sheet rock	None Detected	5% Cellulose	95% Other	White Fibrous Heterogeneous
1202297PLM_8			Crushed		

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

Dorlos Ammerman (33)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory

Page 1 of 5



Bulk Asbestos Analysis

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



NVLAP[®]
NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1202297

Analysis ID: 1202297PLM

Date Received: 2/10/2012

Project: Round House Trailer

Date Reported: 2/10/2012

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
9	Sheet rock	None Detected	8% Cellulose	92% Other	White Fibrous Heterogeneous
1202297PLM_9					Crushed
10	Sheet rock	None Detected	5% Cellulose	95% Other	White Fibrous Heterogeneous
1202297PLM_10					Crushed
11	Sheet rock	None Detected	5% Cellulose	95% Other	White Fibrous Heterogeneous
1202297PLM_11					Crushed
12	Sheet rock	None Detected	8% Cellulose	92% Other	White Fibrous Heterogeneous
1202297PLM_12					Crushed
13	Sheet rock	None Detected	5% Cellulose	95% Other	White Fibrous Heterogeneous
1202297PLM_13					Crushed
14	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1202297PLM_14					Crushed
15	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1202297PLM_15					Crushed
16	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1202297PLM_16					Crushed

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Dorlos Ammerman (33)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



NVLAP[®]
NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1202297

Analysis ID: 1202297PLM

Date Received: 2/10/2012

Project: Round House Trailer

Date Reported: 2/10/2012

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
17	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1202297PLM_17					Crushed
18	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1202297PLM_18					Crushed
19	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1202297PLM_19					Crushed
20	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1202297PLM_20					Crushed
21	Sheetrock	None Detected	10% Cellulose 5% Fiber Glass	85% Other	Tan Fibrous Heterogeneous
1202297PLM_21			Crushed		
22 - A	Black vinyl base mold	None Detected		100% Other	Black Non Fibrous Homogeneous
1202297PLM_22	base				Ashed
22 - B	Black vinyl base mold	None Detected		100% Other	Tan Non Fibrous Homogeneous
1202297PLM_21	mastic				Dissolved
23 - A	Black vinyl base mold	None Detected		100% Other	Black Non Fibrous Homogeneous
1202297PLM_23	base				Ashed

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Dorlos Ammerman (33)

Analyst

Nathaniel Durham, MS or Approved Signatory

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Page 3 of 5



Bulk Asbestos Analysis

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



NVLAP[®]
NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1202297

Analysis ID: 1202297PLM

Date Received: 2/10/2012

Project: Round House Trailer

Date Reported: 2/10/2012

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
23 - B	Black vinyl base mold	None Detected		100% Other	Tan Non Fibrous Homogeneous
1202297PLM_32	mastic				Dissolved
24 - A	Black vinyl base mold	None Detected		100% Other	Black Non Fibrous Homogeneous
1202297PLM_24	base				Ashed
24 - B	Black vinyl base mold	None Detected		100% Other	Tan Non Fibrous Homogeneous
1202297PLM_33	mastic				Dissolved
25	Roofing felt	None Detected	80% Cellulose	20% Other	Black Fibrous Heterogeneous
1202297PLM_25			Dissolved		
26	Roofing felt	None Detected	80% Cellulose	20% Other	Black Fibrous Heterogeneous
1202297PLM_26			Dissolved		
27	Roofing felt	None Detected	80% Cellulose	20% Other	Black Fibrous Heterogeneous
1202297PLM_27			Dissolved		
28	3 tab shingles	None Detected	15% Fiber Glass	85% Other	Black Fibrous Heterogeneous
1202297PLM_28			Dissolved		
29	3 tab shingles	None Detected	15% Fiber Glass	85% Other	Black Fibrous Heterogeneous
1202297PLM_29			Dissolved		

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

Dorlos Ammerman (33)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory

Page 4 of 5



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1202297

Analysis ID: 1202297PLM

Date Received: 2/10/2012

Project: Round House Trailer

Date Reported: 2/10/2012

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
30	3 tab shingles	None Detected	15% Fiber Glass	85% Other	Black Fibrous Heterogeneous
1202297PLM_30			Dissolved		

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

Dorlos Ammerman (33)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory

Page 5 of 5



Bulk Asbestos Analysis
by Transmission Electron Microscopy
Semi-Quantitative
Chatfield SOP 1988-02 Rev. 1

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

Attn: Darryl Washington

Lab Order ID: 1202309

Analysis ID: 1202309_TBS

Date Received: 2/13/2012

Date Reported: 2/14/2012

Project: Round House Trailer

Sample ID	Description	Organic (Wt. %)	Acid Sol. (Wt. %)	Asbestos (Wt. %)	LCL-UCL (Wt. %)
Lab Sample ID	Lab Notes				
24-A	Black vinyl base mold	41%	-%	None Detected	
1202309TBS_1					
24-B	Black vinyl base mold	41%	-%	None Detected	
1202309TBS_2					
27	Roofing felt	97%	-%	None Detected	
1202309TBS_3					
30	3 tab shingles	22%	-%	None Detected	
1202309TBS_4					

Matt Thomas (4)

Analyst

Approved Signatory

Hazardous Materials Survey – Annex



University of South Carolina
743 Greene St
Columbia, SC 29208

Date of Inspection: 03/07/2012
Date Written Report: 05/09/2012

Darryl H Washington II
University of South Carolina (BI-00568)
743 Greene St Columbia, SC 29208
803-917-0291

Edward Pitts
University of South Carolina (BI-21534)
743 Greene St Columbia, SC 29208
803-917-0517

Facility Inspected : BLD 206 Athletic Office Annex.

Cover Letter for Round House Annex

Purpose of inspection: The Round House Annex will be demolished as a part of the new athletic complex in the works.

The following survey is classified as a non destructive asbestos survey; the building was still in use during the survey. There is always the possibility of asbestos containing materials in inaccessible areas (walls, ceilings, etc). If you encounter any suspect materials in place and you deem it suspect for asbestos please stop work and call the asbestos program manager for further testing.

Round House Annex

**1333 Rosewood Dr
Columbia, SC 29201**

Asbestos was detected in:

1. 2X2 White ceiling tiles (red backing) (all ceiling tiles in building)
2. Ceiling Textured Spray (Conference Room)
3. Black HVAC duct mastic
4. Caulk (around door frames)
5. 9x9 Black Floor tile and Black mastic
6. Carpet in place (Asbestos black mastic under carpet)
7. TSI line (Back room above ceiling 15 linear ft)
8. Safe Door (Insulation) assumed positive 25 Sq Ft

The ceiling tile in the entire building has a red material on the backing, that is causing the tiles to come back positive for asbestos containing materials. All HVAC ducts in place have black mastic on seams and around the duct vents. The caulk identified around the doors was tested, and per TEM analysis the caulk came back positive for asbestos.

Signage sheet for Inspectors

Title Assistant and lead Supervisor

Name Edward Pitts

Signature Edward Pitts

Title Assistant and lead Inspector

Name Darryl Washington Jr

Signature Darryl Washington Jr

Narrative of Building

206 Round House Annex Building

The Round House Annex building is a one story concrete structure built in 1969. The building is used for administrative duties per athletics department, and storage space for athletic equipment. The exterior is constructed of a mixture of concrete, wooden trim, and concrete block. The interior is a mixture of concrete, plaster, sheetrock, and joint compound. The roof of the building is built up roof with insulation under built section The total square footage of the Annex is 4391 sq ft. This building is scheduled for demolition

Exterior of Building

- 1. Concrete**
- 2. Wood (trim)**
- 3. Metal (windows)**

Interior of Building

- 1. Concrete block (most walls)**
- 2. Sheet Rock**
- 3. Joint Compound**
- 4. Plaster**

Asbestos Containing Materials

- 1. Black HVAC duct mastic -350 lin ft**
- 2. 2X2 White ceiling tiles - <5000 sq ft**
- 3. Ceiling Textured Spray – 600 sq ft (Conference room)**
- 4. Caulk (around door frames)- 1 cu ft**
- 5. 9X9 Black Floor tile and Mastic- 562 sq ft**
- 6. Black mastic on backing - 2769 sq ft**
- 7. TSI (above ceiling bulk head at safe room) 15 Lin ft**
- 8. Safe Door (Back room) (Assuming Positive) 25 sq Ft**

Non Asbestos Containing Materials

- 1. Sheetrock - <3000 sq ft**
- 2. Joint Compound- < 3000 sq ft**
- 3. Wall and Ceiling Plaster - <5000 sq ft**
- 4. Dark base molding / mastic- <600 lin ft**
- 5. Window Glazing- 0.5 cu ft**
- 6. Roofing / Insulation- <5000 sq ft**

7. Flashing - <5000 dq ft

8. Exterior texture under facial material - <1000 sq ft

Executive Summary

206 Round House Annex Building

Date of Inspection 3/7/12 thru 8/20/12

Suspect Material Positive for Asbestos

1. Caulk Doors (nf)

- Quantity- 1 cu ft
- Number of samples taken – 3
- Condition- Good
- Location- around doors (interior)
- Potential disturbance –Low

2. Black HVAC duct mastic (nf)

- Quantity- 350 lin ft ft
- Number of samples taken- 4
- Condition- Good
- Location- On all HVAC duct work in place
- Potential for disturbance- Low

3. 2X2 White Ceiling tile (f)

- Quantity- <5000 sq ft
- Number of samples taken – 3
- Condition- Good
- Location- Ceiling of interior of building
- Potential for disturbance- Low

4. Ceiling Textured Spray (f)

- Quantity- 600 sq ft
- Number of samples taken- 3
- Condition- Good
- Location- Conference room of building
- Potential for disturbance- Low

5. Black 9x9 Tile and Mastic (nf)

- Quantity- 562 sq ft
- Number of samples taken-3
- Condition- Good
- Location- Under carpet in select areas of building
- Potential for disturbance- Low

6. **Black mastic under carpet (nf)**
 - Quantity- 2769 sq ft
 - Number of samples – N/A (assume positive due to mastic already tested)
 - Condition- Good
 - Location- Entire Building
 - Potential for disturbance- Low
7. **TSI (Overhang by vault) (f)**
 - Quantity- 15 linear ft
 - Number of samples taken- 3
 - Condition- Good
 - Location- Overhang by vault
 - Potential for disturbance- Low
8. **Safe Door (f)**
 - Quantity- 25 sq ft
 - Number of samples taken- none (assumed positive)
 - Condition – Good
 - Location- Back section of the building
 - Potential for disturbance- Low

Non Asbestos Containing Material

1. **Sheetrock**
 - Quantity- <3000 sq ft
 - Number of samples taken- 7
2. **Joint Compound**
 - Quantity- <3000 sq ft
 - Number of samples taken-7
3. **Wall and Ceiling Plaster**
 - Quantity- 3522 sq ft
 - Number of samples taken- 12
4. **Dark Vinyl Base/ Glue**
 - Quantity- <600 lin ft
 - Number of samples taken-3 and 1 TEM
5. **Window Glazing**
 - Quantity- .5 cu ft
 - Number of samples taken- 5 and 1 TEM
6. **Roofing material / Insulation**
 - Quantity- <5000 sq ft
 - Number of samples taken-3 and 1 TEM
7. **Flashing**
 - Quantity- <5000 sq ft

- Number of samples taken- 3 and 1 Tem
- 8. 2ND Layer Plaster ceiling
 - Quantity- 3522 sq ft
 - Number of samples taken – 7
- 9. Exterior Texture under Facial Material
 - Quantity- <1000 sq ft
 - Number of Samples taken-5

SCDHEC ISSUED
Associated ID Card

Edward H. Pitts



SUPERAHERA
CONSULTBI

ASB-2347 11/06/12
ASB-21534 11/08/12

x Ed Pitts

SCDHEC ISSUED
Associated ID Card

Darryl H. Washington



SUPERAHERA
CONSULTBI

SA-00697 11/06/12
SI-00568 11/08/12

x D. Washington

1204511



Building # 206 Sample Analysis Type of Analysis: Lead / Asbestos Date: Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
I	31	WINDOW GLAZING	FROM NON COVERED WINDOW OF EXTERIOR OF BLD	NF	G	15 SQ FT	LOW
I	32	WINDOW GLAZING	FROM NON COVERED WINDOW OF EXTERIOR OF BLD	NF	G	15 SQ FT	LOW
I	33	WINDOW GLAZING	FROM NON COVERED WINDOW OF EXTERIOR OF BLD	NF	G	15 SQ FT	LOW
I	34	WINDOW GLAZING	FROM NON COVERED WINDOW OF EXTERIOR OF BLD	NF	G	15 SQ FT	LOW
I	35	WINDOW GLAZING (Top 2 ft per)	FROM NON COVERED WINDOW OF EXTERIOR OF BLD	NF	G	15 SQ FT	LOW
C	36	SHEET ROCK	RANDOM	F	G	<5000 SQ FT	LOW
C	37	JOINT COMPOUND	RANDOM	F	G	<5000 SQ FT	LOW
E	38	CAULK (Top 2 ft per)	INTERIOR DOOR CASING IN PLACE	NF	G	10 SQ FT	LOW

License # _____ FM# _____ Signature _____ Requestor _____

Send lab results in PDF format as soon as possible to:
 Ed Pitts 803-777-3296 Darryl Washington 803-777-2399 Ty Russell 803-777-1208
 720 College St. 720 College St. Columbia, SC 29208
 Columbia, SC 29208
 EHP@fmc.sc.edu WashinDH@fmc.sc.edu NTRuss@fmc.sc.edu

Fax # 803-777-3990

1204511



Building # 266

Type of Analysis: Lead / Asbestos Date:

[Empty box for Date]

Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
F	21	CEILING TEXTURE SPRAY	CONFERENCE ROOM	F	G	600 SQ FT	LOW
F	22	CEILING TEXTURE SPRAY	CONFERENCE ROOM	F	G	600 SQ FT	LOW
F	23	CEILING TEXTURE SPRAY	CONFERENCE ROOM	F	G	600 SQ FT	LOW
G	24	DARK BASEMOLDING/ GLUE	RANDOM TESTING	NF	G	25 SQ FT	LOW
G	25	DARK BASEMOLDING/ GLUE	RANDOM TESTING	NF	G	25 SQ FT	LOW
G	26	DARK BASEMOLDING/ GLUE (Top FF)	RANDOM TESTING	NF	G	25 SQ FT	LOW
H	27	BLACK HVAC DUCT MASTIC	ON HVAC DUCT WORK OF BUILDING	NF	G	3 CB FT	LOW
H	28	BLACK HVAC DUCT MASTIC	ON HVAC DUCT WORK OF BUILDING	NF	G	3 CB FT	LOW
H	29	BLACK HVAC DUCT MASTIC	ON HVAC DUCT WORK OF BUILDING	NF	G	3 CB FT	LOW
H	30	Black " ↑ " Mastic (Top FF)	ON HVAC DUCT WORK OF BUILDING	NF	G	3 CB FT	LOW

License #

FM#

Signature

Requestor

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

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

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

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

Fax # 803-777-3990



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

Lab Use Only
 Lab Order ID: 1204511
 Client Code: _____

Darryll Washington

Company Contact Information	
Company:	Contact: <u>Ed Pitz</u>
Address:	Phone <input type="checkbox"/> : <u>803-917-0517</u>
	Fax <input type="checkbox"/> :
	Email <input type="checkbox"/> :

Asbestos Test Types	
PLM EPA 600/R-93/i16	<input checked="" type="checkbox"/>
Positive stop	<input checked="" type="checkbox"/>
PLM Point Count	<input type="checkbox"/>
PCM NIOSH 7400	<input type="checkbox"/>
TEM AHERA	<input type="checkbox"/>
TEM Level II	<input type="checkbox"/>
TEM NIOSH 7402	<input type="checkbox"/>
TEM Bulk Qualitative	<input type="checkbox"/>
TEM Bulk Chatfield	<input checked="" type="checkbox"/>
TEM Bulk Quantitative	<input type="checkbox"/>
TEM Wipe ASTM D6480-99	<input type="checkbox"/>
TEM Microvac ASTM D5755-02	<input type="checkbox"/>
TEM Water EPA 100.2	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>

Billing/Invoice Information	Turn Around Times	
Company: <u>Univ of S.C.</u>	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Contact:	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input checked="" type="checkbox"/>	144* Hours <input type="checkbox"/>

PO Number: _____
 Project Name/Number: #206 - Rhammet - TIC OK

Sample ID #	Description/Location	Volume/Area	Comments

Accepted
3/15/10

Total # of Samples 38

Relinquished by	Date/Time	Received by	Date/Time
		<i>[Signature]</i>	<u>3-15-10</u>

1204511



Building # # 206 ROUND HOUSE ANNEX Sample Analysis Date: 03-07-2012 Turn Around Time 24 HRS

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	1	2X2 WHITE CEILING TILE	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	<5000 SQ FT	LOW
A	2	2X2 WHITE CEILING TILE	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	<5000 SQ FT	LOW
A	3	2X2 WHITE CEILING TILE	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	<5000 SQ FT	LOW
B	4	WALL/ CEILING PLASTER	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	7000 SQ FT	LOW
B	5	WALL/ CEILING PLASTER	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	7000 SQ FT	LOW
B	6	WALL/ CEILING PLASTER	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	7000 SQ FT	LOW
B	7	WALL/ CEILING PLASTER	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	7000 SQ FT	LOW
B	8	WALL/ CEILING PLASTER	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	7000 SQ FT	LOW
B	9	WALL/ CEILING PLASTER	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	7000 SQ FT	LOW
B	10	WALL/ CEILING PLASTER	RANDOM (ALL THE SAME HOMOGENIUS)	F	G	7000 SQ FT	LOW

License # ASBI-00568 FM# FM00386150 Signature ANN DERRICK Requestor

Send lab results in PDF format as soon as possible to:
 Ed Pius 803-777-3296
 Darryl Washington 803-777-2399
 720 College St.
 Columbia, SC 29208
 EHP@fmc.sc.edu
 WashinDH@fmc.sc.edu

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

Fax # 803-777-3990



1204511

Building # 266 Sample Analysis Turn Around Time
Type of Analysis: Lead / Asbestos Date:

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
C	11	SHEET ROCK	CONF ROOM	F	G	<5000 SQ FT	LOW
C	12	SHEET ROCK	CHEERLEADING COACHES OFFICE	F	G	<5000 SQ FT	LOW
C	13	SHEET ROCK	AT FRONT DOOR	F	G	<5000 SQ FT	LOW
C	14	SHEET ROCK	AT FRONT OF BLD	F	G	<5000 SQ FT	LOW
D	15	JOINT COMPOUND	CONF ROOM	F	G	<5000 SQ FT	LOW
D	16	JOINT COMPOUND	CHEERLEADING COACHES OFFICE	F	G	<5000 SQ FT	LOW
D	17	JOINT COMPOUND	AT FRONT OF BLD	F	G	<5000 SQ FT	LOW
D	18	JOINT COMPOUND	AT FRONT OF BLD	F	G	<5000 SQ FT	LOW
E	19	CAULK	@ DOORCASING (INT) CHEER COACHES OFFICE	NF	G	10 SQ FT	LOW
E	20	CAULK	@ DOORCASING (INT) CONFERENCE ROOM	NF	G	10 SQ FT	LOW

License # FM# Signature Requestor

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

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

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

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

Fax # 803-777-3990



Bulk Asbestos Analysis

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



NVLAP
NVLAP Lab Code: 200644-0

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

Attn: Darryl Washington

Lab Order ID: 1204511

Analysis ID: 1204511PLM

Date Received: 3/15/2012

Date Reported: 3/15/2012

Date Amended: 3/19/2012

Project: #206 Round House Annex

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
1	2x2 white ceiling tile	4% Chrysotile	90% Mineral Wool	6% Other	White Fibrous Heterogeneous
1204511PLM_1					Teased
2	2x2 white ceiling tile	3% Chrysotile	80% Mineral Wool 10% Cellulose	7% Other	Pink, White Fibrous Heterogeneous
1204511PLM_2					Teased
3	2x2 white ceiling tile	3% Chrysotile 2% Amosite	80% Mineral Wool 10% Cellulose	5% Other	White, Gray Fibrous Heterogeneous
1204511PLM_3					Teased
4 - A	Wall/ceiling plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1204511PLM_4	finish				Crushed
4 - B	Wall/ceiling plaster	None Detected		60% Other 40% Vermiculite	Gray Non Fibrous Heterogeneous
1204511PLM_39	base				Crushed
5 - A	Wall/ceiling plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1204511PLM_5	finish				Crushed
5 - B	Wall/ceiling plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1204511PLM_40	base				Crushed
6 - A	Wall/ceiling plaster	None Detected		100% Other	Pink, White Non Fibrous Heterogeneous
1204511PLM_6	finish				Crushed

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

Sharon Donald (48)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

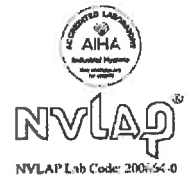
Nathaniel Durham, MS or Approved Signatory

Page 1 of 6



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1204511

Analysis ID: 1204511PLM

Date Received: 3/15/2012

Date Reported: 3/16/2012

Date Amended: 3/19/2012

Project: #206 Round House Annex

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
6 - B	Wall/ceiling plaster	None Detected		60% Other 40% Vermiculite	Gray Non Fibrous Heterogeneous
1204511PLM_41	base				Crushed
7 - A	Wall/ceiling plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1204511PLM_7	finish				Crushed
7 - B	Wall/ceiling plaster	None Detected		60% Other 40% Vermiculite	Gray Non Fibrous Heterogeneous
1204511PLM_42	base				Crushed
8 - A	Wall/ceiling plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1204511PLM_8	finish				Crushed
8 - B	Wall/ceiling plaster	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1204511PLM_43	base				Crushed
9 - A	Wall/ceiling plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1204511PLM_9	finish				Crushed
9 - B	Wall/ceiling plaster	None Detected		60% Other 40% Vermiculite	Gray Non Fibrous Heterogeneous
1204511PLM_44	base				Crushed
10 - A	Wall/ceiling plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1204511PLM_10	finish				Crushed

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Sharon Donald (48)

Analyst

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Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200661-0

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

Attn: Darryl Washington

Lab Order ID: 1204511

Analysis ID: 1204511PLM

Date Received: 3/15/2012

Date Reported: 3/16/2012

Date Amended: 3/19/2012

Project: #206 Round House Annex

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
10 - B	Wall/ceiling plaster	None Detected		60% Other 40% Vermiculite	Gray Non Fibrous Heterogeneous
1204511PLM_45	base				Crushed
11	Sheet rock	None Detected	10% Cellulose	90% Gypsum	White Non Fibrous Heterogeneous
1204511PLM_11					Teased
12	Sheet rock	None Detected	10% Cellulose	90% Gypsum	Gray, Brown Non Fibrous Heterogeneous
1204511PLM_12					Teased
13	Sheet rock	None Detected	5% Cellulose	95% Gypsum	White Non Fibrous Heterogeneous
1204511PLM_13					Teased
14	Sheet rock	None Detected	10% Cellulose	90% Gypsum	White, Brown Non Fibrous Heterogeneous
1204511PLM_14					Teased
15	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1204511PLM_15					Crushed
16	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1204511PLM_16					Crushed
17	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1204511PLM_17					Crushed

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Sharon Donald (48)

Analyst

Nathaniel Durham, MS or Approved Signatory

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Page 3 of 6



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1204511

Analysis ID: 1204511PLM

Date Received: 3/15/2012

Date Reported: 3/16/2012

Date Amended: 3/19/2012

Project: #206 Round House Annex

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
18	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1204511PLM_18					Crushed
19	Caulk	None Detected		100% Other	White Non Fibrous Homogeneous
1204511PLM_19					Ashed
20	Caulk	None Detected		100% Other	Gray, White Non Fibrous Homogeneous
1204511PLM_20					Ashed
21	Ceiling texture spray	5% Chrysotile		95% Other	White Non Fibrous Heterogeneous
1204511PLM_21					Teased
22	Ceiling texture spray	Not Analyzed			
1204511PLM_22					
23	Ceiling texture spray	Not Analyzed			
1204511PLM_23					
24 - A	Dark basemolding/glue	None Detected		100% Other	Black Non Fibrous Homogeneous
1204511PLM_24	basemolding				Ashed
24 - B	Dark basemolding/glue	None Detected		100% Other	Tan Non Fibrous Homogeneous
1204511PLM_46	glue				Dissolved

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Sharon Donald (48)

Analyst

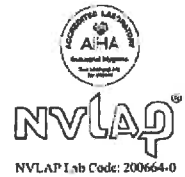
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Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1204511

Analysis ID: 1204511PLM

Date Received: 3/15/2012

Date Reported: 3/16/2012

Date Amended: 3/19/2012

Project: #206 Round House Annex

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
25 - A	Dark basemolding/glue	None Detected		100% Other	Black Non Fibrous Homogeneous
1204511PLM_25	basemolding				Ashed
25 - B	Dark basemolding/glue	None Detected		100% Other	Brown, Tan Non Fibrous Homogeneous
1204511PLM_47	glue				Dissolved
26 - A	Dark basemolding/glue	None Detected		100% Other	Black Non Fibrous Homogeneous
1204511PLM_26	basemolding				Ashed
26 - B	Dark basemolding/glue	None Detected		100% Other	Tan Non Fibrous Homogeneous
1204511PLM_48	glue				Dissolved
27	Black HVAC duct mastic	10% Chrysotile		90% Other	Black Non Fibrous Heterogeneous
1204511PLM_27					Dissolved
28	Black HVAC duct mastic	Not Analyzed			
1204511PLM_28					
29	Black HVAC duct mastic	Not Analyzed			
1204511PLM_29					
30	Black HVAC duct mastic	Not Analyzed			
1204511PLM_30					

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Sharon Donald (48)

Analyst

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Nathaniel Durham, MS or Approved Signatory

Page 5 of 6



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1204511

Analysis ID: 1204511PLM

Date Received: 3/15/2012

Date Reported: 3/16/2012

Date Amended: 3/19/2012

Project: #206 Round House Annex

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
31	Window glazing	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1204511PLM_31					Crushed
32	Window glazing	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1204511PLM_32					Crushed
33	Window glazing	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1204511PLM_33					Crushed
34	Window glazing	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1204511PLM_34					Crushed
35	Window glazing	None Detected		100% Other	Gray Non Fibrous Heterogeneous
1204511PLM_35					Crushed
36	Sheet rock	None Detected	5% Cellulose	95% Gypsum	White Non Fibrous Heterogeneous
1204511PLM_36					Teased
37	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1204511PLM_37					Crushed
38	Caulk	2% Chrysotile		98% Other	White, Gray Non Fibrous Heterogeneous
1204511PLM_38	brittle material along edge of caulking				Ashed

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Sharon Donald (48)

Analyst

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Nathaniel Durham, MS or Approved Signatory

Page 6 of 6



Bulk Asbestos Analysis by Transmission Electron Microscopy

Semi-Quantitative

Chatfield SOP 1988-02 Rev. 1

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

Attn: Ed Pitts

Lab Order ID: 1204564

Analysis ID: 1204564_TBS

Date Received: 3/16/2012

Date Reported: 3/19/2012

Project: #206 Round House Annex

Sample ID	Description	Organic (Wt. %)	Acid Sol. (Wt. %)	Asbestos (Wt. %)	LCL-UCL (Wt. %)
Lab Sample ID	Lab Notes				
26-A	Dark basemolding/glue	20.0%	-0%	None Detected	
1204564TBS_1	basemolding				
26-B	Dark basemolding/glue	32%	-0%	None Detected	
1204564TBS_2	glue				
35	Window glazing	11%	-0%	None Detected	
1204564TBS_3					

Matt Thomas (3)

Analyst

Approved Signatory

1207119



Building # 206 ROUND HOUSE ANNEX ROOF

Sample Analysis Type of Analysis: Lead / Asbestos

Date: 04-16-2012

Turn Around Time 24 HRS

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
J	39	FLASHING	ROOFING MATERIAL OF ANNEX BUILDNG (RANDOM)	NF	G	4300 SQ FT	LOW
J	40	FLASHING	ROOFING MATERIAL OF ANNEX BUILDNG (RANDOM)	NF	G	4300 SQ FT	LOW
J	41	FLASHING	ROOFING MATERIAL OF ANNEX BUILDNG (RANDOM)	NF	G	4300 SQ FT	LOW
K	42	ROOFING MATERIAL / INSUL	ROOFING MATERIAL OF ANNEX BUILDNG (RANDOM)	NF	G	4300 SQ FT	LOW
K	43	ROOFING MATERIAL / INSUL	ROOFING MATERIAL OF ANNEX BUILDNG (RANDOM)	NF	G	4300 SQ FT	LOW
K	44	ROOFING MATERIAL / INSUL	ROOFING MATERIAL OF ANNEX BUILDNG (RANDOM)	NF	G	4300 SQ FT	LOW

License # **ASBI-00568** FM# **7m00 386 150** Signature *[Signature]* Requestor **Ann Derrick**

Send lab results in PDF format as soon as possible to:
 Ed Pits 803-777-3296
 720 College St.
 Columbia, SC 29208
 EHP@fmc.sc.edu

Fax # 803-777-3990

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



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

Lab Use Only
 Lab Order ID: 1207119
 Client Code: _____

Company Contact Information	
Company: University of South Carolina	Contact: Darryl Washington TT
Address: 743 Greene St	Phone <input type="checkbox"/> : 803 912 0291
Columbia, SC 29205	Fax <input type="checkbox"/> :
	Email <input type="checkbox"/> : d.washington@unr.sc.edu

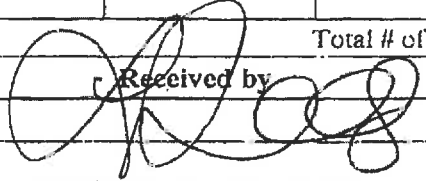
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Positive stop	<input checked="" type="checkbox"/>
PLM Point Count	<input type="checkbox"/>
PCM NIOSH 7400	<input type="checkbox"/>
TEM AHERA	<input type="checkbox"/>
TEM Level II	<input type="checkbox"/>
TEM NIOSH 7402	<input type="checkbox"/>
TEM Bulk Qualitative	<input type="checkbox"/>
TEM Bulk Chatfield	<input checked="" type="checkbox"/> EAS
TEM Bulk Quantitative	<input type="checkbox"/>
TEM Wipe ASTM D6480-99	<input type="checkbox"/>
TEM Microvac ASTM D5755-02	<input type="checkbox"/>
TEM Water EPA 100.2	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>

Billing/Invoice Information	Turn Around Times	
Company:	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Contact:	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input checked="" type="checkbox"/>	144 Hours <input type="checkbox"/>

PO Number: _____
 Project Name/Number: * 306 Land House Inner Loop

Sample ID #	Description/Location	Volume/Area	Comments

Accepted
 Rejected

Relinquished by	Date/Time	Received by	Date/Time
			4-27-03

Total # of Samples 6



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1207119

Analysis ID: 1207119PLM

Date Received: 4/27/2012

Date Reported: 5/1/2012

Project: 206 Round House Annex Roof

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
39	Flashing	None Detected	15% Cellulose 10% Fiber Glass	75% Other	Black Non Fibrous Heterogeneous
1207119PLM_1					Dissolved
40	Flashing	None Detected	15% Cellulose 10% Fiber Glass	75% Other	Black Non Fibrous Heterogeneous
1207119PLM_2					Dissolved
41	Flashing	None Detected	15% Synthetic Fibers	85% Other	Black, White Non Fibrous Heterogeneous
1207119PLM_3					Dissolved
42 - A	Roofing material/insulation	None Detected	10% Cellulose 10% Fiber Glass	80% Other	Black Non Fibrous Heterogeneous
1207119PLM_4	roofing				Dissolved
42 - B	Roofing material/insulation	None Detected	90% Cellulose	10% Perlite	Gray Fibrous Heterogeneous
1207119PLM_7	insulation				Teased
43 - A	Roofing material/insulation	None Detected	10% Cellulose 10% Fiber Glass	80% Other	Black Non Fibrous Heterogeneous
1207119PLM_5	roofing				Dissolved
43 - B	Roofing material/insulation	None Detected	90% Cellulose	10% Perlite	Gray Fibrous Heterogeneous
1207119PLM_8	insulation				Teased
44 - A	Roofing material/insulation	None Detected	10% Cellulose 10% Fiber Glass	80% Other	Black Non Fibrous Heterogeneous
1207119PLM_6	roofing				Dissolved

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Sharon Donald (9)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory

Page 1 of 2



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1207119

Analysis ID: 1207119PLM

Date Received: 4/27/2012

Date Reported: 5/1/2012

Project: 206 Round House Annex Roof

Sample ID	Description	Asbestos	Fibrous Components		Non-Fibrous Components		Attributes
Lab Sample ID	Lab Notes		Treatment				
44 - B	Roofing material/insulation	None Detected	90%	Cellulose	10%	Perlite	Gray Fibrous Heterogeneous
1207119PLM_9	insulation		Teased				

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Sharon Donald (9)

Analyst

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Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis
by Transmission Electron Microscopy
Semi-Quantitative
Chatfield SOP 1988-02 Rev. 1

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

Attn: Darryl Washington

Lab Order ID: 1207230

Analysis ID: 1207230_TBS

Date Received: 5/1/2012

Date Reported: 5/2/2012

Project: 206 Round House Annex Roof

Sample ID	Description	Organic (Wt. %)	Acid Sol. (Wt. %)	Asbestos (Wt. %)	LCL-UCL (Wt. %)
Lab Sample ID	Lab Notes				
41	Flashing	40.0%	-0%	None Detected	
1207230TBS_1					
44-A	Roofing material/insulation	73%	-0%	None Detected	
1207230TBS_2	roofing				

Matt Thomas (2)

Analyst

Approved Signatory



Building # ROUNDHOUSE ANNEX

Type of Analysis: Lead / Asbestos Date: 05-10-2012

Sample Analysis 24 HRS Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
I	48	EXTERIOR UNDER FACIAL	EXTERIOR OF BLD SLOPED UNDER FACIAL BOARDS	F	G	<1000 SQ FT	LOW
I	49	EXTERIOR UNDER FACIAL	EXTERIOR OF BLD SLOPED UNDER FACIAL BOARDS	F	G	<1000 SQ FT	LOW
I	50	EXTERIOR UNDER FACIAL	EXTERIOR OF BLD SLOPED UNDER FACIAL BOARDS	F	G	<1000 SQ FT	LOW
I	51	EXTERIOR UNDER FACIAL	EXTERIOR OF BLD SLOPED UNDER FACIAL BOARDS	F	G	<1000 SQ FT	LOW
I	52	EXTERIOR UNDER FACIAL	EXTERIOR OF BLD SLOPED UNDER FACIAL BOARDS	F	G	<1000 SQ FT	LOW
J	53	TSI ELBOW	ABOVE CEILING LAST OFFICE ON FAR LEFT CORNER	F	D	1 SQ FT	LOW
J	54	TSI ELBOW	ABOVE CEILING LAST OFFICE ON FAR LEFT CORNER	F	D	1 SQ FT	LOW
J	55	TSI ELBOW	ABOVE CEILING LAST OFFICE ON FAR LEFT CORNER	F	D	1 SQ FT	LOW

License # ASBI-00568 FM# FM00386150 Signature Requestor ANN DERRICK

Send lab results in PDF format as soon as possible to: Ed Pits 803-777-3296 720 College St Columbia, SC 29208 EHP@fmc.sc.edu

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

Fax # 803-777-3990



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

Lab Use Only
 Lab Order ID: 1208126
 Client Code: _____

Company Contact Information	
Company: <u>University of South Carolina</u>	Contact: <u>Darryl Washington</u>
Address: <u>743 Greene St</u>	Phone <input type="checkbox"/> : <u>813 917 0281</u>
<u>Columbia SC 29208</u>	Fax <input type="checkbox"/> :
	Email <input type="checkbox"/> : <u>Washington@fmc.sc.edu</u>

Asbestos Test Types	
PLM EPA 600/R-93/116	<input checked="" type="checkbox"/>
Positive stop	<input checked="" type="checkbox"/>
PLM Point Count	<input type="checkbox"/>
PCM NIOSH 7400	<input type="checkbox"/>
TEM AHERA	<input type="checkbox"/>
TEM Level II	<input type="checkbox"/>
TEM NIOSH 7402	<input type="checkbox"/>
TEM Bulk Qualitative	<input type="checkbox"/>
TEM Bulk Chatfield	<input type="checkbox"/>
TEM Bulk Quantitative	<input type="checkbox"/>
TEM Wipe ASTM D6480-99	<input type="checkbox"/>
TEM Microvac ASTM D5755-02	<input type="checkbox"/>
TEM Water EPA 100.2	<input type="checkbox"/>
Other:	<input type="checkbox"/>

Billing/Invoice Information	Turn Around Times	
Company:	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Contact:	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input checked="" type="checkbox"/>	144 Hours <input type="checkbox"/>

PO Number: _____
 Project Name/Number: Panel How done

Sample ID #	Description/Location	Volume/Area	Comments

Total # of Samples 8

Relinquished by	Date/Time	Received by	Date/Time
			<u>SPJR</u> <u>11:00am</u>



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1208126

Analysis ID: 1208126PLM

Date Received: 5/12/2012

Date Reported: 5/14/2012

Project: Round House Annex

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
48 - A	Exterior under facial	None Detected		100% Other	White Non Fibrous Homogeneous
1208126PLM_1	finish				Dissolved
48 - B	Exterior under facial	None Detected		80% Other 20% Quartz	Gray Non Fibrous Homogeneous
1208126PLM_9	base				Crushed
49 - A	Exterior under facial	None Detected		100% Other	White Non Fibrous Homogeneous
1208126PLM_2	finish				Dissolved
49 - B	Exterior under facial	None Detected		80% Other 20% Quartz	Gray Non Fibrous Homogeneous
1208126PLM_10	base				Crushed
50 - A	Exterior under facial	None Detected		100% Other	White Non Fibrous Homogeneous
1208126PLM_3	finish				Dissolved
50 - B	Exterior under facial	None Detected		80% Other 20% Quartz	Gray Non Fibrous Homogeneous
1208126PLM_11	base				Crushed
51 - A	Exterior under facial	None Detected		100% Other	White Non Fibrous Homogeneous
1208126PLM_4	finish				Crushed
51 - B	Exterior under facial	None Detected		80% Other 20% Quartz	Gray Non Fibrous Homogeneous
1208126PLM_12	base				Crushed

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

Matt Thomas (13)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888


Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



NVLAP[®]
NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1208126

Analysis ID: 1208126PLM

Date Received: 5/12/2012

Date Reported: 5/14/2012

Project: Round House Annex

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
52 - A	Exterior under facial	None Detected		100% Other	White Non Fibrous Homogeneous
1208126PLM_5	finish				Dissolved
52 - B	Exterior under facial	None Detected		80% Other 20% Quartz	Gray Non Fibrous Homogeneous
1208126PLM_13	base				Crushed
53	TSI elbow	5% Amosite	50% Mineral Wool	45% Other	Gray Fibrous Heterogeneous
1208126PLM_6					Teased
54	TSI elbow	5% Amosite	50% Mineral Wool	45% Other	Gray Fibrous Heterogeneous
1208126PLM_7					Teased
55	TSI elbow	5% Amosite	50% Mineral Wool	45% Other	Gray Fibrous Heterogeneous
1208126PLM_8					Teased

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

Matt Thomas (13)

Analyst

Scientific Analytical Institute, Inc. 302-L Pomona Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory

Reset Form

Print Form



Building # ROUND HOUSE ANNEX 206

Sample Analysis

08-15-2012

Turn Around Time 24 HRS

Type of Analysis: Lead / Asbestos

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
K	56	SHEET ROCK	UNDER PLASTER CEILING MATERIAL (SECOND LAYER)	F	G	3522 SQ FT	LOW
K	57	SHEET ROCK	UNDER PLASTER CEILING MATERIAL (SECOND LAYER)	F	G	3522 SQ FT	LOW
K	58	SHEET ROCK	UNDER PLASTER CEILING MATERIAL (SECOND LAYER)	F	G	3522 SQ FT	LOW
K	59	SHEET ROCK	UNDER PLASTER CEILING MATERIAL (SECOND LAYER)	F	G	3522 SQ FT	LOW
K	60	SHEET ROCK	UNDER PLASTER CEILING MATERIAL (SECOND LAYER)	F	G	3522 SQ FT	LOW
K	61	SHEET ROCK	UNDER PLASTER CEILING MATERIAL (SECOND LAYER)	F	G	3522 SQ FT	LOW
K	62	SHEET ROCK	UNDER PLASTER CEILING MATERIAL (SECOND LAYER)	F	G	3522 SQ FT	LOW
L	63	9X9 TILE / BLK MASTIC	ROOM 116	NF	G	562 SQ FT	LOW
L	64	9X9 TILE / BLK MASTIC	ROOM 114	NF	G	562 SQ FT	LOW
L	65	9X9 TILE / BLK MASTIC	ROOM 117	NF	G	562 SQ FT	LOW

12/3/06

License # ASB21-CC568 FM# 7m0386150

Send lab results in PDF format as soon as possible to: Ed Pius 803-777-3296 720 College St. Columbia, SC 29208 EHP@fmc.sc.edu

Signature [Signature] Requestor Ann Derricks

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

Fax # 803-777-3990



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 4604 Dundas Dr. Greensboro, NC 27407
 Phone: 336.292.3888 Fax: 336.292.3313
 www.sailab.com lab@sailab.com

12136661

Lab Use Only
 Lab Order ID:
 Client Code:

803-917-0291

Company Contact Information	
Company: <u>Un of D.C.</u>	City: <u>D. Washington</u>
Address: <u>743 Greene St.</u>	Phone: <input checked="" type="checkbox"/> <u>803-917-0517</u>
<u>Cole S.C. 29208</u>	Phone: <input type="checkbox"/> <u>E.P. 715</u>
	Fax: <input type="checkbox"/>
	Email: <input type="checkbox"/>

Asbestos Test Types:	
PLM EPA 600/R-93/116	<input checked="" type="checkbox"/>
Positive slip	<input checked="" type="checkbox"/>
PLM Point Count	
PCM NIOSH 7400	
TEM AHERA	
TEM Level II	
TEM NIOSH 501	
TEM Bulk Qualitative	
TEM Bulk Chatfield	
TEM Bulk Quantitative	
TEM Wipe ASTM D6380-99	
TEM Microvac ASTM D5555-02	
TEM Water EPA 160.2	
Other:	

Billing/Invoice Information	Turn Around Times	
Company: <u>Un of D.C.</u>	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Contact: <u>D. Washington</u>	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input checked="" type="checkbox"/>	144 ⁺ Hours <input type="checkbox"/>

PO Number:
 Project Name/Number: Round House Annex

Sample ID #	Description/Location	Volume/Area	Comments

Accepted
 Rejected

Relinquished by	Date/Time	Received by	Total # of Samples
			Date/Time: <u>8-20-06</u>



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington
Ed Pitts

Lab Order ID: 1213661

Analysis ID: 1213661PLM

Date Received: 8/20/2012

Date Reported: 8/21/2012

Project: Round House Annex 206

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
56	Sheet rock	None Detected	8% Cellulose	92% Other	Gray Non Fibrous Homogeneous
1213661PLM_1					Crushed
57	Sheet rock	None Detected	10% Cellulose	90% Other	Gray Non Fibrous Homogeneous
1213661PLM_2					Crushed
58	Sheet rock	None Detected	8% Cellulose	92% Other	Gray Non Fibrous Homogeneous
1213661PLM_3					Crushed
59	Sheet rock	None Detected	7% Cellulose	93% Other	Gray Non Fibrous Homogeneous
1213661PLM_4					Crushed
60	Sheet rock	None Detected	8% Cellulose	92% Other	Gray Non Fibrous Homogeneous
1213661PLM_5					Crushed
61	Sheet rock	None Detected	8% Cellulose	92% Other	Gray Non Fibrous Homogeneous
1213661PLM_6					Crushed
62	Sheet rock	None Detected	10% Cellulose	90% Other	Gray Non Fibrous Homogeneous
1213661PLM_7					Crushed
63 - A	9x9 tile/blk mastic	6% Chrysotile		94% Other	Brown Non Fibrous Homogeneous
1213661PLM_8	tile				Dissolved

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Bethany Nichols (16)

Analyst

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington
Ed Pitts

Lab Order ID: 1213661

Analysis ID: 1213661PLM

Date Received: 8/20/2012

Date Reported: 8/21/2012

Project: Round House Annex 206

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
63 - B	9x9 tile/blk mastic	8% Chrysotile		92% Other	Black Non Fibrous Homogeneous
1213661PLM_11	black mastic				Dissolved
63 - C	9x9 tile/blk mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1213661PLM_12	yellow mastic				Dissolved
64 - A	9x9 tile/blk mastic	Not Analyzed			
1213661PLM_9	tile				
64 - B	9x9 tile/blk mastic	Not Analyzed			
1213661PLM_13	black mastic				
64 - C	9x9 tile/blk mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1213661PLM_14	yellow mastic				Dissolved
65 - A	9x9 tile/blk mastic	Not Analyzed			
1213661PLM_10	tile				
65 - B	9x9 tile/blk mastic	Not Analyzed			
1213661PLM_15	black mastic				
65 - C	9x9 tile/blk mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1213661PLM_16	yellow mastic				Dissolved

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Bethany Nichols (16)

Analyst

Nathaniel Durham, MS or Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Page 2 of 2

Hazardous Materials Survey – Roundhouse



University of South Carolina
743 Greene St
Columbia, SC 29208

Date of Inspection: 4/13/12

Date of Written Report: 8/22/12

Darryl H Washington II (BI-00568)
University of South Carolina
743 Greene ST Columbia, SC 29208
803-917-0291

Edward Pitts (BI-2534)
University of South Carolina (Supervisor)
743 Greene ST Columbia, SC 29208

Facility Inspected: BLD 205 Rex Enrichment Athletic Center

Cover Letter

Purpose of Inspection: The Round House will be demolished as a part of the new Athletic complex in the works.

The following survey is classified as a non destructive asbestos survey; the building was still in use during the survey. There is always the possibility of asbestos containing materials in inaccessible areas (walls, ceiling, slab, etc). If you encounter any suspect materials in place and deem it suspect for asbestos please stop work and call the asbestos program manager for further testing.

205 Rex Enrichment Athletic Center
1335 Rosewood Dr
Columbia, SC 29201

Asbestos was detected in the following materials:

1. Window Glazing
2. Grey HVAC Duct mastic
3. TSI 6 INCH LINE
4. TSI 4 INCH LINE
5. Black 9x9 Floor Tile and Mastic (First Floor only)
6. Orange Tsi Lines (Mechanical Rm)
7. Yellow Tsi Lines (Mechanical Rm)
8. Olive Green HVAC mastic (Above 1x1 ceiling tile ceiling 2nd Floor entire floor)

The roofing materials were sampled accordingly to SCDHEC rules and regulations. The roofing material was sampled by PLM and TEM methods. All PLM results were negative; but the TEM result came back 0.15 p/wt for asbestos. Material containing asbestos of any type, either alone or mixed with other materials, in an amount greater than 1 percent (1%) as determined by using the method specified in 40 CFR Part 763, Appendix A, Subpart F, Section 1, as amended or an accepted equivalent. (NOTE: "Appendix A to Subpart F" has been redesignated as, and shall hereinafter be referred as, "Appendix E to Subpart E" - 60 FR 31917, June 19, 1995.)

Contractor shall follow all OSHA/SCDHEC rules and regulations for the abatement of all ACM.

Signage sheet for Inspectors

Title Assistant and local Inspector

Name Edward Pitts

Signature Edward Pitts

Title Assistant and local Inspector

Name Daniel W. Hinkle #1

Signature Daniel W. Hinkle

Narrative of Building

205 Rex Enrichment Athletic Center

The Round House building is a two story concrete block structure built in 1956. The building is used for administrative duties per athletics department, and office space for coaches. The exterior is constructed of masonry and brick material with steel framing for roof structure. The interior walls consist of masonry, plaster, sheetrock, and concrete block. The total gross square footage of this building is 17076.14. This building is scheduled for demolition.

Exterior of Building:

- 1. Masonry Concrete**
- 2. Brick**

Interior of Building

- 1. Masonry Concrete**
- 2. Plaster**
- 3. Sheetrock**
- 4. Concrete Block**

Asbestos Containing Materials

- 1. Window Glazing 4 Cu ft**
- 2. Grey HVAC DUCT MASTIC 600 Lin FT**
- 3. TSI (INTERIOR) 6 INCH LINE 905.5 Lin Ft**
- 4. TSI (INTERIOR) 4 INCH LINE 1780.5 Lin Ft**
- 5. 9X9 Black tile and Mastic 3323 Sq Ft**
- 6. TSI (ORANGE LINE) Mech rm 220 Lin Ft**
- 7. TSI (Yellow Line) Mech rm 200 Lin Ft**
- 8. TSI (Blue Line) Mech rm 250 Lin Ft**

Non Asbestos Containing Materials

- 1. Sheetrock >5000 Sq Ft**
- 2. Joint Compound >5000 Sq Ft**
- 3. 1x1 White Square Ceiling Tile >5000 Sq Ft**
- 4. Plaster <3000 Sq Ft**
- 5. Skim Coat over plaster <100 Sq Ft**

6. **New 2x2 White Ceiling Tile 559 Sq Ft**
7. **Dark Vinyl Base Molding/Glue 2500 Lin Ft**
8. **2X4 White Ceiling Tile (Mechanical Rm Ceiling)1287 Sq Ft**
9. **Built up Roof (No Flashing) 7500 Sq Ft**
10. **Interior Door Caulk <25 Sq Ft**
11. **Fireproofing (2nd Floor only) >5000 Sq Ft**
12. **Red Carpet (Glue Only)- <5000 Sq Ft**
13. **Grey / Black Carpet (Glue Only)- >5000 Sq Ft**
14. **Exterior Textured Stair Material <3000 Sq Ft**
15. **Exterior Textured Coating (round over hang) 5042 Sq Ft**

All square footages above should be verified, and not used for bidding purposes for this demolition.
Inspectors took all samples accordingly to SCDHEC rules and regulations

Executive Summary

205 Rex Enrichment Athletic Center.

Inspection Date 4/13/12 thru 8/20/12

Suspect Materials Positive for Asbestos

Window Glazing (f)

- Quantity- 4 Cu Ft
- Number of Samples Taken- 7 (7th sample performed TEM)
- Condition- Good
- Location- On window sections holding glass in place
- Potential to Disturb- LOW

Grey HVAC Duct Mastic (nf)

- Quantity – 600 Lin FT
- Number of Samples Taken- 3
- Condition- Good
- Location- Exposed HVAC duct in 2ND Floor Mech Rm

TSI (Interior above Ceiling 1st Floor)- 4INCH LINE(f)

- Quantity- 1780 Lin Ft
- Number of Samples Taken-6
- Condition – Good
- Location- 1st floor above ceiling in office space, and hallway space
- Potential to Disturb- LOW

TSI (Interior above Ceiling 1st Floor) 6 INCH LINE (DRAIN)(f)

- Quantity- 905.5 Lin Ft
- Number of Samples Taken – 6
- Condition- Good
- Location- 1st floor above ceiling in office space, and hallway space
- Potential to Disturb- LOW

9X9 Black Floor tile and Mastic(nf)

- Quantity- 3323 Sq Ft
- Number of Samples Taken-3 (TEM taken for the yellow mastic on 3rd sample)
- Condition- Good
- Location- Under carpet, newly installed hardwood floor, and Granite tile entire 1st Floor

- Potential to Disturb- LOW

TSI (Blue Line) (f)

- Quantity – 250 Lin Ft
- Number of Samples -3
- Condition- Good
- Location- Mechanical Room
- Potential to Disturb- LOW

TSI (Yellow Line)(f)

- Quantity- 200 Lin Ft
- Number of Samples -3
- Condition- Good
- Location- Mechanical Room
- Potential to Disturb- LOW

TSI (Orange Line)(f)

- Quantity – 220 Lin Ft
- Number of Samples-5
- Condition- Good
- Location- Mechanical Room
- Potential to Disturb- LOW

Non Asbestos Containing Materials

- 1. Sheet Rock**
 - Quantity- >5000 Sq Ft
 - Number of Samples Taken- 13
- 2. Joint Compound**
 - Quantity- <3000 Sq Ft
 - Number of Samples Taken- 13
- 3. 1X1 White Ceiling Tile**
 - Quantity- >5000 Sq Ft
 - Number of Samples Taken- 8
- 4. Plaster skim coat**
 - Quantity- <100 Sq Ft
 - Number of Samples Taken – 4
- 5. Plaster**
 - Quantity- <3000 Sq Ft
 - Number of Samples- 8
- 6. Newer 2x2 White Ceiling Tile**

- Quantity – 559 Sq Ft
- Number of Samples Taken-6
- 7. Dark Vinyl Base Molding/mastic**
 - Quantity- 2500 Lin Ft
 - Number of Samples Taken-3 base 3 mastic
- 8. 2x4 White Ceiling Tile**
 - Quantity – 1287 Sq Ft
 - Number of Samples Taken-3
- 9. Built up Roof (No flashing)**
 - Quantity – 7500 Sq Ft
 - Number of Samples Taken- 3
- 10. Interior Door Caulk**
 - Quantity- <25 Sq Ft
 - Number of Samples-6
- 11. Fireproofing**
 - Quantity- 8548
 - Number of Samples Taken-7
- 12. Red Carpet (Mastic Only)**
 - Quantity- <5000 Sq Ft
 - Number of Samples Taken – 3
- 13. Grey/Black carpet (Glue Only)**
 - Quantity- >5000 Sq Ft
 - Number of Samples Taken – 3 (last sample PLM and TEM)
- 14. Exterior Textured Stairway Material (Both Sides)**
 - Quantity- <3000 Sq Ft
 - Number of Samples Taken- 8
- 15. Exterior Textured Coating (round overhang)**
 - Quantity- 5042 Sq Ft
 - Number of Samples Taken- 7

SCDHEC ISSUED

As Directed Card

Edward H. Pitts



SUPERAHERA
CONSULTBI

ASB-2347 11/06/12
ASB-21534 11/08/12

x Ed Pitts

SCDHEC ISSUED

As Directed Card

Darryl H. Washington



SUPERAHERA
CONSULTBI

SA-00697 11/06/12
BI-00568 11/08/12

x Darryl H. Washington

1084
1206410



205
Ray Entz Ath Center
ROUND HOUSE BUILDING

Type of Analysis: Lead / Asbestos Date: 04-13-2012

Sample Analysis 24 HRS
Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	1	SHEET ROCK	RON GARNERS OFFICE 2ND FLOOR	F	G	>5000 SQ FT	LOW
A	2	SHEET ROCK	2ND FLOOR AT COKE MACHINE	F	G	>5000 SQ FT	LOW
A	3	SHEET ROCK	KEVIN BROWNS OFFICE 2ND FLOOR	F	G	>5000 SQ FT	LOW
A	4	SHEET ROCK	ARLO ELKINS OFFICE	F	G	>5000 SQ FT	LOW
A	5	SHEET ROCK	COACH FRYS OFFICE 2ND FLOOR	F	G	>5000 SQ FT	LOW
A	6	SHEET ROCK	1ST FLOOR GAMECOCK CLUBS OFFICE	F	G	>5000 SQ FT	LOW
A	7	SHEET ROCK	1ST FLOOR JENNIFER WHITES OFFICE	F	G	>5000 SQ FT	LOW
A	8	SHEET ROCK	HALL EXIT WEST 2ND FLOOR	F	G	>5000 SQ FT	LOW
A	9	SHEET ROCK	2ND FLOOR MID OF HALL	F	G	>5000 SQ FT	LOW
A	10	SHEET ROCK	2ND FLOOR AT MENS ROOM	F	G	>5000 SQ FT	LOW

License # ASBI-00568 FM# FM00386150 Requestor ANN DERRICK
Signature *[Signature]*

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

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

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

Fax # 803-777-3990



2014
1206410

Building # _____ Sample Analysis _____
Type of Analysis: Lead / Asbestos Date: _____ Turn Around Time _____

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
B	11	JOINT COMPOUND	2ND FLOOR @ MENS ROOM	F	G	<3000 SQ FT	LOW
B	12	JOINT COMPOUND	HALL @ EXIT WEST SIDE	F	G	<3000 SQ FT	LOW
B	13	JOINT COMPOUND	2ND FLOOR MID HALLWAY 2ND	F	G	<3000 SQ FT	LOW
B	14	JOINT COMPOUND	1ST FLOOR JENNIFER WHITES OFFICE	F	G	<3000 SQ FT	LOW
B	15	JOINT COMPOUND	1ST FLOOR GAMECOCK CLUB OFFICE	F	G	<3000 SQ FT	LOW
B	16	JOINT COMPOUND	RON GARNERS OFFICE 2ND FLOOR	F	G	<3000 SQ FT	LOW
B	17	JOINT COMPOUND	ARLO ELKINS OFFICE 2ND FLOOR	F	G	<3000 SQ FT	LOW
B	18	JOINT COMPOUND	COACH FRY'S OFFICE 2ND FLOOR	F	G	<3000 SQ FT	LOW
B	19	JOINT COMPOUND	2ND FLOOR HALL @ COKE MACHINE	F	G	<3000 SQ FT	LOW
B	20	JOINT COMPOUND	KEVIN BROWNS OFFICE 2ND FLOOR	F	G	<3000 SQ FT	LOW

License # _____ FM# _____ Signature _____ Requestor _____

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

Ed Pits 803-777-3296
720 College St.
Columbia, SC 29208
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Ty Russell 803-777-1208
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Columbia, SC 29208
NTRusse@fmc.sc.edu

Fax # 803-777-3990

3 of 4
1206410



Sample Analysis

Building # _____ Type of Analysis: Lead / Asbestos Date: _____ Turn Around Time _____

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
C	21	1X1 CEILING TILE	2ND FLOOR BREAK ROOM	F	G	<5000 SQ FT	LOW
C	22	1X1 CEILING TILE	2ND FLOOR HALLWAY EAST	F	G	<5000 SQ FT	LOW
C	23	1X1 CEILING TILE	2ND FLOOR HALLWAY WEST	F	G	<5000 SQ FT	LOW
D	24	PLASTER SKIM COAT	2ND FLOOR BREAK RM LEFT OF DOOR AND ABOVE	F	G	<100 SQ FT	LOW
D	25	PLASTER SKIM COAT	2ND FLOOR BREAK RM LEFT OF DOOR AND ABOVE	F	G	<100 SQ FT	LOW
D	26	PLASTER SKIM COAT	2ND FLOOR BREAK RM LEFT OF DOOR AND ABOVE	F	G	<100 SQ FT	LOW
D	27	PLASTER SKIM COAT	2ND FLOOR BREAK RM LEFT OF DOOR AND ABOVE	F	G	<100 SQ FT	LOW
E	28	2X2 WHITE CEILING TILE	2ND FLOOR HALLWAY @ BACK DOOR CEILING	F	G	250 SQ FT	LOW
E	29	2X2 WHITE CEILING TILE	2ND FLOOR HALLWAY @ BACK DOOR CEILING	F	G	250 SQ FT	LOW
E	30	2X2 WHITE CEILING TILE	2ND FLOOR HALLWAY @ BACK DOOR CEILING	F	G	250 SQ FT	LOW

License # _____ FM# _____ Signature _____ Requestor _____

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

Ed Pits 803-777-3296
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1206410
4034



Sample Analysis

Type of Analysis: Lead / Asbestos Date:

Turn Around Time

Building #

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
E	31	2X2 WHITE CEILING TILE	2ND FLOOR @ BACK DOOR CEILING	F	G	250 SQ FT	LOW
F	32	WINDOW GLAZING (GREY)	1ST FLOOR EXTERIOR WINDOWS	F	G	<500 SQ FT	LOW
F	33	WINDOW GLAZING (GREY)	1ST FLOOR EXTERIOR WINDOWS	F	G	<500 SQ FT	LOW
F	34	WINDOW GLAZING (GREY)	1ST FLOOR EXTERIOR WINDOWS	F	G	<500 SQ FT	LOW
F	35	WINDOW GLAZING (GREY)	2ND FLOOR EXTERIOR WINDOWS	F	G	<500 SQ FT	LOW
F	36	WINDOW GLAZING (GREY)	1ST FLOOR EXTERIOR WINDOWS	F	G	<500 SQ FT	LOW
F	37	WINDOW GLAZING (GREY)	2ND FLOOR EXTERIOR WINDOWS	F	G	<500 SQ FT	LOW
F	38	WINDOW GLAZING (GREY)	2ND FLOOR EXTERIOR WINDOWS (per 21/14)	F	G	<500 SQ FT	LOW
G	39	HVAC DUCT MASTIC (GREY)	ON HVAC DUCT SYSTEM (EXPOSED 2ND FLOOR)	NF	G	30 CB FT	LOW
G	40	HVAC DUCT MASTIC (GREY)	ON HVAC DUCT SYSTEM (EXPOSED 2ND FLOOR)	NF	G	30 CB FT	LOW

License # _____ FM# _____ Signature _____ Requestor _____

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1206410



Sample Analysis

Turn Around Time

Type of Analysis: Lead / Asbestos Date:

Building #

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
G	41	HVAC DUCT MASTIC (GREY) (41) <i>(41) EXPOSED OUT ON DUCT (2ND FLOOR STORAGE RM)</i>		NF	G	30 CB FT	LOW
H	42	FIREPROOFING	2ND FLOOR IN BREAK ROOM ABOVE 1X1 TILES	F	G	>5000 SQ FT	LOW
H	43	FIREPROOFING	2ND FLOOR IN BREAK ROOM ABOVE 1X1 TILES	F	G	>5000 SQ FT	LOW
H	44	FIREPROOFING	2ND FLOOR IN BREAK ROOM ABOVE 1X1 TILES	F	G	>5000 SQ FT	LOW
H	45	FIREPROOFING	2ND FLOOR IN BREAK ROOM ABOVE 1X1 TILES	F	G	>5000 SQ FT	LOW
C	46	1X1 WHITE CEILING TILE	2ND FLOOR NW HALL	F	G	>5000 SQ FT	LOW
C	47	1X1 WHITE CEILING TILE	HALL @ COPY ROOM	F	G	>5000 SQ FT	LOW

License # _____ FM# _____ Signature _____ Requestor _____

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Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1206410

Analysis ID: 1206410_PL

Date Received: 4/16/2012

Date Reported: 4/17/2012

Project: Round House Building Rex Em Ath
Center #205

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
1	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_1					Crushed
2	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_2					Crushed
3	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_3					Crushed
4	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_4					Crushed
5	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_5					Crushed
6	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_6					Crushed
7	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_7					Crushed
8	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_8					Teased

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Bart Huber (51)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1206410

Analysis ID: 1206410_PL

Date Received: 4/16/2012

Date Reported: 4/17/2012

Project: Round House Building Rex Em Ath
Center #205

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
9	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_9					Crushed
10	Sheetrock	None Detected	12% Cellulose	88% Other	White, Brown Non Fibrous Heterogeneous
1206410PLM_10					Crushed
11	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_11					Crushed
12	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_12					Crushed
13	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_13					Crushed
14	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_14					Crushed
15	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_15					Crushed
16	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_16					Crushed

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Bart Huber (51)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1206410

Analysis ID: 1206410_PL

Date Received: 4/16/2012

Date Reported: 4/17/2012

Project: Round House Building Rex Em Ath
Center #205

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
17	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_17					Crushed
18	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_18					Crushed
19	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_19					Crushed
20	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_20					Crushed
21	1x1 ceiling tile	None Detected	70% Fiber Glass 20% Cellulose	10% Other	White Non Fibrous Homogeneous
1206410PLM_21					Teased
22	1x1 ceiling tile	None Detected	70% Fiber Glass 20% Cellulose	10% Other	White Non Fibrous Homogeneous
1206410PLM_22					Teased
23	1x1 ceiling tile	None Detected	70% Fiber Glass 20% Cellulose	10% Other	White Non Fibrous Homogeneous
1206410PLM_23					Teased
24 - A	Plaster skim coat	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_24	finish				Crushed

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Bart Huber (51)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1206410

Analysis ID: 1206410_PL

Date Received: 4/16/2012

Date Reported: 4/17/2012

Project: Round House Building Rex Em Ath
Center #205

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
24 - B	Plaster skim coat	None Detected		95% Other 5% Perlite	Gray Non Fibrous Heterogeneous
1206410PLM_48	base				Crushed
25 - A	Plaster skim coat	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_25	finish				Crushed
25 - B	Plaster skim coat	None Detected		95% Other 5% Perlite	Gray Non Fibrous Heterogeneous
1206410PLM_49	base				Crushed
26 - A	Plaster skim coat	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_26	finish				Crushed
26 - B	Plaster skim coat	None Detected		95% Other 5% Perlite	Gray Non Fibrous Homogeneous
1206410PLM_50	base				Crushed
27 - A	Plaster skim coat	None Detected		100% Other	White Non Fibrous Homogeneous
1206410PLM_27	finish				Crushed
27 - B	Plaster skim coat	None Detected		95% Other 5% Perlite	Gray Non Fibrous Heterogeneous
1206410PLM_51	base				Crushed
28	2x2 white ceiling tile	None Detected	95% Fiber Glass	5% Other	Gray, White Non Fibrous Homogeneous
1206410PLM_28					Teased

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Bart Huber (51)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1206410

Analysis ID: 1206410_PL

Date Received: 4/16/2012

Date Reported: 4/17/2012

Project: Round House Building Rex Em Ath
Center #205

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
29	2x2 white ceiling tile	None Detected	95% Fiber Glass	5% Other	Gray, White Non Fibrous Homogeneous
1206410PLM_29					Teased
30	2x2 white ceiling tile	None Detected	95% Fiber Glass	5% Other	Gray, White Non Fibrous Homogeneous
1206410PLM_30					Teased
31	2x2 white ceiling tile	None Detected	40% Cellulose 40% Fiber Glass	20% Other	White Non Fibrous Homogeneous
1206410PLM_31					Teased
32	Window glazing (grey)	None Detected		100% Other	Gray Non Fibrous Homogeneous
1206410PLM_32					Crushed
33	Window glazing (grey)	None Detected		100% Other	Gray Non Fibrous Homogeneous
1206410PLM_33					Crushed
34	Window glazing (grey)	None Detected		100% Other	Gray Non Fibrous Homogeneous
1206410PLM_34					Crushed
35	Window glazing (grey)	None Detected		100% Other	Gray Non Fibrous Homogeneous
1206410PLM_35					Crushed
36	Window glazing (grey)	None Detected		100% Other	Gray Non Fibrous Homogeneous
1206410PLM_36					Crushed

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Bart Huber (51)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1206410

Analysis ID: 1206410_PL

Date Received: 4/16/2012

Date Reported: 4/17/2012

Project: Round House Building Rex Em Ath
Center #205

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
37	Window glazing (grey)	None Detected		100% Other	Gray Non Fibrous Homogeneous
1206410PLM_37					Crushed
38	Window glazing (grey)	None Detected		100% Other	Gray Non Fibrous Homogeneous
1206410PLM_38					Crushed
39	HVAC duct mastic (grey)	5% Chrysotile		95% Other	Gray Non Fibrous Homogeneous
1206410PLM_39					Dissolved
40	HVAC duct mastic (grey)	5% Chrysotile		95% Other	Gray Non Fibrous Homogeneous
1206410PLM_40					Dissolved
41	HVAC duct mastic (grey)	5% Chrysotile		95% Other	Gray Non Fibrous Homogeneous
1206410PLM_41					Dissolved
42	Fireproofing	None Detected	95% Cellulose	5% Other	White Non Fibrous Homogeneous
1206410PLM_42					Teased
43	Fireproofing	None Detected	95% Cellulose	5% Other	White Fibrous Homogeneous
1206410PLM_43					Teased
44	Fireproofing	None Detected	95% Cellulose	5% Other	White Fibrous Homogeneous
1206410PLM_44					Teased

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Bart Huber (51)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1206410

Analysis ID: 1206410_PL

Date Received: 4/16/2012

Date Reported: 4/17/2012

Project: Round House Building Rex Em Ath
Center #205

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
45	Fireproofing	None Detected	95% Cellulose	5% Other	White Fibrous Homogeneous
1206410PLM_45					Teased
46	1x1 white ceiling tile	None Detected	40% Cellulose 40% Fiber Glass	20% Other	White Non Fibrous Homogeneous
1206410PLM_46					Teased
47	1x1 white ceiling tile	None Detected	40% Cellulose 40% Fiber Glass	20% Other	White Non Fibrous Homogeneous
1206410PLM_47					Teased

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Bart Huber (51)

Analyst

Approved Signatory



Bulk Asbestos Analysis by Transmission Electron Microscopy

Semi-Quantitative
Chatfield SOP 1988-02 Rev. 1

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

Attn: Darryl Washington

Lab Order ID: 1206499

Analysis ID: 1206499_TBS

Date Received: 4/17/2012

Date Reported: 4/18/2012

Project: Round House Building Rex Em Ath
Center #205

Sample ID	Description	Organic (Wt. %)	Acid Sol. (Wt. %)	Asbestos (Wt. %)		LCL-UCL (Wt. %)
Lab Sample ID	Lab Notes					
38	Window glazing	11%	-%	8.9%	Chrysotile	8.0% - 9.8%
1206499TBS_1						

Matt Thomas (1)

Analyst

Approved Signatory

Reset Form

Print Form

1207123



Building # # 205 ROUND HOUSE MAIN BLD
Sample Analysis Date: 04-25-2012
Type of Analysis: Lead / Asbestos
Turn Around Time 24 HRS

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	48	SHEET ROCK	HALL @ COMPLIANCE OFFICE	F	G	>5000 SQ FT	LOW
A	49	SHEET ROCK	HALL @ MAINTENANCE LOCKER	F	G	>5000 SQ FT	LOW
A	50	SHEET ROCK	HALL BEHIND COMPLIANCE DIRECTORS OFFICE	F	G	>5000 SQ FT	LOW
B	51	JOINT COMPOUND	HALL @ COMPLIANCE OFFICE	F	G	<3000 SQ FT	LOW
B	52	JOINT COMPOUND	HALL @ MAINTENANCE LOCKER	F	G	<3000 SQ FT	LOW
B	53	JOINT COMPOUND	HALL BEHIND COMPLIANCE DIRECTORS OFFICE	F	G	<3000 SQ FT	LOW
I	54	PLASTER	CEILING OF HALL STORAGE CLOSET FIRST FLOOR	F	G	<3000 SQ FT	LOW
I	55	PLASTER	CEILING OF 1ST CLOSET SOUTH END 1ST FLOOR	F	G	<3000 SQ FT	LOW
I	56	PLASTER	HALL WALL AT KEVIN O'S OFFICE	F	G	<3000 SQ FT	LOW
I	57	PLASTER	HALL AT Side exit Door First Floor	F	G	<3000 SQ FT	LOW

License # 0581-00568 FM#
Requestor Am Dermick
Signature [Signature]

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NIRussc@fmc.sc.edu

Fax # 803-777-3990

1207123



Building # 205 ROUND HOUSE

Sample Analysis

Type of Analysis: Lead / Asbestos Date:

Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
I	58	PLASTER	1ST FLOOR HALL AT FRONT LEFT ENT	F	G	<3000 SQ FT	LOW
I	59	PLASTER	1ST FLOOR HALL AT HUMAN RESOURCE OFFICE	F	G	<3000 SQ FT	LOW
I	60	PLASTER	1ST FLOOR SOUTH END	F	G	<3000 SQ FT	LOW
I	61	PLASTER	1ST FLOOR SMALL ROOM @ COFFE POT ROOOM BY LAD	F	G	<3000 SQ FT	LOW
J	62	NEWER 2X2 WHITE CEILING TILE	FIRST FLOOR ENTRY CEILING OF LOBBY	F	G	<500 SQ FT	LOW
J	63	NEWER 2X2 WHITE CEILING TILE	FIRST FLOOR ENTRY CEILING OF LOBBY	F	G	<500 SQ FT	LOW
J	64	NEWER 2X2 WHITE CEILING TILE	FIRST FLOOR ENTRY CEILING OF LOBBY	F	G	<500 SQ FT	LOW
J	65	NEWER 2X2 WHITE CEILING TILE	FIRST FLOOR ENTRY CEILING OF LOBBY	F	G	<500 SQ FT	LOW
J	66	NEWER 2X2 WHITE CEILING TILE	FIRST FLOOR ENTRY CEILING OF LOBBY	F	G	<500 SQ FT	LOW
J	67	NEWER 2X2 WHITE CEILING TILE	FIRST FLOOR ENTRY CEILING OF LOBBY	F	G	<500 SQ FT	LOW

License #

FM#

Signature

Requestor

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730 College St.
Columbia, SC 29208
NTRussse@fmc.sc.edu

Fax # 803-777-3990

1257123



Building # 205 ROUND HOUSE

Sample Analysis

Type of Analysis: Lead / Asbestos Date:

Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
C	68	1X1 CEILING TILE	1ST FLOOR HALL EAST END OF HALL	F	G	<5000 SQ FT	LOW
C	69	1X1 CEILING TILE	1ST FLOOR WEST END OF HALL	F	G	<5000 SQ FT	LOW
C	70	1X1 CEILING TILE	WEST END AT SMALL COFFE POT ROOM 1ST FLOOR	F	G	<5000 SQ FT	LOW
K	71	TSI HOT WATER LOOP 1	ABOVE CEILING KEVIN O'S OFFICE 6 INCH LINE	F	G	300 LIN FT	LOW
K	72	TSI HOT WATER LOOP 1	ABOVE CEILING KEVIN O'S OFFICE 6 INCH LINE	F	G	300 LIN FT	LOW
K	73	TSI HOT WATER LOOP 1	ABOVE CEILING KEVIN O'S OFFICE 6 INCH LINE	F	G	300 LIN FT	LOW
L	74	TSI HOT WATER LOOP 2	ABOVE CEILING KEVIN O'S OFFICE 1 INCH LINE	F	G	300 LIN FT	LOW
L	75	TSI HOT WATER LOOP 2	ABOVE CEILING KEVIN O'S OFFICE 1 INCH LINE	F	G	300 LIN FT	LOW
L	76	TSI HOT WATER LOOP 2	ABOVE CEILING KEVIN O'S OFFICE 1 INCH LINE	F	G	300 LIN FT	LOW
M	77	BLACK 9X9 TILE AND MASTIC	1ST FLOOR HALL AT COMPLIANCE OFFICE FLOORING	NF	G	3500 SQ FT	LOW

License #

FM#

Signature

Requestor

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Columbia, SC 29208
EHP@finc.sc.edu

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

Ty Russell 803-777-1208
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Columbia, SC 29208
NTRussse@finc.sc.edu

Fax # 803-777-3990

207123



Building # 205 round house Sample Analysis Turn Around Time _____
 Type of Analysis: Lead / Asbestos Date: _____

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
M	78	BLACK 9X9 TILE AND MASTIC	1ST FLOOR HALL WEST END	NF	G	3500 SQ FT	LOW
M	79	BLACK 9X9 TILE AND MASTIC	(per 2A) 1ST FLOOR EAST END AT EXIT	NF	G	3500 SQ FT	LOW
N	80	DARK BASE MOLDING	ON WALL MATERIAL ON ALL WALLS 1ST FLOOR AND 2ND	NF	G	2500 LIN FT	LOW
N	81	DARK BASE MOLDING	ON WALL MATERIAL ON ALL WALLS 1ST FLOOR AND 2ND	NF	G	2500 LIN FT	LOW
N	82	DARK BASE MOLDING (per 2A)	ON WALL MATERIAL ON ALL WALLS 1ST FLOOR AND 2ND	NF	G	2500 LIN FT	LOW
O	83	ORANGE LINE TSI MECH RM	CEILING AT BREAKER BOX MECH ROOM	F	G	220 LIN FT	LOW
O	84	ORANGE LINE TSI MECH RM	8X6 CEILING AT BREAKER BOX MECH ROOM	F	G	220 LIN FT	LOW
O	85	ORANGE LINE TSI MECH RM	LEFT HAND SIDE AT DOOR MECH ROOM	F	G	220 LIN FT	LOW
O	86	ORANGE LINE TSI MECH RM	AT HOTWATER HEATER MECH ROOM	F	G	220 LIN FT	LOW
O	87	ORANGE LINE TSI MECH RM	4 INCH LINE AT HOT WATER HEATER	F	G	220 LIN FT	LOW

License # _____ FM# _____ Signature _____ Requestor _____

Send lab results in PDF format as soon as possible to:
 Ed Pitts 803-777-3296 Darryl Washington 803-777-2399 Ty Russell 803-777-1208
 720 College St. 720 College St. 720 College St.
 Columbia, SC 29208 Columbia, SC 29208 Columbia, SC 29208
 EHP@fmc.sc.edu WashinDH@fmc.sc.edu NTRussel@fmc.sc.edu

Fax # 803-777-3990

1207123



Building # 205 ROUND HOUSE

Sample Analysis

Type of Analysis: Lead / Asbestos Date:

Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
P	88	YELLOW TSI LINE	LARGE LINE OVER HEAD MECH ROOM	F	G	200 LIN FT	LOW
P	89	YELLOW TSI LINE	LARGE LINE OVER HEAD MECH ROOM	F	G	200 LIN FT	LOW
P	90	YELLOW TSI LINE	ON LEFT HAND AS YOU ENTER MECH ROOM	F	G	200 LIN FT	LOW
Q	91	BLUE TSI LINE	ELBOW OF LINE MECHANICAL ROOM	F	G	250 LIN FT	LOW
Q	92	BLUE TSI LINE	BIG LINE AT WATER HEATER	F	G	250 LIN FT	LOW
Q	93	BLUE TSI LINE	BACK WALL AT TELEPHONE BOARD NORTH WALL	F	G	250 LIN FT	LOW
Q1	94	BLUE TSI / FOAM LINE	LINE OVERHEAD OF MECH ROOM	F	G	250 LIN FT	LOW
Q1	95	BLUE TSI / FOAM LINE	LINE OVERHEAD OF MECH ROOM	F	G	250 LIN FT	LOW
Q1	96	BLUE TSI / FOAM LINE	LINE OVERHEAD OF MECH ROOM	F	G	250 LIN FT	LOW
R	97	GREY HVAC DUCT MASTIC	ON DUCT WORK IN MECH ROOM	NF	G	0.3 CB FT	LOW

License #

FM#

Signature

Requestor

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Fax # 803-777-3990

1207123



Building # 205 ROUND HOUSE

Sample Analysis

Type of Analysis: Lead / Asbestos Date:

Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
R	98	GREY HVAC DUCT MASTIC	ON DUCT WORK IN MECH ROOM	NF	G	0.3 CB FT	LOW
R	99	GREY HVAC DUCT MASTIC (per 11 No)	ON DUCT WORK IN MECH ROOM	NF	G	0.3 CB FT	LOW
S	100	WHITE HVAC DUCT MASTIC	ON DUCT WORK IN MECH ROOM	NF	G	0.6 CB FT	LOW
S	101	WHITE HVAC DUCT MASTIC	ON DUCT WORK IN MECH ROOM	NF	G	0.6 CB FT	LOW
S	102	WHITE HVAC DUCT MASTIC (per 23 No)	ON DUCT WORK IN MECH ROOM	NF	G	0.6 CB FT	LOW
T	103	2X4 FIBERGLASS CEILING TILE	CEILING MATERIAL OF MECH ROOM	F	G	400 SQ FT	LOW
T	104	2X4 FIBERGLASS CEILING TILE	CEILING MATERIAL OF MECH ROOM	F	G	400 SQ FT	LOW
T	105	2X4 FIBERGLASS CEILING TILE	CEILING MATERIAL OF MECH ROOM	F	G	400 SQ FT	LOW
U	106	ROOFING MATERIAL	ROOF OF ROUND HOUSE (NO FLASHING IN PLACE)	NF	G	7500 SQ FT	LOW
U	107	ROOFING MATERIAL	ROOF OF ROUND HOUSE (NO FLASHING IN PLACE)	NF	G	7500 SQ FT	LOW

License #

FM#

Signature

Requestor

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Reset Form

Print Form



1207123

Building # Course House

Sample Analysis

Type of Analysis: Lead / Asbestos Date:

Turn Around Time

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
U	108	ROOFING MATERIAL	(²⁴ Roof of Round House (NO FLASHING) _{NC})	NF	G	7500 SQ FT	LOW

License #

FM#

Signature

Requestor

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

Lab Use Only
 Lab Order ID: 1267123
 Client Code: _____

Company Contact Information	
Company: <u>University of South Carolina</u>	Contact: <u>Darryl Washington II</u>
Address: <u>743 Green St</u>	Phone <input type="checkbox"/> : <u>803 917 0291</u>
<u>Columbia, SC 29205</u>	Fax <input type="checkbox"/> :
	Email <input type="checkbox"/> : <u>dwashington@sc.edu</u>

Asbestos Test Types	
PLM EPA 600/R-93/116	<input checked="" type="checkbox"/>
Positive stop	<input checked="" type="checkbox"/>
PLM Point Count	<input type="checkbox"/>
PCM NIOSH 7400	<input type="checkbox"/>
TEM AHERA	<input type="checkbox"/>
TEM Level II	<input type="checkbox"/>
TEM NIOSH 7402	<input type="checkbox"/>
TEM Bulk Qualitative	<input type="checkbox"/>
TEM Bulk Chatfield	<input checked="" type="checkbox"/> <i>Sc Ag</i>
TEM Bulk Quantitative	<input type="checkbox"/>
TEM Wipe ASTM D6480-99	<input type="checkbox"/>
TEM Microvac ASTM D5755-02	<input type="checkbox"/>
TEM Water EPA 100.2	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>

Billing/Invoice Information	Turn Around Times	
Company:	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Contact:	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input checked="" type="checkbox"/>	144+ Hours <input type="checkbox"/>

PO Number: _____
 Project Name/Number: # 205 Round House

Sample ID #	Description/Location	Volume/Area	Comments

Total # of Samples 60

Relinquished by	Date/Time	Received by	Date/Time
			<u>9-27-02</u> <u>1030</u>

Accepted
 Rejected



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Project: #205 Round House Main Bld

Date Reported: 4/30/2012

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
48	Sheet rock	None Detected	10% Cellulose 5% Fiber Glass	85% Gypsum	Brown, White Fibrous Heterogeneous
1207123PLM_1					Teased
49	Sheet rock	None Detected	10% Cellulose 5% Fiber Glass	85% Gypsum	Brown, White Fibrous Heterogeneous
1207123PLM_2					Teased
50	Sheet rock	None Detected	10% Cellulose 5% Fiber Glass	85% Gypsum	Brown, White Fibrous Heterogeneous
1207123PLM_3					Teased
51	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1207123PLM_4					Crushed
52	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1207123PLM_5					Crushed
53	Joint compound	None Detected		100% Other	White Non Fibrous Homogeneous
1207123PLM_5					Crushed
54 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1207123PLM_7	finish				Crushed
54 - B	Plaster	None Detected		70% Other 30% Vermiculite	Gray Non Fibrous Heterogeneous
1207123PLM_52	base				Crushed

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Sharon Donald (84)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLA7 Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
55 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1207123PLM_8	finish				Crushed
55 - B	Plaster	None Detected		70% Other 30% Vermiculite	Gray Non Fibrous Heterogeneous
1207123PLM_63	base				Crushed
56 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1207123PLM_9	finish				Crushed
56 - B	Plaster	None Detected		70% Other 30% Vermiculite	Gray Non Fibrous Heterogeneous
1207123PLM_64	base				Crushed
57 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1207123PLM_10	finish				Crushed
57 - B	Plaster	None Detected		70% Other 30% Vermiculite	Gray Non Fibrous Heterogeneous
1207123PLM_55	base				Crushed
58 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1207123PLM_11	finish				Crushed
58 - B	Plaster	None Detected		70% Other 30% Vermiculite	Gray Non Fibrous Heterogeneous
1207123PLM_56	base				Crushed

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Sharon Donald (84)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
59 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1207123PLM_12	finish				Crushed
59 - B	Plaster	None Detected		70% Other 30% Vermiculite	Gray Non Fibrous Heterogeneous
1207123PLM_67	base				Crushed
60 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1207123PLM_13	finish				Crushed
60 - B	Plaster	None Detected		70% Other 30% Vermiculite	Gray Non Fibrous Heterogeneous
1207123PLM_58	base				Crushed
61 - A	Plaster	None Detected		100% Other	White Non Fibrous Heterogeneous
1207123PLM_14	finish				Crushed
61 - B	Plaster	None Detected		70% Other 30% Vermiculite	Gray Non Fibrous Heterogeneous
1207123PLM_69	base				Crushed
62	Newar 2x2 white ceiling tile	None Detected	50% Cellulose 30% Mineral Wool	10% Perlite 10% Other	Gray, White Fibrous Heterogeneous
1207123PLM_15					Teased
63	Newar 2x2 white ceiling tile	None Detected	85% Mineral Wool	15% Other	White Fibrous Heterogeneous
1207123PLM_16					Teased

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Sharon Donald (84)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200654-0

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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
64	Newar 2x2 white ceiling tile	None Detected	85% Mineral Wool	15% Other	White Fibrous Heterogeneous
1207123PLM_17					Teased
65	Newar 2x2 white ceiling tile	None Detected	50% Cellulose 30% Mineral Wool	10% Perlite 10% Other	Gray, White Fibrous Heterogeneous
1207123PLM_18					Teased
66	Newar 2x2 white ceiling tile	None Detected	50% Cellulose 30% Mineral Wool	10% Perlite 10% Other	Gray, White Fibrous Heterogeneous
1207123PLM_19					Teased
67	Newar 2x2 white ceiling tile	None Detected	50% Cellulose 30% Mineral Wool	10% Perlite 10% Other	Gray, White Fibrous Heterogeneous
1207123PLM_20					Teased
68	1x1 ceiling tile	None Detected	60% Mineral Wool 30% Cellulose	10% Other	Gray, White Fibrous Heterogeneous
1207123PLM_21					Teased
69	1x1 ceiling tile	None Detected	60% Mineral Wool 30% Cellulose	10% Other	Gray, White Fibrous Heterogeneous
1207123PLM_22					Teased
70	1x1 ceiling tile	None Detected	60% Mineral Wool 30% Cellulose	10% Other	Gray, White Fibrous Heterogeneous
1207123PLM_23					Teased
71	TSI hot water loop 1	None Detected	90% Cellulose	10% Other	Tan Fibrous Heterogeneous
1207123PLM_24					Teased

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Sharon Donald (84)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
72	TSI hot water loop 1	15% Chrysotile	70% Cellulose	15% Other	Tan, White Fibrous Heterogeneous
1207123PLM_25					Teased
73	TSI hot water loop 1	Not Analyzed			
1207123PLM_26					
74	TSI hot water loop 2	Not Analyzed			
1207123PLM_27					
75	TSI hot water loop 2	Not Analyzed			
1207123PLM_28					
76	TSI hot water loop 2	Not Analyzed			
1207123PLM_29					
77 - A	Black 9x9 tile and mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1207123PLM_30	yellow mastic				Dissolved
77 - B	Black 9x9 tile and mastic	8% Chrysotile		92% Other	Black Non Fibrous Heterogeneous
1207123PLM_70	tile				Dissolved
77 - C	Black 9x9 tile and mastic	5% Chrysotile		95% Other	Black Non Fibrous Homogeneous
1207123PLM_71	black mastic				Dissolved

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Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
78 - A	Black 9x9 tile and mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1207123PLM_31	yellow mastic				Dissolved
78 - B	Black 9x9 tile and mastic	Not Analyzed			
1207123PLM_72	tile				
78 - C	Black 9x9 tile and mastic	Not Analyzed			
1207123PLM_73	black mastic				
79 - A	Black 9x9 tile and mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1207123PLM_32	yellow mastic				Dissolved
79 - B	Black 9x9 tile and mastic	Not Analyzed			
1207123PLM_74	tile				
79 - C	Black 9x9 tile and mastic	Not Analyzed			
1207123PLM_75	black mastic				
80 - A	Dark base molding	None Detected		100% Other	Black Non Fibrous Homogeneous
1207123PLM_33	base molding				Ashed
80 - B	Dark base molding	None Detected	3% Cellulose	97% Other	Brown, Cream Non Fibrous Heterogeneous
1207123PLM_76	mixed mastics				Dissolved

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Analyst

Approved Signatory



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
81 - A	Dark base molding	None Detected		100% Other	Black Non Fibrous Homogeneous
1207123PLM_85					Ashed
81 - B	Dark base molding	None Detected	3% Cellulose	97% Other	Brown, Cream Non Fibrous Heterogeneous
1207123PLM_86					Dissolved
82 - A	Dark base molding	None Detected		100% Other	Black Non Fibrous Homogeneous
1207123PLM_35	base molding				Ashed
82 - B	Dark base molding	None Detected		100% Other	Brown, Cream Non Fibrous Heterogeneous
1207123PLM_78	mixed mastics				Dissolved
83	Orange line TSI Mech Rm	15% Amosite 10% Chrysotile		75% Other	White Fibrous Heterogeneous
1207123PLM_36					Teased
84	Orange line TSI Mech Rm	Not Analyzed			
1207123PLM_37					
85	Orange line TSI Mech Rm	Not Analyzed			
1207123PLM_38					
86	Orange line TSI Mech Rm	Not Analyzed			
1207123PLM_39					

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Analyst

Approved Signatory



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
87	Orange line TSI Mech Rm	Not Analyzed			
1207123PLM_40					
88	Yellow TSI line	10% Amosite	30% Mineral Wool	60% Other	Gray, Yellow Fibrous Heterogeneous
1207123PLM_41					Teased
89	Yellow TSI line	Not Analyzed			
1207123PLM_42					
90	Yellow TSI line	Not Analyzed			
1207123PLM_43					
91	Blue TSI line	None Detected	30% Mineral Wool	70% Other	Gray Fibrous Heterogeneous
1207123PLM_44					Teased
92	Blue TSI line	15% Amosite 10% Chrysotile		75% Other	White Fibrous Heterogeneous
1207123PLM_45					Teased
93	Blue TSI line	Not Analyzed			
1207123PLM_46					
94 - A	Blue TSI/foam line	None Detected	90% Cellulose	10% Other	White, Blue Fibrous Heterogeneous
1207123PLM_47	wrap				Teased

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Sharon Donald (84)

Analyst

[Signature]
Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
94 - B	Blue TSI/foam line	None Detected		100% Other	Black Non Fibrous Homogeneous
1207123PLM_79	foam				Crushed
95 - A	Blue TSI/foam line	None Detected	90% Cellulose	10% Other	White, Blue Fibrous Heterogeneous
1207123PLM_48	wrap				Teased
95 - B	Blue TSI/foam line	None Detected		100% Other	Black Non Fibrous Homogeneous
1207123PLM_80	foam				Crushed
96 - A	Blue TSI/foam line	None Detected	90% Cellulose	10% Other	White, Blue Fibrous Heterogeneous
1207123PLM_49	wrap				Teased
96 - B	Blue TSI/foam line	None Detected		100% Other	Black Non Fibrous Homogeneous
1207123PLM_81	foam				Crushed
97	Grey HVAC duct mastic	None Detected		100% Other	Gray Non Fibrous Homogeneous
1207123PLM_50					Dissolved
98	Grey HVAC duct mastic	None Detected		100% Other	Gray Non Fibrous Homogeneous
1207123PLM_51					Dissolved
99	Grey HVAC duct mastic	None Detected		100% Other	Gray Non Fibrous Homogeneous
1207123PLM_52					Dissolved

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

Sharon Donald (84)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
100	White HVAC duct mastic	None Detected	5% Cellulose	95% Other	White Non Fibrous Homogeneous
1207123PLM_53					Dissolved
101	White HVAC duct mastic	None Detected	5% Cellulose	95% Other	White Non Fibrous Homogeneous
1207123PLM_54					Dissolved
102	White HVAC duct mastic	None Detected	5% Cellulose	95% Other	White Non Fibrous Homogeneous
1207123PLM_55					Dissolved
103	2x4 fiberglass ceiling tile	None Detected	85% Cellulose	15% Other	Brown, White Fibrous Heterogeneous
1207123PLM_56					Teased
104	2x4 fiberglass ceiling tile	None Detected	85% Cellulose	15% Other	Brown, White Fibrous Heterogeneous
1207123PLM_57					Teased
105	2x4 fiberglass ceiling tile	None Detected	85% Cellulose	15% Other	Brown, White Fibrous Heterogeneous
1207123PLM_58					Teased
106 - A	Roofing material	None Detected	10% Cellulose	90% Other	Black Non Fibrous Heterogeneous
1207123PLM_59	roofing				Dissolved
106 - B	Roofing material	None Detected	50% Cellulose	40% Other 10% Perlite	Gray, Yellow Fibrous Heterogeneous
1207123PLM_82	insulation				Teased

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Sharon Donald (84)

Analyst

Approved Signatory



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1207123

Analysis ID: 1207123_PL

Date Received: 4/27/2012

Date Reported: 4/30/2012

Project: #205 Round House Main Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
107 - A	Roofing material	None Detected	10% Cellulose	90% Other	Black Non Fibrous Heterogeneous
1207123PLM_60	roofing				Dissolved
107 - B	Roofing material	None Detected	50% Cellulose	40% Other 10% Perlite	Gray, Yellow Fibrous Heterogeneous
1207123PLM_83	insulation				Teased
108 - A	Roofing material	None Detected	10% Cellulose	90% Other	Black Non Fibrous Heterogeneous
1207123PLM_61	roofing				Dissolved
108 - B	Roofing material	None Detected	50% Cellulose	40% Other 10% Perlite	Gray, Yellow Fibrous Heterogeneous
1207123PLM_84	insulation				Teased

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

Sharon Donald (84)

Analyst

Approved Signatory



Bulk Asbestos Analysis by Transmission Electron Microscopy

Semi-Quantitative
Chatfield SOP 1988-02 Rev. 1

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

Attn: Darryl Washington

Lab Order ID: 1207218

Analysis ID: 1207218_TBS

Date Received: 4/30/2012

Date Reported: 5/1/2012

Project: #205 Round House Main Bld

Sample ID	Description	Organic (Wt. %)	Acid Sol. (Wt. %)	Asbestos (Wt. %)		LCL-UCL (Wt. %)
Lab Sample ID	Lab Notes					
79 - A	Black 9x9 tile and mastic	53%	-%	None Detected		
1207218TBS_1	yellow mastic					
82 - A	Dark base molding	64%	-%	None Detected		
1207218TBS_2	base molding					
82 - B	Dark base molding	49%	-%	None Detected		
1207218TBS_3	mixed mastics					
99	Grey HVAC duct mastic	57%	-%	None Detected		
1207218TBS_4						
102	White HVAC duct mastic	45%	-%	None Detected		
1207218TBS_5						
108 - A	Roofing mastic	85%	-%	0.15%	Chrysotile	0.13% - 0.16%
1207218TBS_6	roofing					

Matt Thomas (6)

Analyst

Approved Signatory



Building # 205 ROUND HOUSE BLD

Type of Analysis: Lead / Asbestos

Date: 08-15-2012

Turn Around Time 24 HRS

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
M	109	9X9 TILE / MASTIC	1ST FLOOR CAROLINE ALLENS OFFICE	NF	G	<25 SQ FT	LOW
V	110	INTERIOR DOOR CAULK	COMPLIANCE OFFICE 1ST FLOOR	NF	G	<25 SQ FT	LOW
V	111	INTERIOR DOOR CAULK	BOO MYERS OFFICE 2ND FLOOR	NF	G	<25 SQ FT	LOW
V	112	INTERIOR DOOR CAULK	CARROL COUNTS OFFICE 2ND FLOOR	NF	G	<25 SQ FT	LOW
V	113	INTERIOR DOOR CAULK	JUDY VAN HORNS OFFICE SECOND FLOOR	NF	G	<25 SQ FT	LOW
V	114	INTERIOR DOOR CAULK	1ST FLOOR STORAGE	NF	G	<25 SQ FT	LOW
V	115	INTERIOR DOOR CAULK	(FOR TA MS) KRISTEN BORRELLS OFFICE	NF	G	<25 SQ FT	LOW
H	116	FIREPROOFING	CARROLL QUINNS OFFICE 2ND FLOOR	F	G	>5000 SQ FT	LOW
H	117	FIREPROOFING	KEVIN BROWNS OFFICE 2ND FLOOR	F	G	>5000 SQ FT	LOW
H	118	FIREPROOFING	BOO MAJORS OFFICE 2ND FLOOR	F	G	>5000 SQ FT	LOW

12.13659

License #

FM# 7muc 384150

Signature

Requestor

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

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

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

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

Fax # 803-777-3990

Reset Form

Print Form



Sample Analysis

Type of Analysis: Lead / Asbestos Date:

Turn Around Time

Building #

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
H	119	FIREPROOFING	2ND FLOOR MID SECTION OF HALL BY ENTRY	F	G	>5000 SQ FT	LOW
H	120	FIREPROOFING	FRYES OFFICE ABOVE CEILING	F	G	>5000 SQ FT	LOW
H	121	FIREPROOFING	K DROUNTS OFFICE	F	G	>5000 SQ FT	LOW
G	122	GREENISH HVAC MASTIC	2ND FLOOR ABOVE CEILING IN OFFICE	NF	G	30 CB FT	LOW
G	123	GREENISH HVAC MASTIC	KEVIN BROWNS OFFICE ABOVE CEILING	NF	G	30 CB FT	LOW
G	124	GREENISH HVAC MASTIC	FRYES OFFICE ABOVE CEILING	NF	G	30 CB FT	LOW
L	125	4INCH TSI LINE (WATER LOOP)	ABOVE CEILING IN GAMECOCK CLUB DIR OFFICE	F	G	1642 LIN FT	LOW
L	126	4INCH TSI LINE (WATER LOOP)	ABOVE CEILING IN GAMECOCK CLUB DIR OFFICE	F	G	1642 LIN FT	LOW
L	127	4INCH TSI LINE (WATER LOOP)	ABOVE CEILING IN GAMECOCK CLUB DIR OFFICE	F	G	1642 LIN FT	LOW
K	128	6 INCH TSI (DRAINS)	1ST FLOOR ABOVE CEILING DIRECTORS OFFICE	F	G		

12136059

License #

FM#

Signature

Requestor

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

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

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

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

Fax # 803-777-3990



Building # _____ Type of Analysis: Lead / Asbestos Date: _____ Turn Around Time _____

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
K	129	6INCH TSI (DRAIN LINE)	GAMECOCK CLUB DIRECTORS OFFICE	F	G		LOW
K	130	6INCH TSI (DRAIN LINE)	GAMECOCK CLUB DIRECTORS OFFICE	F	G		LOW
W	131	RED CARPET MASTIC	OFFICE AND HALLWAY 1ST FLOOR	NF	G	<5000 SQ FT	LOW
W	132	RED CARPET MASTIC	OFFICE AND HALLWAY 1ST FLOOR	NF	G	<5000 SQ FT	LOW
W	133	RED CARPET MASTIC	OFFICE AND HALLWAY 1ST FLOOR (7th Fl) (Nc)	NF	G	<5000 SQ FT	LOW
X	134	GREY / BLK CARPET MASTIC	OFFICE AND HALLWAY 2ND FLOOR	NF	G	>5000 SQ FT	LOW
X	135	GREY / BLK CARPET MASTIC	OFFICE AND HALLWAY 2ND FLOOR	NF	G	>5000 SQ FT	LOW
X	136	GREY / BLK CARPET MASTIC	OFFICE AND HALLWAY 2ND FLOOR (7th Fl) (Nc)	NF	G	>5000 SQ FT	LOW

1213659

License # _____ FM# _____ Signature _____ Requestor _____

Send lab results in PDF format as soon as possible to:
 Ed Pitts 803-777-3296 Darryl Washington 803-777-2399
 720 College St. 720 College St.
 Columbia, SC 29208 Columbia, SC 29208
 EHP@fmc.sc.edu WashinDH@fmc.sc.edu

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

Fax # 803-777-3990



Scientific Analytical Institute
 4604 Dundas Dr. Greensboro, NC 27407
 Phone: 336.292.3888 Fax: 336.292.3313
 www.sailab.com lab@sailab.com

Lab Use Only
 Lab Order ID:
 Client Code:

1213659

803-917-0291

Company Contact Information	
Company: <u>Un of DC</u>	<u>D. Washington</u> 803-917-0517
Address: <u>743 Greene St.</u>	Phone <input type="checkbox"/> : <u>E. PITS</u>
<u>Columbia S.C. 29208</u>	Fax <input type="checkbox"/> :
	Email <input type="checkbox"/> :

Asbestos Test Types	
<input type="checkbox"/>	PLM EPA 600/4-93/114
<input type="checkbox"/>	Positive stop
<input type="checkbox"/>	PLM Point Count
<input type="checkbox"/>	PCM NIOSH 7400
<input type="checkbox"/>	TEM AHERA
<input type="checkbox"/>	TEM Level II
<input type="checkbox"/>	TEM NIOSH 7401
<input type="checkbox"/>	TEM Bulk Qualitative
<input type="checkbox"/>	TEM Bulk Chatfield
<input type="checkbox"/>	TEM Bulk Quantitative
<input type="checkbox"/>	TEM Wipe ASTM D6180-99
<input type="checkbox"/>	TEM Microvac ASTM D5733-07
<input type="checkbox"/>	TEM Water EPA 100.2
<input type="checkbox"/>	Other _____

Billing/Invoice Information	Turn Around Times	
Company: <u>Un of S.C.</u>	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Contact: <u>D. Washington</u>	3 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input checked="" type="checkbox"/>	144 Hours <input type="checkbox"/>

PO Number: _____
 Project Name/Number: 205 Round House

Sample ID #	Description/Location	Volume/Area	Comments

Accepted
 Rejected

Relinquished by	Date/Time	Received by	Date/Time
		<u>[Signature]</u>	<u>8-20-00</u>



Bulk Asbestos Analysis

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



NVLAP

NVLAP Lab Code: 200:64-0

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

Attn: Darryl Washington
Ed Pitts

Lab Order ID: 1213659

Analysis ID: 1213659PLM

Date Received: 8/20/2012

Date Reported: 8/21/2012

Project: 205 Round House Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
109	9x9 tile/mastic	Not Submitted			
1213659PLM_1					
110	Interior door caulk	None Detected		100% Other	White Non Fibrous Homogeneous
1213659PLM_2					Crushed
111	Interior door caulk	None Detected		100% Other	White Non Fibrous Homogeneous
1213659PLM_3					Crushed
112	Interior door caulk	None Detected		100% Other	White Non Fibrous Homogeneous
1213659PLM_4					Crushed
113	Interior door caulk	None Detected		100% Other	White Non Fibrous Homogeneous
1213659PLM_5					Crushed
114	Interior door caulk	None Detected		100% Other	White Non Fibrous Homogeneous
1213659PLM_6					Crushed
115	Interior door caulk	None Detected		100% Other	White Non Fibrous Homogeneous
1213659PLM_7					Crushed
116	Fireproofing	None Detected	98% Fiber Glass	2% Other	White Non Fibrous Homogeneous
1213659PLM_8					Teased

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Bart Huber (28)

Analyst

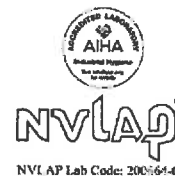
Nathaniel Durham, MS or Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888



Bulk Asbestos Analysis

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



NVL AP Lab Code: 200161-0

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

Attn: Darryl Washington
Ed Pitts

Lab Order ID: 1213659

Analysis ID: 1213659PLM

Date Received: 8/20/2012

Date Reported: 8/21/2012

Project: 205 Round House Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
117	Fireproofing	None Detected	98% Cellulose	2% Other	White Non Fibrous Homogeneous
1213659PLM_9					Teased
118	Fireproofing	None Detected	98% Fiber Glass	2% Other	White Non Fibrous Homogeneous
1213659PLM_10					Teased
119	Fireproofing	None Detected	98% Fiber Glass	2% Other	White Non Fibrous Homogeneous
1213659PLM_11					Teased
120	Fireproofing	None Detected	98% Cellulose	2% Other	White Non Fibrous Homogeneous
1213659PLM_12					Teased
121	Fireproofing	None Detected	98% Cellulose	2% Other	White Non Fibrous Homogeneous
1213659PLM_13					Teased
122	Greenish HVAC mastic	5% Chrysotile		95% Other	Green Non Fibrous Homogeneous
1213659PLM_14					Dissolved
123	Greenish HVAC mastic	Not Analyzed			
1213659PLM_15					
124	Greenish HVAC mastic	Not Analyzed			
1213659PLM_16					

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Bart Huber (28)

Analyst

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington
Ed Pitts

Lab Order ID: 1213659

Analysis ID: 1213659PLM

Date Received: 8/20/2012

Date Reported: 8/21/2012

Project: 205 Round House Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
125	4inch TSI line (water loop)	10% Amosite		90% Other	White Non Fibrous Homogeneous
1213659PLM_17					Crushed
126	4inch TSI line (water loop)	Not Analyzed			
1213659PLM_18					
127	4inch TSI line (water loop)	Not Analyzed			
1213659PLM_19					
128	6 inch TSI (drains)	None Detected	98% Cellulose	2% Other	Brown Non Fibrous Homogeneous
1213659PLM_20					Teased
129	6 inch TSI (drains)	None Detected	98% Cellulose	2% Other	Brown Non Fibrous Homogeneous
1213659PLM_21					Teased
130	6 inch TSI (drains)	None Detected	98% Cellulose	2% Other	Brown Non Fibrous Homogeneous
1213659PLM_22					Teased
131	Red carpet mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1213659PLM_23					Dissolved
132	Red carpet mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1213659PLM_24					Dissolved

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

Bart Huber (28)

Analyst

Nathaniel Durham, MS or Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888

Page 3 of 4



Bulk Asbestos Analysis

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



NVLAP Lab Code: 200664-0

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

Attn: Darryl Washington
Ed Pitts

Lab Order ID: 1213659

Analysis ID: 1213659PLM

Date Received: 8/20/2012

Date Reported: 8/21/2012

Project: 205 Round House Bld

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
133	Red carpet mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1213659PLM_25					Dissolved
134	Grey/blk carpet mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1213659PLM_26					Dissolved
135	Grey/blk carpet mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1213659PLM_27					Dissolved
136	Grey/blk carpet mastic	None Detected		100% Other	Yellow Non Fibrous Homogeneous
1213659PLM_28					Dissolved

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

Bart Huber (28)

Analyst

Nathaniel Durham, MS or Approved Signatory



Bulk Asbestos Analysis
by Transmission Electron Microscopy
Semi-Quantitative
Chatfield SOP 1988-02 Rev. 1

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

Attn: Darryl Washington

Lab Order ID: 1213708

Analysis ID: 1213708_TBS

Date Received: 8/21/2012

Date Reported: 8/22/2012

Project: 205 Round House Bld

Sample ID	Description	Organic (Wt. %)	Acid Sol. (Wt. %)	Asbestos (Wt. %)	LCL-UCL (Wt. %)
Lab Sample ID	Lab Notes				
115	Interior door caulk	50%	20%	None Detected	
1213708TBS_1					
133	Red carpet mastic	52%	-%	None Detected	
1213708TBS_3					
136	Grey/blk carpet mastic	54%	-%	None Detected	
1213708TBS_4					

Matt Thomas (3)

Analyst

Approved Signatory



1213897

3hr

Building # 205 Round house

Sample Analysis Date: 8-22-12

Turn Around Time 3hr

Type of Analysis: Lead / Asbestos

Area	Sample ID	Material Sampled	Material Location	F/NF	Cond	Quantity	Pot to Disturb
A	1thru4	Coating Material	Walk Ramp East sidet	F	Fair	<5000sf	Low
A	4thru8	Coating Material	Walk Ramp West side	F	Fair	<5000sf	Low

License # 21534

FM#

Signature Ed Potts

Requestor Derrick

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

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

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

Fax # 803-777-3990



Scientific Analytical Institute
 4604 Dundas Dr. Greensboro, NC 27407
 Phone: 336.292.3888 Fax: 336.292.3313
 www.sailab.com lab@sailab.com

1213897

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

803-917-0291

Company Contact Information	
Company: <u>Un of DC</u>	<u>D. Washington</u>
Address: <u>743 Greene St.</u>	Phone <input type="checkbox"/> : <u>803-917-0517</u>
<u>Cole S.C. 29208</u>	Fax <input type="checkbox"/> : <u>E.P.H.S</u>
	Email <input type="checkbox"/> : _____

Asbestos Test Types	
PLM EPA 600/R-93/116	<input type="checkbox"/>
Positive stop	<input checked="" type="checkbox"/>
PLM Point Count	<input type="checkbox"/>
PCM NIOSH 7400	<input type="checkbox"/>
TEM AHERA	<input type="checkbox"/>
TEM Level II	<input type="checkbox"/>
TEM NIOSH 7401	<input type="checkbox"/>
TEM Bulk Qualitative	<input type="checkbox"/>
TEM Bulk Chatfield	<input type="checkbox"/>
TEM Bulk Quantitative	<input type="checkbox"/>
TEM Wipe ASTM D5880-99	<input type="checkbox"/>
TEM Microvac ASTM D5755-01	<input type="checkbox"/>
TEM Water EPA 100.2	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>

Billing/Invoice Information	Turn Around Times	
Company: <u>Un of DC</u>	90 Min. <input type="checkbox"/>	48 Hours <input type="checkbox"/>
Contact: <u>D. Washington</u>	72 Hours <input type="checkbox"/>	72 Hours <input type="checkbox"/>
Address:	6 Hours <input type="checkbox"/>	96 Hours <input type="checkbox"/>
	12 Hours <input type="checkbox"/>	120 Hours <input type="checkbox"/>
	24 Hours <input type="checkbox"/>	144* Hours <input type="checkbox"/>

PO Number: _____
 Project Name/Number: 205 - Round House - Walkway

Sample ID #	Description/Location	Volume/Area	Comments

Accepted
 Rejected

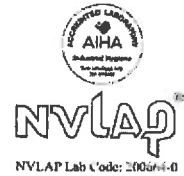
Total # of Samples 8

Relinquished by	Date/Time	Received by	Date/Time
		<u>Constance</u>	<u>8-23 10:30</u>



Bulk Asbestos Analysis

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



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

Attn: Darryl Washington

Lab Order ID: 1213897

Analysis ID: 1213897PLM

Date Received: 8/23/2012

Date Reported: 8/23/2012

Project: 205 Round House

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
1 - A	Coating material	None Detected		100% Other	Grayish, White Non Fibrous Heterogeneous
1213897PLM_1	coating				Dissolved
1 - B	Coating material	None Detected		65% Other 35% Quartz	Gray Non Fibrous Homogeneous
1213897PLM_9	granular				Crushed
2 - A	Coating material	None Detected		100% Other	Grayish, White Non Fibrous Heterogeneous
1213897PLM_2	coating				Dissolved
2 - B	Coating material	None Detected		60% Other 40% Quartz	Gray Non Fibrous Homogeneous
1213897PLM_10	granular				Crushed
3 - A	Coating material	None Detected		100% Other	Grayish, White Non Fibrous Heterogeneous
1213897PLM_3	coating				Dissolved
3 - B	Coating material	None Detected		65% Other 35% Quartz	Gray Non Fibrous Homogeneous
1213897PLM_11	granular				Crushed
4 - A	Coating material	None Detected		100% Other	Grayish, White Non Fibrous Homogeneous
1213897PLM_4	coating				Dissolved
4 - B	Coating material	None Detected		60% Other 40% Quartz	Gray Non Fibrous Homogeneous
1213897PLM_12	granular				Crushed

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

Bethany Nichols (16)

Analyst

Nathaniel Durham, MS or Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888



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EPA Method: 600/R-93/116 and 600/M4-82-020



NVLAP Lab Code: 2006-5-0

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Lab Sample ID	Lab Notes				Treatment
5 - A	Coating material	None Detected		100% Other	White Non Fibrous Homogeneous
1213897PLM_5	coating				Dissolved
5 - B	Coating material	None Detected		65% Other 35% Quartz	Gray Non Fibrous Homogeneous
1213897PLM_13	granular				Crushed
6 - A	Coating material	None Detected		100% Other	Grayish, White Non Fibrous Heterogeneous
1213897PLM_6	coating				Dissolved
6 - B	Coating material	None Detected		65% Other 35% Quartz	Gray Non Fibrous Homogeneous
1213897PLM_14	granular				Crushed
7 - A	Coating material	None Detected		100% Other	Grayish, White Non Fibrous Heterogeneous
1213897PLM_7	coating				Dissolved
7 - B	Coating material	None Detected		60% Other 40% Quartz	Gray Non Fibrous Homogeneous
1213897PLM_15	granular				Crushed
8 - A	Coating material	None Detected		100% Other	White Non Fibrous Homogeneous
1213897PLM_8	coating				Dissolved
8 - B	Coating material	None Detected		60% Other 40% Quartz	Gray Non Fibrous Homogeneous
1213897PLM_16	granular				Crushed

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Page 2 of 2

Asbestos Abatement Procedures

Design Specification for Asbestos Abatement Procedures

**USC Roundhouse & Annex
Campus of University of South Carolina**

Columbia, South Carolina

August 27, 2012

Provided to:

University of South Carolina
Facilities Management
Columbia, South Carolina 29208

Project Consultant:

**Don Cobb
SCDHEC Licensed Designer # 22082**

**Environmental Consulting Services, Inc.
736-D St. Andrews Road #196
Columbia, South Carolina 29210**

2074-PD

INDEX TO SPECIFICATIONS
USC Roundhouse and Annex, Columbia, South Carolina
Specification Date: August 27, 2012

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Section 01300	Submittals
Section 01310	Construction Schedule
Section 01405	Personal Air Monitoring
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SECTION 01080 - DEFINITIONS AND STANDARDS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY

General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon.) Certain terms used in Contract Documents are defined in this article.

General Requirements: The provisions or requirements of Division-1 sections apply to entire work of Contract and, where so indicated, to other elements which are included in project.

DEFINITIONS:

General: Definitions contained in this Article are not necessarily complete, but are general to the extent that they are not defined more explicitly elsewhere in the Contract Plans and Specifications.

Indicated: This term refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Plans and Specifications. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.

Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Owner", "requested by the "Consultant", and similar phrases. However, no implied meaning shall be interpreted to extend the Owner's responsibility into the Contractor's area of construction supervision.

Regulation: The term "Regulations" includes laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.

Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."

Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."

Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."

Installer: An "Installer" is an entity engaged by the Contractor, either as an employee, subcontractor or sub- subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.

The term "experienced," when used with the term "Installer" means having a minimum of 5 previous Projects similar in size and scope to this project, and familiar with the precautions required, and has complied with requirements of the authority having jurisdiction.

Project Site is the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the Drawings, and may or may not be identical with the description of the land upon which the project is to be built.

Air Monitoring Firm or Air Monitor: An "Air Monitoring Firm" or "Air Monitor" is an independent entity engaged to perform specific tests, either at the project site or elsewhere, and to report on, and, if required, to interpret, results of those tests.

General Superintendent: This is the Contractor's Representative at the work site. This person will generally be the Competent Person required by OSHA in 29 CFR 1926.

DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT:

Accredited or Accreditation (when referring to a person or laboratory): A person or laboratory accredited in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA).

Aerosol: A system consisting of particles, solid or liquid, suspended in air.

Air Monitoring: The process of measuring the fiber content of a specific volume of air.

Air Monitor: Person(s) employed by Owner to conduct environmental and Clearance air monitoring.

Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.

Asbestos: The asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.

Asbestos-Containing Material (ACM): Any material containing more than 1% of asbestos of any type or mixture of types as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy.

Asbestos-Containing Building Material (ACBM): Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.

Asbestos-Containing Waste Material (ACWM): Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.

Asbestos debris: Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.

Authorized Visitor: The Owner, the Owner's Consultant, Air Monitor, emergency personnel or a representative of any federal, state and local regulatory or other agency having authority over the project.

Barrier: Any surface that seals off the work area to inhibit the movement of fibers.

Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.

Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.

Certified Industrial Hygienist (C.I.H.): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

Competent Person: As per OSHA 29 CFR 1926, meaning - a person who is capable of identifying existing asbestos, tremolite, anthophyllite, or actinolite hazards in the workplace and who has the authority to take prompt corrective measures to eliminate them.

Consultant: Person(s) employed by the Owner to insure completion of projects according to Plans and Specifications.

Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.

Disposal Bag: A properly labeled six (6) mil thick leak-tight plastic bag used for transporting asbestos waste from work and to disposal site. Each is labeled as follows:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

AND

**RQ HAZARDOUS
SUBSTANCE
SOLID, NOS
ORM-E, NA 9188
(ASBESTOS)**

Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.

Penetrating encapsulant: an encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.

Removal encapsulant: a penetrating encapsulant specifically designed to minimize fiber release during removal.

Encapsulation: Treatment of asbestos-containing materials, with an encapsulant.

Enclosure: The construction of an air-tight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.

Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.

Friable Asbestos Material: Material that contains more than 1.0% asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy, and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.

HEPA Filter Vacuum Collection Equipment (or vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.

High-efficiency particulate air filter: (HEPA) refers to a filtering system capable of trapping and retaining 99.97 percent of all monodispersed particles 0.3 microns in diameter or larger.

Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

Negative Pressure Ventilation System: A pressure differential and ventilation system.

Personal Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

Powered Air Purifying Respirator: A respirator in which air outside the respirator must pass through HEPA filters prior to entering the respirator mask. This is accomplished through a motor/fan unit located between the filters and the mask.

Pressure Differential and Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential with the inside of the Work Area at a lower pressure than any adjacent area, and which cleans recirculated air or generates a constant air flow from adjacent areas into the Work Area.

Pressure Differential: Air pressure lower inside the Work Area than surrounding areas, generally caused by exhausting air from a sealed space (Work Area).

Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.

Repair: Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.

Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

Surgical Removal: Accomplished using HEPA equipped vacuum cleaners to gather wetted asbestos containing materials as the material is carefully scraped from small areas; usually used to facilitate the interface of barriers, etc. This work is accomplished by workers using respiratory protection and protective clothing working over drop cloths. Workers must use decontamination procedures that include showering properly. Drop cloths and protective clothing are considered as contaminated and are to be properly disposed of.

Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.

Type "C" Respirator: This refers to a pressure demand air line respirator with HEPA egress filter attachment connected to a source of compressed air equipped with a reserve air supply.

Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.

SPECIFICATION CONTENT EXPLANATION

Assignment of Specialists: The Specification requires that certain specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and the assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.

This requirement should not be interpreted to conflict with enforcement of building codes or regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

DRAWING SYMBOLS

Graphic symbols used on the Drawings are those recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards", published by John Wiley & Sons, Inc., seventh edition.

Mechanical/Electrical Drawings: Graphic symbols used on mechanical and electrical Drawings are generally aligned with symbols recommended by ASHRAE. Where appropriate, they are supplemented by more specific symbols recommended by technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Owner for clarification before proceeding.

INDUSTRY STANDARDS

Applicability of Standards: Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Plans and Specifications. Such standards are made a part of the Contract Plans and Specifications by reference. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.

Referenced industry standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.

Unreferenced industry standards are not directly applicable to the work, except as a general requirement of whether the work complies with recognized construction industry standards.

Publication Dates: Where compliance with an industry standard is required, comply with standard in effect as of date of Contract Plans and Specifications.

Updated Standards: At the request of the Owner, Contractor or authority having jurisdiction, submit a Change Order proposal where applicable code or standard has been revised and reissued after the date of the Contract Plans and Specifications and before performance of Work affected. The Owner will decide whether to issue a Change Order to proceed with the updated standard.

Conflicting Requirements: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Plans and Specifications indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Consultant for a decision before proceeding.

Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements. Refer instances of uncertainty to the Owner for decision before proceeding.

Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entities' construction activity. Copies of applicable standards are not bound with the Contract Plans and Specifications.

Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.

Although copies of standards needed for enforcement of requirements may be part of required submittals, the Owner reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.

Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviations are used in the Specifications or other Contract Plans and Specifications they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Plans and Specifications are defined to mean the associated names. Names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Plans and Specifications:

AIHA American Industrial Hygiene Association
2700 Prosperity Avenue
Suite 250
Fairfax, Virginia 22031
703/849-8888

AIA American Institute of Architects
1735 New York Ave. NW
Washington, DC 20006
202/626-7474

- ANSI American National Standards Institute
1430 Broadway
New York, NY 10018
212/354-3300
- ASHRAE American Society for Heating, Refrigerating, and Air Conditioning Engineers
1791 Tullie Circle NE
Atlanta, GA 30329
404/636-8400
- ASME American Society of Mechanical Engineers
345 East 47th Street
New York, NY 10017
212/705-7722
- ASPE American Society of Plumbing Engineers
3716 Thousand Oaks Boulevard, Suite 210
Westlake, CA 91362
805/495-7120
- ASTM American Society for Testing and Materials
1916 Race St.
Philadelphia, PA 19103
215/299-5400
- AWCI Association of the Wall and Ceiling Industries-International
25 K Street, NW
Washington, DC 20002
202/783-2924
- CFR Code of Federal Regulations
Available from Government Printing Office
Washington, DC
20402 (usually first published in Federal Register)
202/783-3238

CGA	Compressed Gas Association 1235 Jefferson Davis Highway Arlington, VA 22202 703/979-0900
CS	Commercial Standard of NBS (U.S. Dept. of Commerce) Government Printing Office Washington, DC 20402 202/377-2000
DOT	Department of Transportation 400 Seventh St., SW Washington, DC 20590 202/426-4000
EPA	Environmental Protection Agency 401 M St.,SW Washington, DC 20460 202/382-3949
FMERC	Factory Mutual Engineering Research Corp. 1151 Boston Providence Highway Norwood, MA 02062 617/762-4300
FS	Federal Specification General Services Administration Obtain from your Regional GSA Office, or purchase from GSA Specifications Unit (WFSIS) 7th and D Streets,SW Washington, DC 20406 (202) 472-2205 or 2140
GA	Gypsum Association 1603 Orrington Avenue Evanston, IL 60201 (312) 491-1744

UL Underwriters Laboratories
333 Pfingsten Rd.
Northbrook, IL 60062
312/272-8800

SUBMITTALS:

Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01080

SECTION 01085 - CODES AND REGULATIONS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

DESCRIPTION OF THE WORK:

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

CODES AND REGULATIONS

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

Royalties and Patents: The Contractor is responsible for complying with all patents pertaining to processes he intends to use. The Contractor shall indemnify the Owner and the Consultant for any and all damages arising out of his failure to comply.

Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Consultant harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

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

OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules
Title 29, Part 1910, Section 1001 and Part 1926, Section 1101 (Revised) of the Code of Federal Regulations

Excursion Limit for Short Duration Exposure to Asbestos
53FR 35610 of the Code of Federal Regulations

Respiratory Protection
Title 29, Part 1910, Section 134 of the Code of Federal Regulations

The Control of Hazardous Energy
Title 29, Part 1910, Section 147 of the Code of Federal Regulations

Construction Industry
Title 29, Part 1926, Section 1101 (Revised October, 1994) of the Code of Federal Regulations

Access to Employee Exposure and Medical Records
Title 29, Part 1910, Section 20 of the Code of Federal Regulations

Hazard Communication - General Industry
Title 29, Part 1910, Section 1200 of the Code of Federal Regulations

Hazard Communication - Construction Industry
Title 29, Part 1926, Sections 59
Code of Federal Regulations

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

Floor, Wall Openings and Stairways - MSS Systems - Construction Industry
29 CFR, Part 1926, Sections 451-452, Subpart L of the Code of Federal Regulations

29 CFR, Part 1926, Section 500, Subpart M of the
Code of Federal Regulations
29 CFR, Part 1926, Sections 850-859, Subpart T, of the Code of Federal Regulations

Walking/Working Surfaces - General Industry
29 CFR, Part 1910, Sections 21-32, Subpart D of the
Code of Federal Regulations
29 CFR, Part 1910, Sections 66-70, Subpart F of the Code of Federal Regulations

DOT: U. S. Department of Transportation, including but not limited to:

Hazardous Substances
Title 29, Part 171 and 172 of the
Code of Federal Regulations

Hazardous Substances
Title 49, Parts 106,107 and 171-180
Code of Federal Regulations
(as revised December 20, 1991)

EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:

Toxic Substances Control Act (TSCA)
Title 40, Part 761
Code of Federal Regulations

Asbestos Abatement Projects; Worker Protection Rule
Title 40 Part 763, Sub-part G of the
Code of Federal Regulations

National Emission Standard for Hazardous Air Pollutants (NESHAPS)
National Emission Standard for Asbestos
Title 40, Part 61, Sub-part A,
and Sub-part M (Revised Sub-part B) of the
Code of Federal Regulations (as revised November 20, 1990)

State Requirements: which govern asbestos abatement work or hauling and disposal of asbestos
waste materials include but are not limited to the most recent Amendments to:

State requirements: South Carolina Statute 61-86.1
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Local requirements - all work under this Contract to be performed under any applicable local work codes.

STANDARDS:

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

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

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

Practices for Respiratory Protection Publication Z88.2-80

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

Safety and Health Requirements Relating to Occupational Exposure to Asbestos
E 849-82

Specification for Encapsulants for Friable Asbestos Containing Building Materials
Proposal P-189

EPA GUIDANCE DOCUMENTS:

EPA Guidance Documents: discuss asbestos abatement work or hauling and disposal of asbestos waste materials listed below for the Contractor's information only. These documents do not describe the work and are not a part of the work of this contract. EPA maintains an information number (800) 334-8571, publications can be ordered from (800) 424-9065 (554-1404 in Washington, DC):

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

Asbestos in Buildings: National Survey of Asbestos Containing Friable Materials. EPA
560/5-84-006.

Asbestos in Buildings: Guidance for Service and Maintenance Personnel. EPA 560/5-85-018.

Asbestos Waste Management Guidance. EPA 530-SW-85-007.

Asbestos/NESHAPS Adequately Wet Guidance. EPA 340-1-90-019

Asbestos Fact Book. EPA Office of Public Affairs.

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

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

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

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

NOTICES:

U.S. ENVIRONMENTAL PROTECTION AGENCY

The Contractor Shall: Send Written Notification as required by US EPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61, Subpart M, as revised November 20, 1990) to the regional Asbestos NESHAPS Contact at least 10 working days

(Mon.-Fri.) prior to beginning any friable work on asbestos-containing materials. Send notification to the following address:

South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201
Attn: Bureau of Air Quality

Notification: Include the following information in the notification sent to the NESHAPS contact:

Name and address of owner or operator.

Description of the facility being demolished or renovated, including the size, age, and prior use of the facility.

Estimate of the approximate amount of friable asbestos material present in the facility in terms of linear feet of pipe, and surface area on other facility components. For facilities in which the amount of friable asbestos materials less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components, **explain techniques of estimation.**

Location of the facility being demolished or renovated.

Scheduled starting and completion dates of demolition or renovation.

Nature of planned demolition or renovation and method(s) to be used.

Procedures to be used to comply with the requirements of US EPA National Emission Standards for Hazardous Air Pollutants (NESHAPS) Asbestos Regulations (40 CFR 61 Subpart M).

Name and location of the waste disposal site where the friable asbestos waste material will be deposited.

For facilities being demolished under an order of a State or local governmental agency, issued because the facility is structurally unsound and in danger of imminent collapse, the name, title, and authority of the State or local governmental representative who has ordered the demolition.

Other information as required by 40 CFR 61, Subpart M (as amended November 20, 1990).

Copies of notifications will be submitted to the Owner and the Consultant by the Contractor.

STATE AND LOCAL AGENCIES:

The Contractor Shall Send written notification (within 10 working days, Mon.- Fri.) as required by state and local regulations prior to beginning any friable work on asbestos-containing materials.

PERMITS:

Permit: All asbestos containing waste is to be transported by an entity maintaining a current "Industrial waste hauler permit" specifically for asbestos-containing materials, as required for transporting of waste asbestos-containing materials to a disposal site.

LICENSES:

Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

POSTING AND FILING OF REGULATIONS

Posting and Filing of Regulations: Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulations and standards. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

END OF SECTION - 01085

SECTION 01100 - PRODUCT SUBSTITUTIONS

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

SUMMARY

This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.

The Schedule of Submittals are included under Section "Submittals."

Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.

Procedural requirements governing the Contractor's selection of products and product options are included under Section "Materials and Equipment."

DEFINITIONS

Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Plans and Specifications.

Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Plans and Specifications proposed by the Contractor after award of the Contract are considered requests for "substitutions." The following are not considered substitutions:

Substitutions requested by Bidders during the bidding period and accepted prior to award of Contract are considered as included in the Contract Plans and Specifications and are not subject to requirements specified in this Section for substitutions.

Revisions to Contract Plans and Specifications requested by the Owner or Owner's Consultant.

Specified options of products and construction methods included in Contract Plans and Specifications.

The Contractor's determination of and compliance with governing regulations and orders

issued by governing authorities.

PART 2 - PRODUCTS

SUBSTITUTIONS

Conditions: The Contractor's substitution request will be received and considered by the Consultant when one or more of the following conditions are satisfied, as determined by the Consultant; otherwise requests will be returned without action except to record noncompliance with these requirements.

Extensive revisions to Contract Plans and Specifications are not required.

Proposed changes are in keeping with the general intent of Contract Plans and Specifications.

The request is timely, fully documented, and properly submitted.

The request is directly related to an "or equal" clause or similar language in the Contract Plans and Specifications.

The specified equipment, product or method of construction cannot be provided within the Contract Time. The request will not be considered if the equipment, product or method cannot be provided as a result of failure to pursue the work promptly or coordinate activities properly.

The specified equipment, product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.

A substantial advantage is offered the Owner, in terms of safety, cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Consultant for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.

The specified equipment, product or method of construction cannot be provided in a manner that is compatible with other materials, and the Contractor certifies that the substitution will overcome the incompatibility.

The specified equipment, product or method of construction cannot be coordinated with other materials, and the Contractor certifies that the proposed substitution can be coordinated.

The specified equipment, product or method of construction cannot provide a warranty required by the Contract Plans and Specifications.

The Contractor certifies that the proposed substitution provides the required warranty.

The Contractor's submittal and Consultant's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Plans and Specifications does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01100

SECTION 01200 - PROJECT COORDINATION AND REPORTS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

SUMMARY

This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:

Administrative and supervisory personnel.

Progress Meetings

Pre-Construction Conference

Daily Log

Special reports.

Contingency Plans

Notifications to other entities at job site.

Requirements for the Contractor's Construction Schedule are included in Section 01300 "Submittals" and Section 01310 "Construction Schedule".

ADMINISTRATIVE AND SUPERVISORY PERSONNEL: for State of South Carolina Licensed Removal Contractor.

On-Site Supervisor: Provide a full-time On-Site Supervisor who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Contractor's Representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to asbestos-containing materials.

Experience and Training: The On-Site Supervisor must have completed a course at an EPA Training Center or equivalent certificate course in supervision of asbestos abatement procedures, and have had a minimum of two (2) years on-the-job experience in asbestos abatement project supervision.

Competent Person: The On-Site Supervisor is to be a Competent Person as required by OSHA in 29 CFR 1926.

Accreditation: The On-Site Supervisor is to be accredited as an Asbestos Abatement Supervisor in accordance with South Carolina statute 61-86.1. Submit most recent certificate for One (1) Day Refresher Training Course.

PROGRESS MEETINGS:

General: In addition to specific coordination and pre-installation meetings for each element of work, and other regular project meetings held for other purposes, Owner and Consultant will hold general progress meetings weekly. Require each entity then involved in planning, coordination or performance of work to be properly represented at each meeting.

PRE-CONSTRUCTION CONFERENCE:

An initial progress meeting, recognized as "Pre-Construction Conference" will be convened by the Consultant prior to start of any work. Meet at project site, or as otherwise directed with General Superintendent, Owner, Owner's Consultant, Air Monitor, and other entities concerned with the asbestos abatement work.

This is an organizational meeting, to review responsibilities and personnel assignments and to locate the containment and decontamination areas and temporary facilities including power, light, water, etc.

DAILY WORK AREA ENTRY LOG:

Daily Work Area Entry Log: Maintain within the Decontamination Unit a daily Work Area entry log documenting the dates and time of but not limited to, the following items:

Visitations; authorized and unauthorized.

Personnel, by name and social security number, entering and leaving the work area.

Provide PAPR flow rates (CFM)

DAILY CONSTRUCTION REPORT:

Maintain at the job site and submit three (3) copies at the end of each shift, a daily construction report documenting the following items:

Meetings; purpose, attendees, brief discussion.

Special or unusual events, i.e. barrier breaching, equipment failures, accidents.

Air monitoring tests and test results (to be provided prior to the start of the next shift)

Documentation of Contractor's completion of the following:

Inspection of work area preparation prior to start of removal and daily thereafter.

Removal of any sheet plastic barriers.

Contractor's inspections prior to spray back, lock down, or any other operation that will conceal the condition of asbestos-containing materials or the substrate from which such materials have been removed.

Removal of waste materials from work area.

Decontamination of equipment (list items).

Contractors final inspection/final air test analysis.

Pressure differential readings.

Presence of visitors, inspectors, etc. on the site.

Submit copies of this log at final closeout of project as a project close- out submittal.

SPECIAL REPORTS:

General: Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to Owner's Consultant and others affected by occurrence.

Reporting Unusual Events: When an event of unusual and significant nature occurs at site (examples: failure of pressure differential system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date.

Reporting Accidents: Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Non-Applicable)

END OF SECTION - 01200

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the Contract for Construction, special contract conditions and other Specification Sections, apply to the work of this Section.

DESCRIPTION OF THE WORK:

The Work of this Section pertains to the detailed information that the Contractor must submit to the Building Owner for approval relative to the materials, equipment, personnel, etc. to be utilized to accomplish the work of this project.

QUALITY ASSURANCE:

Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.

Coordinate transmittal of different types of submittals for related elements of the work so processing will not be delayed by the need to review submittals concurrently for coordination.

The Building Owner reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

CERTIFICATE OF COMPLIANCE:

Certify that all materials used in the work comply with all specified provisions thereof. Certification shall not be construed as relieving the Contractor from furnishing satisfactory materials if, after tests are performed on selected samples, the material is found not to meet specified requirements.

PART 2 - PRODUCTS (Not Applicable.)

PART 3 - EXECUTION

CONTRACTOR'S CONSTRUCTION SCHEDULE: Submit the following to the Building Owner:

Schedule: Provide proposed detailed schedule including work dates, work shift time, number of employees, dates of start and completion including dates of preparation work, removals and final inspection dates.

Secure time commitments for performing critical elements of the work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the work.

On-Site Supervisor: Submit the experience and training of the proposed on-site supervisor for the project, qualifying him as the Competent Person as required by OSHA in 29 CFR 1926.1101. This person shall have completed not less than a five day course at an EPA accredited training center, as required by Statute 61-86.1 of the South Carolina Procedures for Asbestos Removal, and have had a minimum of two (2) years on-the-job training as a Project Supervisor. In addition, submit a training certificate from the most recent one (1) day refresher course.

Permits, Licenses, and Certificates: For the Owner's records, submit copies of Contractor's South Carolina Abatement Contractor's licenses, permits, certifications, etc. as required to provide compliance with Federal and/or State Standards and Regulations associated with conducting asbestos abatement activities.

Jurisdictional Settlements, Notices, Receipts for Fee Payments: Submit copies of any jurisdictional notices, citations, fee payments, correspondence, etc. issued to the Contractor as a result of any asbestos abatement activities they have been associated with.

Before Start of Work: Submit the following to the Building Owner for review.

South Carolina Statute 61-86.1 : Submit copies of certificates from an EPA-approved Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the S.C. Statute 61-86.1. Said training course shall not be less than four days. In addition, submit a training certificate from the most recent one (1) day refresher course attended by each worker. Worker shall have a minimum of one (1) year on-the-job training as an abatement worker.

State and Local License: Submit evidence that all workers have been trained, certified and accredited as required by the South Carolina Department of Health and Environmental Control.

Certificate Worker Acknowledgement: Submit an original signed copy of the Certificate of Employee (Worker) Release for each worker who is to be at the job site or enter the Work Area.

Report from Medical Examination: conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:

Name and Social Security Number.

Physicians Written Opinion signed by the examining physician including at a minimum the following:

Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.

Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.

Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure and the synergistic effect of asbestos exposure and smoking.

Copy of information that was provided to physician in compliance with 29 CFR 1926.

Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.

Notarized Certifications: Submit certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

Employment Eligibility Verification (Form I-9): Submit an original signed copy of Form I-9 for each worker who is to be at the job site.

Contractor's Respiratory Protection Program: Submit qualified written respiratory protection program as required in ANSI Z88.2-1980 and OSHA 29 CFR 1926.1101.

Contractor's Safety Program: Submit a complete copy of the Contractor's Safety Program covering all aspects of construction work practices used for the completion of this project.

Contingency Plan: Prepare a contingency plan for emergencies including: fire, accident, power failure, pressure differential system failure, supplied air system failure, or any other event that may require modification or abridgement of decontamination or Work Area isolation procedures. Note that nothing in this Specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

Written Hazard Communication Program: Submit Contractor's written Hazard Communication Program. This program must state how the Contractor plans to meet the various requirements of the standard. This written program must be available at the job site, and must contain the following elements:

1. Container Labels: All containers shall be identified with manufacturer's labels for all chemicals used on-site with the identity of the chemicals appropriate hazard warnings, and the manufacturer's name and address. No chemicals will be allowed on-site without approved labeling.
2. Site-Specific List of Chemicals with Corresponding Material Safety Data Sheets. Additionally, include Material Safety Data Sheets for type(s) of asbestos being abated.
3. Training: Submit a written description of the training given to employees exposed to any chemicals.
4. Hazard Communication Program: THIS PROGRAM MUST BE WRITTEN IN ACCORDANCE WITH OSHA'S HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200 AND 29 CFR 1926.59.
5. The Contractor shall ensure that the Written Hazard Communication Program meets paragraph (e) of 29 CFR 1910.1200 and 1926.59, if applicable (i.e. - multi-employer workplaces).

A written description of the Contractor's Program to distribute the names, addresses and phone numbers of public health organizations which provide information, materials and/or conduct programs concerning smoking cessation.

Negative Pressure Respirator: Submit manufacturer's product information for each component used, including NIOSH certifications for entire assembly.

Powered Air Purifying Respirators: Submit manufacturer's product information for each component used, including NIOSH certifications for each component in an assembly and/or for entire assembly.

Type C Supplied Air Respiratory System: Submit drawing showing assembly of components into a complete supplied air respiratory system. Include diagram showing location of compressor, filter banks, backup air supply tanks, hose line connections in Work Area, routing of air lines to Work Area(s) from compressor. Submit manufacturer's product information, including NIOSH certifications, and complete operating and maintenance instructions for all components and systems as a whole. Submit resume and information on training for individual designated to monitor the operation of supplied air respiratory systems. Submit training certification.

Personal Air Sampling:

ONE SET OF SUBMITTALS SHOULD BE SENT TO THE BUILDING OWNER.

Additionally, before start of work submit the following to the Building Owner for review.

Submit the name and address of the Contractor's Testing Laboratory.

Submit Testing Laboratory's Written Hazard Communication's Program with MSDS's that will be kept on-site.

Submit a copy of the consulting license for the State of South Carolina Department of Health and Environmental Control.

Submit a copy of verification of completion of NIOSH Course No. 582 or equivalent for all personnel collecting and analyzing samples.

Submit verification of current completion of "Supervision of Asbestos Abatement Projects" Course and One (1) Day Supervision Refresher Course for each air sampling person.

Submit medical records and Respirator Training and Fit Test records for air samplers.
Submit proof of five year's air sampling experience (minimum).

PRODUCT DATA:

Collect Product Data into a single submittal. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

HEPA Vacuums: Submit manufacturer's product data and operation and maintenance manuals for all HEPA vacuums to be utilized on the project.

Pressure Differential System: Submit plan of pressure differential system, including the following:

1. Manufacturer's product data and operation and maintenance manuals for the air machines, including fan curve and pressure differential monitors to be used.
2. Proposed location of the machines and air discharge.
3. Proposed location of pressure differential monitors.

Temporary Power: Submit manufacturer's product data for all components to be utilized as a part of the temporary power distribution system. Submit a one line diagram together with a detailed sketch showing the location of components, routing of conduits, and temporary power and lighting distribution system. Submit copy of South Carolina License of Electrician to install temporary power.

Scaffolding: If scaffolding is to be utilized to construct work platforms or temporary enclosures around the equipment designated to remain, submit details relative to the type of scaffolding system to be utilized, location of support posts, height of scaffold work platform, type and location of access stairways, etc. Submit details relative to the type of work platform system to be utilized (scaffolding or metal framing), height of work platform, type and location of access stairways, etc. For any work platform constructed of conventional framing lumber, submit certified load limits by a registered Professional Engineer that the work platform is capable of supporting a live load of 100psf in addition to the platform's dead load.

Shower Stall: Submit manufacturer's product data.

Filter/Pump Assembly: Submit manufacturer's product data and operation and maintenance manual.

Surfactant: Submit manufacturer's product data, use instruction, and Material Safety Data Sheet (in accordance with OSHA Hazard Communication Standard 29 CFR 1926.59).

Encapsulant: Submit manufacturer's product data, use instruction, and Material Safety Data Sheet (in accordance with OSHA Hazard Communication Standard 29 CFR 1926.59).

Fire-Stop Sealant: Submit documentation that the fire-stop sealant(s) proposed is listed as an acceptable product to be left in place in the Fill, Void, or Cavity Materials (XHHW) Section(s) of the most recent U.L. Fire Resistance Directory. Submit manufacturer's product data, use instructions and U.L. listing.

DURING THE WORK ON THIS PROJECT:

Submit the Following:

Daily Work Area Entry Log: Maintain within the Decontamination Unit and submit to the Building Owner daily, a daily work area entry log documenting the dates and time of, but not limited to, the following items:

- A. Personnel, by name and social security number, entering and leaving the Work Area.
- B. Visitations: authorized and unauthorized into the Work Area.
- C. Flow rate for PAPR's (cfm).

Personal Air Monitoring Test Results: Certified copies of all personal air monitoring test results shall be submitted to the Consultant and posted in the clean room of the decontamination unit and the Contractor's office prior to start of work on the next shift. A final report including a summary of all personal air tests shall be submitted to the Consultant within two weeks following project completion. The on-site analyst shall submit to the Consultant results of QA/QC blind recounts conducted at the rate of 10 percent. Results shall be submitted within two weeks of being collected.

Reporting Unusual Events: When an event of unusual and significant nature occurs at site (examples: failure of pressure differential system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results of effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date.

Reporting Accidents: Prepare and submit reports of significant accidents at site and anywhere else Work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

Disposal: Submit copies of all trip manifests and landfill receipts within twenty-four (24) hours after material has been disposed of.

PRIOR TO FINAL PAYMENT: Receive Certification from the Building Owner that all required submittals have been received, reviewed and approved.

BUILDING OWNER'S ACTION

Except for submittals for record, information or similar purposes, where action and return is required or requested, the Building Owner will review each submittal, mark to indicate action taken, and return promptly.

END OF SECTION 01300

SECTION 01310 - CONSTRUCTION SCHEDULE

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division - 1 Specification Sections, apply to this Section.

SUMMARY

This Section specifies administrative and procedural requirements for construction scheduling for performance of the Work, including but not limited to:

Contractor shall submit a detailed abatement schedule for the performance of the Work.

Contractor shall submit number of man hours and days required for work force for the performance of the Work.

Contractor shall submit proposed number of shifts per 24 hour period and number of men per shift.

After awarding of Bid and prior to mobilization, the above three submittals must be provided to the Building Owner.

COORDINATION

Contractor shall update Construction schedule on a daily basis and will chart progress of the Work.

Contractor shall submit an updated schedule at each progress meeting during the Work.

If behind schedule, Contractor shall explain in writing the reason for delay and his proposals for remedying the situation.

Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.

Indicate Clearance of each Work Area in advance of the dates established for Clearance. Allow time for testing and other Consultant's procedures necessary for certification of

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Clearance.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01310

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SECTION 01405 - PERSONAL AIR MONITORING

PART I - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division - 1 Specification Sections, apply to work of this section.

DESCRIPTION OF WORK:

This section describes work being performed by the Contractor. This work is included in the Contract Sum.

The Contractor is to supply an independent Testing Laboratory to perform personal air monitoring on Contractor personnel and on site analysis of all samples collected. The Contractor shall perform personal monitoring on 25 percent of his personnel per shift each day with monitoring rotation ensuring that all employees are monitored each week. On a daily basis, collect samples on a minimum of two workers per shift up to a maximum of five workers per shift. If the scope of work is performed utilizing non-friable methods, OSHA personal air monitoring will not be required, as long as a valid negative exposure assessment is provided by the Contractor prior to the beginning of work. If a negative exposure assessment can be generated during the initial shifts of a friable removal, continued OSHA personal air monitoring will not be required as long as the work procedures and personnel expertise establishing the negative exposure assessment are maintained. **Under OSHA Regulation 1926.1101, the Contractor's competent person (Supervisor) is allowed to collect personnel samples on the Contractor's employees. However, these samples must be analyzed by an accredited laboratory or persons that have had the NIOSH 582 course and are licensed by SCDHEC as an air monitor.**

PERSONAL MONITORING:

All personal air monitoring information shall be collected and analyzed using the OSHA Reference Method. Sample flow rate for personal samples shall not exceed 2.5 liters per minute (LPM). All samples shall be collected with the open-faced cassette in a downward position and located on the outside of the respirator and coveralls but in the worker's breathing zone. All samples shall be collected on 25 millimeter diameter mixed cellulose ester filters with a 0.8 micrometer pore size. Analysis of all personal samples shall be performed by phase contrast microscopy as described in the OSHA Reference Method and analysis shall be performed outside of the work area but on the work site on a daily basis.

TYPES OF PERSONAL MONITORING:

Time Weighted Average: Determination of employee exposure shall be determined on the basis of two or more samples representing full shift exposure for employees performing each separate task in the Work Area.

Monitored employees must wear monitoring equipment on their person while inside the containment or work area.

Excursion Samples: Thirty (30) minute Excursion Samples shall be collected each shift each day on each different task performed inside of the work area. These samples shall be collected at times when the highest exposure is expected to occur for the task (i.e. cleaning, scraping, staging, loadout, etc.) being performed.

Initial Monitoring: Monitoring performed initially shall be used to evaluate respirator protection in use and to determine if reduction to a respirator providing lesser protection is feasible or a negative exposure assessment is possible. Monitoring results that represent TWA exposure shall be used for this purpose. Initial monitoring shall be performed at the beginning of the project or if a significant change in Contractor personnel occurs. Twenty-five percent of the Contractor personnel shall be monitored during initial monitoring. Initial monitoring shall be performed during the first shift of the Contract and include both TWA exposure and Excursion Limit samples.

Continuous Monitoring: Continuous monitoring shall begin on the shift immediately after Initial Monitoring is complete and an initial exposure assessment has been established. Monitoring will continue throughout the second shift of the project in order to establish a negative exposure assessment. If a negative exposure assessment cannot be achieved, then continuous monitoring will be performed throughout the project duration. Continuous monitoring results shall also be used to determine if the respirator in use provides adequate protection and to document worker exposure. Monitoring shall be performed on 25 percent of the Contractor personnel each shift each day with monitoring rotation ensuring that all employees are monitored each week. All monitoring shall include both TWA exposure samples and Excursion Limit samples.

Samples must be collected during all times the Contractor is performing the work for the full duration of the work shift(s).

This includes prep work (i.e. - if Contractor's employees, or personnel, etc. enter the area of work and are in close proximity of asbestos containing material; or if there is any possibility of disturbance of the ACM in the Work Area). Note: No personal air monitoring is required for non-friable abatement procedures if a valid negative exposure assessment from a similar project is provided prior to the start of work.

REPORTING:

All personal monitoring results shall be posted at the Contractor's job site in the Clean Room in easy site of all employees prior to the start of the next shift. The posted monitoring results for each sample shall contain as a minimum:

- * project name and number
- * sample number
- * phase number or work area number
- * purpose (TWA or Excursion)
- * date collected
- * date of analysis
- * analytical method
- * name of person collecting sample
- * name of person analyzing sample
- * task performed by employee
- * location of employee
- * pump number
- * start and stop time
- * total minutes sampled
- * flow rate (liters per minute)
- * volume (liters)
- * numbers of fibers counted in samples
- * number of fibers counted in blanks
- * sample number of blanks used in calculation
- * number of fields counted
- * concentration in fibers per cubic centimeter (blank corrected)
- * name and social security number of sampled employee
- * respirator type worn by sampled employee
- * calculated TWA of sampled employee
- * graticule area of microscope used for analysis
- * L.O.D. - limit of detection - 10 fibers / 100 fields

A log of microscope calibration and pump calibration demonstrating daily adjustments of both shall be maintained on the job site and submitted at the conclusion of the project. The log shall include as a minimum:

Pump (daily entries)

pump number
pre-calibration flow rate (liters per minute)
post-calibration flow rate (liters per minute)
calibration time, date and method

primary standard reference
name and signature of calibration person

Microscope (daily entries)

microscope serial number
verification of ocular phase ring centering
verification of HSE/NPL resolution test
results of blanks (10% daily, minimum 2)
results of blind recounts (minimum 1 daily)

NOTE: All personal air monitoring equipment shall be calibrated prior to each shift's sampling and verified throughout or at the end of the shift. Calibration devices shall be primary or traceable to a primary standard.

SUBMITTALS:

SUBMIT ONE COMPLETE SET OF SUBMITTALS TO THE BUILDING OWNER.

Before start of work submit the following to the Building Owner for review.

Submit the name and address of the Contractor's Testing Laboratory.

Submit Testing Laboratory's Written Hazard Communication's Program with MSDS's that will be kept on-site.

Submit a copy of the consulting license for the State of South Carolina Department of Health and Environmental Control.

Submit a copy of verification of completion of NIOSH Course No. 582 or equivalent for all personnel collecting and analyzing samples.

Submit verification of current completion of "Supervision of Asbestos Abatement Projects" Course or One (1) Day Supervision Refresher Course for each air sampling person.

Submit medical records and Respirator Training and Fit Test records for air samplers.

Submit proof of five year's air sampling experience (minimum).

Upon completion of work submit two copies of the following to the Building Owner for review.

Submit pump calibration log.

Submit microscope calibration log.

Submit a copy of all personal monitoring forms.

Submit a complete record certified by the Contractor's Testing Laboratory of all personal air monitoring results. This **must** be furnished to the Consultant and Owner by the Contractor within two weeks following completion of all personnel air monitoring.

PART 2 - PRODUCTS

All equipment and supplies will be as described by 29 CFR 1926.1101, Appendix B or equivalent unless otherwise mandated in this specification. Provide five additional personnel monitoring pumps as back-up for the duration of the Work.

PART 3 - EXECUTION

The Contractor's Testing Laboratory representative collecting personal samples shall enter the containment a minimum of two times per shift to verify operation of the equipment and to note tasks of the sampled employees. Contractor's air sampler must themselves, physically attach and remove personnel sampling pumps on asbestos employees being monitored.

End of Section 01405

SECTION 01410 - AIR MONITORING - ENVIRONMENTAL

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division - 1 Specification Sections, apply to work of this section.

Air Monitoring: during work.

DESCRIPTION OF THE WORK

Not in Contract Sum: This section describes work being performed by the Owner. This work is not in the Contract Sum.

This section describes air monitoring carried out by the Owner to verify that the building beyond the work area and the outside environment remains uncontaminated. This section also sets forth airborne fiber levels both inside and outside the work area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.

AIR MONITORING:

Work Area Isolation: The purpose of the Owner's air monitoring is to detect faults in the work area isolation such as:

- Contamination of the building outside of the work area with airborne asbestos fibers,
- Failure of filtration or rupture in the differential pressure system,
- Contamination of air outside the building envelope with airborne asbestos fibers.

Work Area Airborne Fiber Count: The Owner's air monitor will monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be to detect airborne asbestos concentrations which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.

Work Area Clearance: To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Owner's air monitor will collect and analyze air samples utilizing TEM analysis. TEM samples shall be collected as per the AHERA Part 763 (Appendix A: Interim TEM Analytical Methods and Rules for Determining Completion of Abatement Actions). If the first round of TEM clearance samples fail, the Contractor shall bear the cost for the additional TEM sampling (collection and analysis) required.

SAMPLING AND ANALYTICAL METHODS

All PCM samples shall be collected using NIOSH Method 7400 Revision 3. All samples shall be collected at a flow rate between a minimum of 3, up to a maximum of 12 liters per minute (LPM). All samples shall be collected on mixed cellulose ester filters, 25 millimeters in diameter and 0.8 micrometer pore size. All samples shall be collected with a sufficient volume to measure less than 0.01 fibers per cubic centimeter (f/cc) as analyzed using phase contrast microscopy (PCM). A minimum representation of at least 2 ½ hours (at no less than 3 liters per minute nor greater than 12 liters per minute) for each 4 hour portion of the work shift during removal and cleanup activities shall be performed. Sampling shall be performed throughout the duration of each shift.

All samples shall be analyzed using NIOSH Method 7400 Revision 3 with the "A" Counting Rules. All samples collected shall be retained until final project completion. All samples shall be analyzed on site using PCM analysis by the Owner's Consultant. All samples collected for a shift shall be analyzed prior to the start of the next shift.

TYPES OF SAMPLES:

Baseline Samples: The Owner's Consultant will secure samples in the areas to be abated prior to any disturbance of asbestos or construction of the containment system. These samples will be collected at an appropriate flow rate determined by the Air Sampler and must represent a minimum volume of at least 1,500 liters. All samples will be collected five feet above the floor of the building. The samples will be collected to determine airborne concentrations prior to abatement but do not effect any clearance requirements. A minimum of five (5) Baseline Samples shall be collected on each floor level of 25,000 sf or less where the work for this project shall be performed under the direction of the Owner or his Consultant.

Daily Samples: The Owner's Consultant shall perform continuous environmental monitoring each shift each day throughout the project starting with construction of the containment system until the start of Clearance Monitoring. These samples shall represent the entire shift and be collected at a flow rate determined by the Owner's Consultant/Air Monitor based on site conditions. Sample volumes will be designed to avoid sample overloads.

At a minimum, the Owner's Consultant/Air Monitor shall conduct representative daily area sampling in the following locations:

- In the equipment room of the decontamination enclosure system,
- At the entrance to the clean room of each decontamination enclosure system,
- Outside of the controlled work area in uncontaminated areas of the structure or facility,

- And at the exhaust of the pressure differential equipment at a distance no greater than 5-8 feet from the exhaust flow - if feasible. (NOTE: When multiple pressure differential machines are in operation, the air sampler can rotate the sampling, but all exhausts must be monitored daily.)

Additional samples may be taken at Owner's or Owner's Consultant's discretion.

On a daily basis, the Environmental Air Monitor shall record (at a minimum) four readings of the Abatement Contractor's manometer (as required by SCDHEC Regulation 61-86.1 revised June 27, 2008.)

SAMPLING SENSITIVITY - LIMIT OF DETECTION - (LOD)

A minimum detection limit of 10 fibers per 100 fields will be used in the calculation of fiber concentrations for Environmental Monitoring. If 10 fibers cannot be counted, the results will be reports as "less than" the calculated concentration. A sufficient volume of air shall be collected to ensure all samples are either quantifiable or less than 0.01 f/cc using PCM analysis.

REPORTING:

All monitoring results shall be available to the Consultant prior to the start of the next shift. The monitoring results for each sample shall contain as a minimum:

- * project name and number.
- * phase number or work area number.
- * sample location.
- * sample number.
- * date collected.
- * date of analysis.
- * analytical method.
- * name of person collecting sample.
- * name of person analyzing sample.
- * pump number.
- * start and stop time.
- * total minutes sampled.
- * flow rate (liters per minute).
- * volume (liters).
- * numbers of fibers counted.
- * number of fibers counted in blanks.
- * sample number of blanks used in calculation.
- * number of fields counted.
- * concentration in fibers per cubic centimeter (blank corrected).
- * graticule area of microscope used for analysis.
- * L.O.D. - limit of detection - 10 fibers/100 fields

A log of microscope calibration and pump calibration demonstrating daily calibration of both shall be maintained on the job site and submitted at the conclusion of the project. The log shall include as a minimum:

Pump (daily entries)

pump number.
pre-calibration flow rate (liters per minute).
post-calibration flow rate (liters per minute).
calibration time, date and method.
primary standard reference.
name and signature of calibration person.

Microscope (daily entries)

microscope serial number.
verification of phase ring centering.
verification of HSE/NPL resolution test.
results of blanks (10% daily, minimum 2).
results of blind recounts (minimum 1 daily).

NOTE: All air monitoring equipment shall be calibrated prior to each shift's sampling and verified throughout or at the end of the shift. Calibration devices shall be primary or traceable to a primary standard.

SUBMITTALS:

PROVIDE ONE COMPLETE SET OF SUBMITTALS TO THE BUILDING OWNER.

Before start of work submit the following to the Owner for review:

Submit the name and address of the Consultant's Testing Laboratory.

Submit a copy of the Consultant's Testing Laboratory's Written Hazards Communication Program with MSDS's that is to be kept on-site.

Submit a copy of the consulting license for the State of South Carolina Department of Health and Environmental Control.

Submit a copy of verification of completion of NIOSH Course No. 582 or equivalent for all personnel collecting and analyzing samples.

Submit verification of current completion of "Supervision of Asbestos Abatement Projects"

Course or current One (1) Day Refresher Course for each air sampling person and proof of at least 5 years experience on similar projects.

Submit medical records for Consultant's Testing Laboratory air monitoring personnel.

Submit Respirator Training and Fit Test records for Consultant's Testing Laboratory air monitoring personnel.

Upon completion of work submit the following to the owner for review.

Submit pump calibration log.

Submit microscope calibration log.

Submit a copy of all monitoring forms.

PART 2 - PRODUCTS

All equipment and supplies shall be equivalent to those described in NIOSH Method 7400 Revision 3 unless otherwise stated in this specification.

PART 3 - EXECUTION

The Owner's Air Monitor shall perform Baseline Sampling prior to disturbing any asbestos containing material or construction of the containment system and daily monitoring each shift each day throughout the project duration. The Owner's Air Monitor shall evaluate the Environmental Samples collected inside the contained Work Area and the Personal Samples each shift to ensure work is performed at an airborne concentration that prevents levels inside the worker's respirators from exceeding 0.1 f/cc. The Owner's Air Monitor shall enter the Work Area two times per shift as a minimum to observe work procedures and check sampling cassettes for overload. The Owner's Air Monitor shall work under the direction of the Owner or the Owner's Consultant.

Airborne Concentrations inside the Work Area will be maintained at the lowest achievable level.

AIRBORNE CONCENTRATIONS OUTSIDE THE WORK AREA

If any air sample collected outside of the Contained Work Area exceeds 0.01 f/cc, immediately stop all work and mist the work area with water. The Contractor shall then smoke test the entire perimeter of the Contained Work Area, with the Owner's Consultant to detect faults in the temporary enclosure. Any identified faults shall be immediately sealed by the Contractor.

The Contractor shall inspect the area outside of the Work Area in the vicinity of the air sample that exceeded 0.01 f/cc with the Consultant and, if contamination outside the Work Area is visible (i.e. water leaks, ACM debris) decontamination procedures shall be conducted under the direction of the

Consultant and the Owner.

Following the inspections of the interior and exterior of the Work Area, and upon receipt of Consultant's written approval, Contractor may resume work. Said approval shall not be deemed to absolve the Contractor of responsibilities resulting from elevated air count(s).

CONTAINMENT BREACH:

Upon discovery of any containment breaches (i.e. - water leak, damaged physical barrier, ACM debris outside the containment, etc.) the Consultant shall immediately collect, at a minimum, two PCM air samples for each breach in the Contractor's containment. Additional samples may be required to be collected if directed by the Owner. All analysis costs for containment breach samples shall be borne by the Contractor.

Normal air sampling shall continue in the affected area, with the next (second) sample being analyzed by PCM. If the result of the second sample is below 0.01 f/cc, the Contractor shall continue work.

If the result of the second sample is above 0.01 f/cc, the second sample shall be analyzed by Transmission Electron Microscopy (TEM). **The Contractor may not continue work while awaiting results of the TEM analysis unless approved in writing by both the Owner and the Consultant.**

If the result of the second sample, using TEM analysis is below 0.005 structures per cubic centimeter (s/cc), the Contractor shall continue work and normal air sampling will resume.

If the result of the second sample, using TEM analysis, is above 0.005 structures per cubic centimeter (s/cc) the Contractor shall install new critical barriers to isolate the affected area(s) from the balance of the building and decontaminate the affected area(s) using HEPA filter-equipped vacuum cleaners and wet-wiping methods under the direction of the Consultant. The cost of the TEM collection and analysis shall be borne by the Contractor.

End of Section 01410

SECTION 01411 - RESPIRATORY PROTECTION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

DESCRIPTION OF WORK:

Included in Contract Sum: The analysis cost described in this section is included in the Contract Sum.

Instruct and train each worker involved in asbestos abatement in proper respiratory protection and require that each worker always wear a respirator, properly fitted on the face in the Work Area from the start of any operation which may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the fiber concentration encountered in the work place.

Any variance from this requirement must be approved in writing by both the Consultant and the Owner.

STANDARDS:

Except to the extent that more stringent requirements are written directly into the Contract Plans and Specifications, the following regulations and standards have the same force and effect (and are made a part of the Contract Plans and Specifications by reference) as if copied directly into the Contract Plans and Specifications, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.

- OSHA - U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1001 and Section 1910.134. 29 CFR 1926.1101.
- CGA - Compressed Gas Association, Inc., New York, Pamphlet G-7, "Compressed Air for Human Respiration", and Specification G-7.1 "Commodity Specification for Air".
- ANSI - American National Standard Practices for Respiratory Protection, ANSI Z88.2-1980.

NIOSH - National Institute for Occupational Safety and Health

SUBMITTALS:

Before Start of Work submit the following to the Building Owner for review. Do not begin work until these submittals are returned with the Building Owner's approval indicating that the submittal is returned for use.

Product Data: Submit manufacturer's product information for each component used, including NIOSH Certifications for each component in an assembly and/or for entire assembly.

System Diagram: When a Type "C" supplied air respiratory system is required by the work, submit drawing showing assembly of components into a complete supplied air respiratory system. Include diagram showing location of compressor, filter banks, backup air supply tanks, hose line connections in Work Area(s), routing of air lines to Work Area(s) from compressor.

Operating Instruction: Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.

Respiratory Protection Program: Submit Contractor's written respiratory protection program manual as required by OSHA 29 CFR 1910.134 and 1926.1101.

Fit-Test Certification: Submit copies of qualitative fit test certifications for all personnel that will wear respirators. The certification must be current (within 1 year) and for all types of respirators worn by the workers.

Resume information: Submit resume and information on training for individual monitoring the operation of supplied air respiratory systems.

Testing Laboratory: Submit name of testing laboratory for compressed air analysis. The testing laboratory must be approved by the Building Owner and the Consultant.

AIR QUALITY FOR SUPPLIED AIR RESPIRATORY SYSTEMS:

Provide air used for breathing in Type "C" supplied air respiratory systems that meets or exceeds standards set for by the Compressed Gas Association, Inc. for Type I Grade D, or better, compressed air.

LIMITING CHARACTERISTICS:

Compressed air used for breathing purposes must meet the quality standards of Type I Grade D, or better, air as required by OSHA 29 CFR 1910.134. The limiting characteristics for the compressed air at the point of delivery to the respiratory shall be as follows.

<u>Limiting Characteristic</u>	<u>Requirement</u>
Percent Oxygen (v/v)	19.5 - 23.5
Carbon monoxide (ppm)	10 (maximum)
Carbon dioxide (ppm)	1000 (maximum)
Condensed Hydrocarbons (mg/m ³)	5 mg per cubic meter
Odor	Not objectionable

NOTE: The Carbon monoxide alarm on the compressor must be set on 5 ppm and action must be taken by the Contractor to determine the cause of elevated Carbon monoxide levels.

COLLECTION: Compressed air samples must be collected for analysis. Field analysis will be acceptable.

Frequency of Sampling: Compressed air testing and analysis must be performed prior to use. Retesting must be performed before use each time the compressor is relocated and following 40 hours of continuous operation or following any system malfunction. The laboratory analysis report must be submitted to the Building Owner prior to use.

PART 2 - EQUIPMENT

AIR PURIFYING RESPIRATORS

Single use disposable respirators shall not be used during this project. Minimum respiratory protection shall be a reusable air purifying respirator equipped with high efficiency filters and approved by NIOSH.

Only respirator and respirator components tested and certified by NIOSH shall be used by personnel entering the Work Area.

SUPPLIED AIR RESPIRATOR SYSTEMS:

Provide equipment capable of producing air of the quality and volume required by the above reference standards applied to the job site conditions and crew size. Comply with provisions of this specification if more stringent than the governing standard.

Face Piece and Hose: Provide full face piece and hose by same manufacturer that has been certified by NIOSH as an approved Type "C" respirator assembly operating in pressure demand mode with a positive pressure face-piece.

Backup air supply: Provide a reservoir of compressed air located outside the Work Area which will automatically maintain a continuous uninterrupted source of air automatically available to each connected face piece and hose assembly in the event of compressor shut-down, contamination of air delivered by compressor, power loss or other failure. Provide sufficient capacity in the back-up air supply to allow a minimum escape time of one-half hour times the number of connections available to the Work Area. Air requirement at each connection is the air requirement of the respirators in use plus the air requirement of an average-sized adult male engaged in moderately strenuous activity.

Warning device: Provide a warning device that will operate independently of the building's power supply. Locate so that alarm is clearly audible above the noise level produced by equipment and work procedures in use, in all parts of the Work Area and at the compressor. Connect alarm to warn of:

Compressor shut down or other fault requiring use of backup air supply
Carbon Monoxide (CO) levels in excess of 5 PPM/V

Carbon Monoxide (CO) Monitor: Continuously monitor Carbon Monoxide (CO) levels. Place monitors in the air line between compressor and back-up air supply and between backup air supply and workers. Connect monitors so that they also sound an alarm as specified under "Warning Devices." Ensure that the CO monitor is calibrated before use and after each relocation. A log shall be maintained with daily recording of CO levels.

Compressor Shut Down: Interconnect monitors, alarms and compressor so that compressor is automatically shut down and the alarms sounded if any of the following occur:

Carbon Monoxide (CO) concentrations exceed 5 PPM/v in the air line between the filter bank and backup air supply.
Compressor temperature exceeds normal operating range.

Compressor Motor - Provide an electric compressor that can supply required air volumes based on the (number) of abatement workers utilizing this system.

Compressor Location: Locate the compressor in a location that shall be approved by Owner's Consultant.

Airline Manifold Location: Manifolds for respirator airlines shall not be located in the Work Area. Locations shall be approved by the Owner and Consultant. All remote manifolds shall have pressure indicator showing pressure in p.s.i.

Air Intake: Locate air intake remotely from any source of exhaust or any exhaust from engines, motors, auxiliary generator or buildings.

PART 3 - EXECUTION

GENERAL:

Respiratory Protection Program: Comply with ANSI Z88.2 - 1980 "Practices for Respiratory Protection" and OSHA 29 CFR 1910.134 and 29 CFR 1926.1101.

Require that (at a minimum) a full face Type C Pressure Demand Respirator be worn during each initial shift that asbestos may be disturbed or removed unless an initial negative exposure assessment can be produced utilizing historical documentation (previous air monitoring on "like" projects). Downgrading to the use of PAPR's or APR's may be permitted after each initial shift if all monitoring indicates that concentrations in the Work Area will not exceed the protection factor provided by a full face PAPR or half-face APR and with the approval of the Owner's Consultant. If fiber concentrations in the Work Area or personnel samples exceed 0.5 f/cc (except excursion samples [STEL]), workers shall immediately revert to Type C respiratory protection. The Contractor shall have available onsite the components for a fully functional Type C Supplied Air Respirator System at all times during the work of the contract.

Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.

Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 02110.

Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency filters during actual removal of asbestos.

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

FIT TESTING:

Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing has been provided.

On a Weekly Basis, check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.

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

TYPE OF RESPIRATORY PROTECTION REQUIRED:

Provide Respiratory Protection as indicated in paragraph below. Where paragraph below does not apply, determine the proper level of protection by dividing the expected or actual airborne fiber count in the Work Area by the "protection factors" given below. The level of respiratory protection which supplies an airborne fiber level inside the respirator, at the breathing zone of the wearer, at or below 0.1 f/cc is the minimum level of protection allowed. A half-face air purifying respirator shall be the minimum allowable respirator used during removal.

Type "C" Supplied-air respirators: Full facepiece pressure demand supplied air respirators are to be used by all workers engaged in the removal, or demolition of pipes, structures, or equipment covered or insulated with asbestos, or in the removal or demolition of asbestos insulation or coverings, or any other activity which results in airborne asbestos fiber concentrations at or above 0.5 fibers per cubic centimeter.

Powered Air Purifying Respirators: Filters for PAPR's must be HEPA type with TC numbers (tested and certified) by NIOSH. If any environmental or personal sample fiber concentrations reach or exceed 0.5 f/cc, workers shall immediately revert to the use of Type C respirators (excluding excursion sampling).

Flow rates of PAPR respirators must be checked daily and flow rate recorded in the Contractor's daily log book. The Owner's Consultant shall verify the Contractor's measurements for each shift.

Air Purifying Respirators with High Efficiency Filters: These half-mask respirators may be used during construction of the containment system and for removal of asbestos and during the loadout of asbestos waste from the waste loadout decon. Additionally, this respirator may be worn during disposal at the landfill. Filters for Air Purifying Respirators must be HEPA type with TC numbers (tested and certified) by NIOSH.

Protection Factors assigned to respirators are designed to ensure that employees do not exceed 0.01 fibers/cc exposure to asbestos inside the mask of the respirator. Maximum allowable concentrations for each allowed respirator type are listed below.

RESPIRATORY PROTECTION FACTOR:

<u>Respirator Type</u>	<u>Protection Factor</u>	<u>Maximum Concentration</u>
Air purifying: Negative pressure respirator High efficiency filter Half facepiece	10	0.1 f/cc
Powered Air Purifying (PAPR): Positive pressure respirator High efficiency filter Full facepiece	100	1.0 f/cc
Type "C" supplied air: Positive pressure respirator Pressure demand mode Full facepiece	1,000	10 f/cc
Type "C" supplied air: Positive pressure respirator Pressure demand mode Full facepiece Equipped with an auxiliary positive pressure Self-contained breathing apparatus (SCBA)	10,000	> 10 f/cc

AIR PURIFYING RESPIRATORS:

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

TYPE "C" RESPIRATOR:

Air Systems Monitor: Continuously monitor the air system operation including compressor operation, filter system operation, backup air capacity and all warning and monitoring devices at all times that system is in operation. The Contractor shall assign an individual, trained by manufacturer of the equipment in use, in the operation and maintenance of the system to provide this monitoring. Assign no other duties to this individual which will take him away from monitoring the air system.

EXTRA RESPIRATORS:

Provide on site one respirator of each type (PAPR, and Type C) for Owner's use in entering the Work Area.

Provide on site in a sealed bag at the entrance to the Decontamination Unit, two respirators of each type (PAPR and Type C) for use by emergency personnel. The respirators shall be readily visible, sealed in bags and labeled for "Emergency Use Only."

Preparation work performed prior to the disturbance or removal of asbestos may be performed in full body coveralls and using half-face air purifying respirators.

Loadout of waste and transportation to landfill can be performed in full body coveralls and using half face negative pressure respirators.

END OF SECTION - 01411

SECTION 01412 - WORKER PROTECTION - ASBESTOS ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

DESCRIPTION OF WORK:

This section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.

RELATED WORK SPECIFIED ELSEWHERE:

Respiratory Protection: is specified in Section 01411.

WORKER TRAINING:

All workers are to be accredited as Abatement Workers as required by the South Carolina Regulation 61-86.1 (revised). This training course or appropriate update should conform to this South Carolina Statute.

Train, in accordance with 29 CFR 1926, all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Include but do not limit the topics covered in the course to the following:

Methods of recognizing asbestos.

Health effects associated with asbestos.

Relationship between smoking and asbestos in producing lung cancer.

Nature of operations that could result in exposure to asbestos.

Importance of and instruction in the use of necessary protective. controls, practices and procedures to minimize exposure including:

- Engineering controls
- Work Practices
- Respirators
- Housekeeping procedures
- Hygiene facilities

Protective clothing
Decontamination procedures
Emergency procedures
Waste disposal procedures
Purpose, proper use, fitting, instructions, and limitations of respirators as required by 29 CFR 1910.134
Appropriate work practices for the work

The meaning of Asbestos Warning Signs

Requirements of medical surveillance program

Review of 29 CFR 1926 and South Carolina Asbestos Regulations

Pressure Differential Systems

Work practices including hands on or on-job training

Personal decontamination procedures

Air monitoring, personal and area

MEDICAL EXAMINATIONS:

Provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet OSHA requirements as set forth in 29 CFR 1926.1101 (M). In addition, provide an evaluation of the individual's ability to work in environments capable of producing heat stress in the worker. Provide name, address and telephone number of examining physician.

SUBMITTALS:

Before Start of Work: Submit the following to the Building Owner for review. Do not start work until these submittals are returned with Building Owner's action stamp indicating that the submittal is returned for unrestricted use.

South Carolina Regulation 61-86.1(revised): Submit copies of certificates from a SCDHEC/EPA-approved Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by this South Carolina Statute.

State and Local License: Submit evidence that all workers have been trained, certified and accredited as required by the South Carolina Department of Health and Environmental Control.

Certificate Worker Acknowledgement: Submit an original signed copy of the Certificate of Worker's Acknowledgement for each worker who is to be at the job site or enter the Work Area.

Report from Medical Examination: conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:

Name and Social Security Number

Physicians Written Opinion signed by the examining physician including at a minimum the following:

Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.

Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.

Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure and the synergistic effect of asbestos exposure and smoking.

Copy of information that was provided to physician in compliance with 29 CFR 1926.1101 (M).

Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.

Notarized Certifications: Submit certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

PART 2 - EQUIPMENT PROTECTIVE CLOTHING:

Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.

Footwear: Provide work boots/shoes with non-skid soles, and where required by OSHA, foot protectives, for all workers. Provide boots/shoes at no cost to workers. Do not allow boots/shoes to be removed from the Work Area for any reason, after being contaminated with asbestos-containing material. Decontaminate or dispose of boots/shoes as asbestos-contaminated waste at the end of the work.

Hard Hats: Provide head protectives (hard hats) as required by OSHA for all workers, and provide 4 spares for use by Owner, and Consultant. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury. Provide hard hats of type with plastic strap type suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work.

Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area and dispose of as asbestos-contaminated waste at the end of the work.

ADDITIONAL PROTECTIVE EQUIPMENT:

Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Consultant, and other authorized representatives and Emergency Personnel who may inspect the job site. Provide two (2) respirators and six (6) complete coveralls and, respirator filters. This includes two (2) Type C respirators and two (2) PAPR's specifically labeled "Emergency Use Only" and hung in a sealed bag at the entrance to the Decon.

PART 3 - EXECUTION

GENERAL:

Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.

Each time Work Area is entered remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

DECONTAMINATION PROCEDURES:

Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:

Type C Supplied Air or Powered Air-Purifying Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area:

When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.

Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required as a minimum:

Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.

With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.

Take a deep breath; hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.

Carefully wash facepiece of respirator inside and out.

If using PAPR: shut down in the following sequence, first cap inlets to filter cartridges, and then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this will short out and destroy the battery.

Shower completely with soap and water.

Rinse thoroughly.

Rinse shower room walls and floor prior to exit.

Proceed from shower to Changing Room and change into street clothes or into new disposable work items.

Within Work Area:

Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure previously described, and then dress in street clothes before entering the non-Work Areas of the building.

CERTIFICATE OF WORKER'S ACKNOWLEDGEMENT:

After each worker has been included in the Contractor's Respiratory Protection Program, completed the training program and medical examination, secure a fully executed copy of this form.

Employment Eligibility Verification (Form I-9):

After each worker has been included in the Contractor's Respiratory Protection Program, completed the training program and medical examination, secure a fully executed copy of this form.

END OF SECTION - 01412

SECTION 02020 - SUMMARY OF WORK - ASBESTOS ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings, general provisions of Contract, including General and Supplementary Conditions, and other Division-1 Specification Sections, apply to work of this section.

PROJECT NAME: Abatement of Various Asbestos Containing Materials Prior to Demo
University of SC Roundhouse & Annex
Columbia, South Carolina

ASBESTOS REMOVAL CONSULTANT:

Environmental Consulting Services, Inc.
736-D St. Andrews Road # 196
Columbia, SC 29210
Don Cobb SCDHEC Licensed Project Designer # 22082
803/772-1070

Specifications are dated August 27, 2012.

Contract Plans and Specifications: Indicate the work of the Contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Plans and Specifications include, but are not necessarily limited to the following:

Applicable codes and regulations.

Notices and permits.

Existing site conditions and restrictions on use of the site.

Alterations and coordination with existing work.

Work to be performed concurrently by separate contractors.

Alternates.

Pre-purchased subcontracts for the Contract, with subcontract amounts included in the Contract Sum.

Requirements for partial Owner occupancy prior to substantial completion of the Contract Work.

Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, Drawings, addenda and modifications to the Contract Documents issued subsequent to the initial printing of this 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.

PROJECT DESCRIPTION:

Environmental Consulting Services, Inc. was contacted by Ty Russell of the University of South Carolina to generate a site specific design specification for this project. It is our understanding that the asbestos inspection for this work was performed by USC personnel. (The “demo packets” for each building, along with PLM and TEM reports have been forwarded from USC to ECS, Inc. for their records.) ECS, Inc. will not be responsible for any discrepancies in sampling strategy, any difference in number of samples required by SCDHEC, results, square or linear footages determined by USC for this project, etc. It is our understanding that the results of this sampling will be provided by USC to project bidders. The estimated square or linear footage amounts that were provided to ECS, Inc. from USC are being included in this specification.

It will also be the responsibility of the Bidding Contractors and the awarded Abatement Contractor to perform a pre-construction visual inspection of all materials (and amounts) involved in the project. Any concerns or questions about conditions of materials must be brought to the attention of the Owner prior to the project beginning. Please note that in older buildings, floor tiles can be known to be more difficult to remove (due to age of facility, type and thickness of floor tiles, mastics, covered with carpet, voids in buildings, etc.). Some of the floor tiles and floor tile mastics in this facility may need to be removed in a friable manner.

USC Roundhouse:

According to the “demo packet” provided to ECS, Inc. by USC, the following asbestos containing materials are to be removed in this project (the amounts are approximates and must be confirmed by the bidding and awarded Contractors):

- 4 cf of exterior window glazing,
- 600 lf of gray HVAC duct mastic,
- 905.5 lf of TSI (interior) 6 inch line,
- 1,780.5 lf of TSI (interior) 4 inch line,
- 3,323 sf of 9” X 9” black floor tile and mastic (under carpet),
- 220 lf of TSI (orange line) in mechanical room,
- 200 lf of TSI (yellow line) in mechanical room,
- 250 lf of TSI (blue line) in mechanical room.

USC Roundhouse & Annex, Columbia, SC
Environmental Consulting Services, Inc.
August 27, 2012

USC Roundhouse Annex:

According to the “demo packet” provided to ECS, Inc. by USC, the following asbestos containing materials are to be removed in this project (the amounts are approximates and must be confirmed by the bidding and awarded Contractors):

- 350 lf of black HVAC duct mastic,
- <5,000 sf of 2’ X 2’ white ceiling tiles,
- 600 sf of ceiling textured spray in conference room,
- 1 cf of caulk (around door frames),
- 562 sf of 9”X 9” black floor tile and mastic (under carpet),
- 2,769 sf of residual black mastic under carpeting,
- 15 lf of TSI (above ceiling bulk head at safe room),
- 25 sf of safe door (back room), assumed positive.

For any friable removal procedures, the work for this project will also include: the installation of temporary work area enclosures, fully functional decontamination units, temporary facilities, the incorporation of a pressure differential air filtration system; any required protection for all operational electrical or mechanical systems located in the Work Area; and pre-cleaning and protection of any equipment or supplies located in the Work Area prior to enclosure. The work also includes: complete decontamination of the Work Areas after removal; encapsulation of all surfaces in the Work Area; Work Area clearance monitoring; and project closeout submittal documentation. Any variances for work procedures must be obtained by the Contractor from SCDHEC prior to the beginning of the project.

POTENTIAL ASBESTOS HAZARD:

The disturbance or dislocation of asbestos-containing materials may cause asbestos fibers to be released into the building’s atmosphere, thereby creating a potential health hazard to workmen and building occupants. Apprise all workers, supervisory personnel, subcontractors, and consultants who will be at the job site of the seriousness of the hazard and of proper work procedures which must be followed.

Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified asbestos-containing materials, take appropriate continuous measures as necessary to protect all building occupants from the potential hazard of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state, and local agencies.

STOP WORK:

If the Owner presents a written stop work order immediately and automatically stop all work. Do not recommence work until authorized in writing by Owner. The Owner's Consultant's stop work authority is limited to only situations that are immediately life threatening.

OWNER OCCUPANCY:

Full Owner Occupancy: The Owner will not occupy the construction area during abatement. Cooperate fully with the Owner or his Consultant during construction operations to minimize conflicts and to facilitate Owner's activities at adjoining areas. Perform the work so as not to interfere with the Owner's operations.

PART 2 - PRODUCTS: N/A

PART 3 - EXECUTION:

SUMMARY OF WORK:

NON-FRIABLE REMOVAL OF ASBESTOS-CONTAINING OR CONTAMINATED FLOOR TILE (UNDER CARPET):

Asbestos fibers in asphalt and vinyl floor tile, and vinyl sheet flooring are typically tightly bound and are not released under normal use. These materials are usually considered non-friable. However, even non-friable materials can be rendered friable under certain conditions. Sanding, grinding, cutting, or abrading asbestos containing floor tile or sheet flooring results in the emission of asbestos dust and/or fibers. Asbestos fibers can also be released if the tile or flooring is seriously damaged, or if the backing is dry scraped or sanded. When asbestos containing flooring materials have been or will be treated in this manner, both state and federal asbestos abatement regulations apply to their removal, with few exceptions.

If it can be reasonably anticipated that non-friable materials will be rendered friable during their removal, these materials must be considered friable from the beginning and treated as such (i.e. - containment, negative air, air monitoring, etc.).

It is possible to remove asbestos flooring materials without rendering it friable. If water will not otherwise damage the building or building surfaces, controlled flooding of the area will sometimes soak the tiles loose. Freezing asbestos containing tiles with pulverized dry ice has been used successfully in performance of non-friable removal. The freezing method causes the tiles to contract and break loose from the subfloor as they cool. NOTE: Should this method be used, the area must be well ventilated. Heating tiles, utilizing heat machines, can also result in achieving removal non-friably. Other alternate removal procedures must be first approved by the Building Owner and his Consultant.

During the course of this project, if it can be reasonably assumed that either of these methods can be used to perform removal of floor tiles in a non-friable form (based on the size of the area to be abated), the Contractor may do so. However, should tiles start to break up during this proposed method; all work shall stop, and the Contractor shall wait for direction from the Consultant and the Owner.

Grinding, sanding, abrading, or chipping the asbestos containing materials will not be allowed. Please note that when the carpeting is removed from this floor tile, if the floor tiles begin to break up, the removal must be stopped and a decision from the building owner as to whether non friable removal can continue to be performed will be made. All waste materials, whether removed in non-friable or friable form, must be containerized and disposed of properly as asbestos containing materials.

FRIABLE REMOVAL OF VINYL ASBESTOS-CONTAINING OR CONTAMINATED FLOOR TILE (UNDER CARPET):

The work for friable removal procedures will include: the installation temporary work area enclosures, visual barriers (if required), fully functional decontamination units, temporary facilities, the incorporation of a pressure differential air filtration system; any required protection for all operational electrical or mechanical systems located in the Work Area; the pre-cleaning and protection of any equipment or supplies located in the Work Area prior to enclosure, complete decontamination of the Work Areas after removal; encapsulation of all surfaces in the Work Area; Work Area clearance monitoring; and project closeout submittal documentation.

Following the approval of existing temporary enclosures by the Consultant, the Contractor shall remove asbestos containing floor tile and tile mastic from all floors within the Work Area(s). The Contractor shall wet down the floor tiles with a solution of amended water or an approved tile/mastic removal product. Begin removal at the loosest tile. It will be the Contractor's goal to remove individual tiles as complete a unit as possible to minimize fiber release. Begin the removal carefully, wedging a scraper into the seam of two adjoining tiles and gradually forcing the edge of one of the tiles up and away from the floor. Strive not to break off pieces of the tile, but to continue to force the remainder of the tile up by working the scraper beneath the tile and exerting both a forward pressure and a twisting action on the blade to separate the tile from the adhesive and the floor. If chipping is required to remove the tile, vacuum the area where the removal is taking place with HEPA equipped vacuums during the entire chipping process and keep the area wet at all times. Place whole and pieces of removed tiles in approved six (6) mil polyethylene disposal bags.

If tile material is removed in a friable form, it must be placed in a container that the sharp broken edges cannot penetrate (i.e. - a poly-lined fiber, plastic, or metal drum; or placed in a six (6) mil poly-lined paperboard box, sealed with duct tape, and then placed inside an asbestos disposal bag).

MASTIC REMOVAL:

Removal of asbestos-containing mastic and/or baseboard adhesive shall be performed using an approved adhesive/mastic removal product. Apply this removal product and allow time for penetration in accordance with the Manufacturer's recommendations, then remove with a combination of hand scraping and rubbing or as otherwise recommended by the Manufacturer. Deposit all scrapings into properly labeled six (6) mil polyethylene disposal bags. Throughout the entire application and use of the adhesive/mastic remover, provide sufficient ventilation to insure the protection of workers in the Work Area, and building occupants in any adjacent areas of the building, from irritant fumes and vapors.

If the removal product that is used during floor tile/mastic abatement contains a solvent, then the Contractor shall ensure that either the solvent is safe to use without a chemical/organic filter cartridge (provide correct MSDS to Consultant) or the Contractor shall require that workers utilize, at a minimum, a half-face dual cartridge respirator that is equipped with a filter appropriate for the solvent(s) used. Removal solvents utilized can be of a citrus based type or low odor solvents such as Sentinel 7400, or an approved equivalent.

REMOVAL OF ASBESTOS CONTAINING PIPING INSULATION AND/OR HARD JOINTS:

The Contractor may decide to use a negative air enclosure to remove TSI and hard joints from specific areas of the building or may opt to use the glovebag method.

Glovebag - Glovebags are generally 40" wide X 64" long bags that have been fitted with arms through which the abatement work can be performed. When properly installed and used, they permit the Contractor's workers to remain completely isolated from the asbestos material being removed, and provide a flexible, easily installed, and quickly dismantled temporary Work Area enclosure.

Materials required for these procedures:

- * Duct tape
- * Amended water
- * Airless sprayer
- * Bridging encapsulant
- * Lockdown encapsulant
- * Razor knives, nips, wire brushes (brass or nylon only)
- * HEPA filtered vacuum
- * Minimum half-face for respiratory protection
- * Disposable coveralls (full body - including head and foot coverings)

Glovebag Work Practices:

Glovebags must be installed so that they completely cover the pipe (or other structure) where asbestos work is being performed. Inspect the glovebag for defects prior to installation. Glovebags are installed by cutting the sides of the glovebag to appropriately fit the size of the pipe or other structure from which asbestos materials are being removed. Attach the glovebag to the pipe or structure by folding the open edges together and sealing them with duct tape. All openings in the glovebag must be sealed with duct tape. When performing piping insulation removal or other abatement, reinforce the bottom seam of the glovebag with duct tape so as to prevent any leakage from the bag that may result from a defect in the bottom seam.

The Contractor's worker performing the asbestos removal utilizing the glovebag must don, at a minimum, a dual cartridge half face respirator equipped with HEPA filter cartridges. The Contractor's employee must have protective clothing and respiratory protection on prior to attaching the glovebag to the area of removal.

Once the glovebag has been properly attached to the Work Area, the Owner's Consultant shall smoke-test the bag to assure that all openings have been properly sealed.

Pre-wet the material to be removed with an airless sprayer, utilizing an approved wetting agent. Once the asbestos material has been thoroughly wetted, it can be removed from the pipe or other surface. Carefully cut into the asbestos material to be removed, and as the material is being cut, ensure that it generates as little dust as possible. If visible emissions inside the bag are observed, respray with a wetting agent. Additionally, as the asbestos material is pulled away from the substrate, the wetting agent must be used to spray any layer of dry material that is exposed as the material is removed.

After removal of the layer of asbestos containing material from the substrate to which it is applied, the surface exposed must be thoroughly cleaned with a wire brush (brass or nylon only), and wet wiped with a wetting agent until no traces of the asbestos containing material can be observed.

Any asbestos containing insulation or material edges that have been exposed as a result of this removal procedure must be encapsulated with a bridging encapsulant or wettable cloth (if remaining in place), or sealed with duct tape (if the structure is being removed as a whole section) to ensure that the edges do not release asbestos fibers to the atmosphere of the building once the glovebag is removed. At the completion of the asbestos removal, a vacuum hose from a HEPA filtered vacuum (previously inserted and sealed), will be used to remove any air in the bag that may contain asbestos fibers. Once the air has been evacuated from the bag, the bag should be squeezed tightly (as close to the top as possible), twisted and sealed with duct tape to assure that all asbestos materials removed remain in the bottom of the bag. The HEPA vacuum nozzle can now be removed from the bag, and the glovebag itself can be removed from the Work Area(s) and disposed of properly.

REMOVAL OF ASBESTOS CONTAINING VAPOR BARRIER MASTIC ON HVAC DUCTWORK INSULATION:

The following procedure may be used to remove the asbestos contaminated insulation if the ductwork is not going to be removed with the insulation.

Workers shall don appropriate protective clothing, and respiratory protection before HEPA vacuuming, and/or wet-wiping the insulation exterior surface. Using a sharp razor knife, cut an incision along the circumference of the ductwork on the non-contaminated areas (either side of the black mastic contaminant) of the insulation. Carefully make a continuous lateral slice through the ductwork insulation and black mastic material (a horizontal cut if the ductwork is running horizontal or a vertical cut if the ductwork is running vertically).

Carefully roll the insulation backwards onto itself until all material has been peeled away in one piece. Immediately place material into a properly labeled clear six (6) mil polyethylene disposal bag, and secure with duct tape. HEPA vacuum and wet wipe exposed duct prior to the application of an approved lockdown encapsulant. Remove properly labeled and containerized waste materials to the disposal vehicle.

Removal of the ductwork with the insulation in place:

Workers shall don protective clothing and respiratory protection prior to performing prepwork. Prepwork will be as follows:

HEPA vacuum and/or wet-wipe insulation exterior finish prior to the application of one (1) layer of clear six (6) mil polyethylene sheeting. Ensure that seams are off-set during the application of the poly, and taped securely with duct tape. Utilizing the optical clearness of the poly, locate two areas (one on either side of the black mastic material), and cut through the HVAC ductwork insulation (non-asbestos containing) and slide insulation back to expose metal duct. Prior to cutting duct, securely tape both areas where the poly and insulation has been cut directly to the metal ductwork. Make cuts through metal ductwork, and carefully lower the severed piece of ductwork to the floor. Inspect to ensure that poly covering is securely taped. Apply a second layer of six (6) mil poly, sealed with duct tape, appropriate labeling, and dispose of entire unit as asbestos containing waste material.

REMOVAL OF SHEETROCK CEILINGS WITH SPRAY-APPLIED TEXTURE:

Remove all items that can be easily decontaminated from ceilings, decontaminate, and dispose of as conventional waste or turn over to Owner as directed. Cut completely through all gypsum wall board ceilings on each side of the ceiling on a horizontal line and also make vertical cuts. Mist these panels with amended water before containerizing the material as asbestos containing and contaminated waste. The Contractor may elect to make additional horizontal or vertical cuts to create smaller size panels. Ceiling supports shall remain in place but must be decontaminated. NOTE: Because certain areas during preparation (establishing poly barriers on the exterior side of framing support system) may have been inaccessible to apply poly, the Contractor shall immediately seal any voids in the containment system should they be discovered as the drywall material is removed. This must be performed any time a void in the containment is discovered during removal before removal can continue, in order to maintain the integrity of the pressure differential system.

ABATEMENT PROCEDURE: CEILING TILES:

Establish the regulated area using approved signage and barrier tape, along with the installation of critical seals. Pre-clean the work area utilizing wet wiping and HEPA vacuuming. Establish other critical barriers on windows, doors, lights, switches, and other openings to the work area.

Upon completion of the NESHAP required negative air enclosure, pre-wet and carefully lift each ceiling tile and immediately place into a six (6) mil disposal bag. After finishing the ceiling tile removal, HEPA vacuum the remaining suspension grid and wet-wipe. HEPA vacuum and wet wipe any remaining ceiling tile debris in the area and surfaces above the ceiling grid.

Wet Removal: Adequately wet to satisfaction of the Consultant, Asbestos-Containing Materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Perforate outer covering of any ceilings which has been painted in order to allow penetration of amended water or removal encapsulant, or use injection equipment to wet material under the covering. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

Removal of Asbestos Containing Window Glazing:

Window glazing may be removed from the frames of the windows and properly disposed of (or the entire window unit can be removed and wrapped in two layers of six mil poly and disposed of as a unit).

Removal of Safe Door:

The safe door can be removed intact. After the Contractor removes the door, he shall wrap it in two (2) layers of six (6) mil poly, sealed with duct tape. Apply proper labeling and dispose of as asbestos containing waste.

Caulk (around door frames):

The Contractor may remove door frames with caulking intact or he can use knives or other tools to scrape the sealant from the door frame. Any caulk scrapings must be placed in a six (6) mil poly asbestos disposal bag, sealed with duct tape prior to proper disposal.

WORKER PROTECTION:

Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

Restrict Access: Maintain existing access restrictions to areas with active electrical equipment. Allow access to area only to qualified tradespersons with prior experience in the installation and repair of involved equipment.

Personnel: Work on active electrical equipment is to be performed by qualified tradespersons with prior experience in the installation or repair of the involved equipment. Restrict access to electrical equipment.

Electrical Isolation: Cover exposed conductors with a minimum 1/8" thick neoprene blanket draped over the conductor and surrounding area.

Protective Equipment: Provide workers working on or in the vicinity of active electrical with appropriate protective equipment including insulating gloves, boots, and non-conductive tools.

Conduit: Decontaminate all electrical circuit conduit.

Dispose of all asbestos containing material (ACM) and asbestos contaminated waste material (ACWM) removed from the enclosed Work Area(s).

Decontaminate the enclosed Work Area(s). Encapsulate the enclosed Work Area(s).

Perform and satisfactorily obtain Work Area clearance monitoring (if required).

Disassemble and remove any temporary work platform(s), primary and critical barriers, temporary physical barriers, decontamination units, and pressure differential systems.

Perform any final cleaning as required by the Owner.

CONTRACTOR USE OF PREMISES:

General: The Contractor shall limit his use of the premises to the work indicated.

Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.

Keep existing driveways and entrances serving the premises clear and available to the Owner and his employees at all times. Do not use these areas for parking or storage of materials.

Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated. If additional storage is necessary obtain and pay for such storage off site.

Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place or accessible to unauthorized persons.

Keep public areas such as hallways, stairs, and toilet rooms free from accumulation of waste, rubbish or construction debris.

Smoking or open fires will not be permitted on the premises.

Use of existing toilets within the complex by the Contractor and his personnel may not be possible. The Contractor must be prepared to supply portable toilets. Areas will be designated by the Owner for portable toilets.

Worker will dress accordingly when not in asbestos removal garb. No short pants or sleeveless shirts (tank tops) are allowed. No interaction with onsite personnel will be allowed. No vulgar gestures or language will be allowed.

END OF SECTION 02020

SECTION 02025 - TEMPORARY FACILITIES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-2 Specification Sections, apply to work of this section.

DESCRIPTION OF REQUIREMENTS:

General: Provide temporary connection to existing building utilities or provide temporary facilities as required herein or as necessary to carry out the work.

SUBMITTALS

Before the Start of Work: Submit the following to the Building Owner for review. Begin no work until these submittals are returned with Building Owner's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

Decontamination Unit Sub-panel: Submit product data.

Ground Fault Circuit Interrupters (GFCI): Submit product data.

Lamps and Light Fixtures: Submit product data.

Fire Extinguishers: Provide product data. Submit schedule indicating number of fire extinguishers and location at job site.

PART 2 - PRODUCTS

MATERIALS AND EQUIPMENT:

General: Provide new or used materials and equipment that are undamaged and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.

WATER SERVICE:

Temporary Water Service Connection: All connections to the Owner's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade.

Water Hoses: Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.

Hot Water: may be secured from the building hot water system, provided backflow protection is installed at point of connection as described in this section under Temporary Water Service connection, and if authorized in writing by the Owner. If building hot water system is inaccessible, the Contractor shall provide a hot water heater capable of servicing the number of employees on the project for any given shift.

FIRST AID:

For First Aid Attention Contact: Dial 911 for access.

FIRE EXTINGUISHERS:

Fire Extinguishers: Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case.

PART 3 - EXECUTION
INSTALLATION - GENERAL:

General: Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.

Require that tradesmen accomplishing this work be licensed as required by local authority for the work performed.

Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.

WATER SERVICE:

General: Water connection (without charge) to Owner's existing potable water system is limited to one 3/4" pipe-size connection, and a maximum flow of 10 gpm each to hot and cold water supply. The Owner will provide hook-ups for water (source only). Hot water shall be supplied at a minimum temperature of 100 F. Supply hot and cold water to the Decontamination Unit that is

adjustable at the water tap in the shower:

Maintain hose connections and outlet valves in leakproof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pans as it accumulates.

ELECTRICAL SERVICE:

General: Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work.

The Contractor Shall:

Lockout/Tagout: To or through the work area as described below. Unless specifically noted otherwise existing power and lighting circuits to the Work Area are not to be used. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary generator(s) and electrical panel(s) described below. Ensure all requirements of 29 CFR 1910.147 "Lockout/Tagout" are followed.

Lockout power to Work Area by switching off all breakers serving power or lighting circuits in work area. Tag and label breakers with tag tied to breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of Contractor's Superintendent or Owner's designated Representative.

Lockout power to circuits running through Work Area wherever possible by switching off all breakers serving these circuits. Tag and label breakers with tag tied to breaker with notation "DANGER circuit being worked on". Sign and date danger tag. Lock panel and supply keys to Contractor, Owner and Owner's Representative. If circuits cannot be shut down for any reason, label at intervals 4'-0" on center with tags reading, "DANGER live electric circuit. Electrocution hazard."

Temporary Electrical Panel: Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the work. Connect temporary panel to existing electrical supply. Protect with circuit breaker or fused disconnect. Locate temporary panel as directed by Owner or Owner's Consultant.

Power Distribution System: Provide circuits of adequate size and proper characteristics for each use. In general run wiring overhead, and rise vertically where wiring will be at least exposed to damage from construction operations.

Temporary Electrical Panel: Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the work. Connect temporary panel to existing electrical supply. Protect with circuit breaker or fused disconnect.

THE CONTRACTOR SHALL PROVIDE:

Power Distribution System:

Portable Electrical Generator(s): Of sufficient size to provide necessary electrical requirements (if required).

Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel. Do not use outlet type GFCI devices.

Temporary Wiring: in the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide liquid tight enclosures or boxes for wiring devices.

Number of Branch Circuits: Provide sufficient branch circuits as required by the work. All branch circuits are to originate at temporary electrical panel. At minimum provide the following:

One Circuit for each HEPA filtered fan unit

For power tools and task lighting, provide one temporary 4-gang outlet in the following locations. Provide a separate 110-120 Volt, 20 Amp circuit for each 4-gang outlet (4 outlets per circuit).

One outlet in the work area for each 2000 square feet of work area

One outlet at each decontamination unit, located in equipment room

110-120 volt 20 amp branch circuits with 4-gang outlet for Air Sampling Firm's exclusive use while conducting air sampling during the work as follows:

One in each work area

One at clean side of each Decontamination Unit.

One at each exhaust location for HEPA filtered fan units.

110-120 volt 20 amp branch circuits with 4-gang outlet for Air Monitoring Firm's exclusive use for conducting final air sampling.

Five inside work area.

Two outside work area in location designated by the Consultant.

TEMPORARY LIGHTING:

Unless specifically noted otherwise existing lighting circuits to the Work Area are not to be used. All lighting to the Work Area and Decontamination facilities is to be provided from temporary electrical panel described above.

Provide the following or equivalent where natural lighting or existing building lighting does not meet the required light level:

One 200-watt incandescent lamp per 1000 square feet of floor area, uniformly distributed, for general construction lighting, or equivalent illumination of a similar nature. In corridors and similar traffic areas provide one 100-watt incandescent lamp every 50 feet. At ladder runs, provide one lamp minimum per story, located to illuminate each landing and flight. Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting.

Provide lighting in areas where work is being performed as required to supply a 100 footcandle minimum light level. Consultant will monitor illumination levels with a photometer throughout the project.

Provide lighting in any area being subjected to a visual inspection as required to supply a 150 footcandle minimum light level.

Provide lighting in the Decontamination Unit(s) [personnel and waste loadout] as required to supply a minimum of 10 footcandle light level.

Number of Lighting Circuits: Provide sufficient lighting circuits as required by the work. All lighting circuits are to originate at temporary electrical panel.

Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.

END OF SECTION - 02025

SECTION 02030 - TEMPORARY ENCLOSURES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-2 Specification Sections, apply to work of this section.

SUBMITTALS:

Before Start of Work submit the following to the Building Owner for review. Do not begin work until these submittals are returned with the Building Owner's action stamp indicating that the submittal is returned for unrestricted use.

Spray Cement: Submit following:

Product description including major components and solvents.

Manufacturer's installation instructions. Indicate portions applicable to the project.

Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for spray cement material proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

Signs: Submit samples of signs to be used.

PART 2 - PRODUCTS

Polyethylene Sheet: Provide six (6) or four (4) mil polyethylene film as indicated. Provide largest size possible to minimize seams, six (6) or four (4) mils thick as indicated, frosted or black as indicated.

Reinforced Polyethylene Sheet: Provide single reinforced first run translucent polyethylene sheeting in the largest sheet size possible to minimize seams; four (4) mil, six (6) mil, or ten (10) mil thick - frosted, black, or opaque.

Framing: Framing of any and all barriers and enclosures shall be of conventional wood framing - any grade, any species.

Wall Studs: 2 X 4 wood studs - any grade, any species.

MISCELLANEOUS MATERIALS:

Caulk: Provide silicone caulking (if required). Siliconized caulking is unacceptable.

Fire-Stop Sealant: Provide a U.L. approved fire-stop sealant with a class I rating, a flame spread of 25 or less, and a smoke density of 450 or less in accordance with Flammability Test ASTM E84. Provide a fire-stop sealant that is an acceptable product to be left in place in the most recent Fill, Void, or Cavity Materials Sections of the U.L. Fire Resistant Directory.

Foams: Insta-Foam, Type IFS - RTV Foam
Dow Corning, 3-6548 Silicone RTV Foam
General Electric, Type RTV 800, 850, and 851 Silicone Foam

Putty: American Vamag, Type FRP-1 Putty
3M, Fire Barrier Caulk CP-25 and Putty 303
Minnesota Mining, Type CP-25 S/L and N/S Caulks, Type MP Putty

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

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

Material Safety Data Sheets: Are required for all chemicals, foams, putties, caulks, etc.

PART 3 - EXECUTION

SEQUENCE OF WORK:

Carry out work of this section sequentially. Complete each activity before proceeding to the next.

GENERAL:

Work Area: The location where asbestos abatement work occurs. It is a variable of the extent of work of the Contract. It may be a portion of a room, a single room, or a complex of rooms. A "Work Area" is considered contaminated during the work, and must be isolated from the balance of the building, and decontaminated at the completion of the asbestos-control work.

Completely isolate the Work Area from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the procedures indicated in Section 02090. Perform all such required cleaning or decontamination at no additional cost to owner.

Place all tools, scaffolding, staging, etc. necessary for the work in the area to be isolated prior to completion of Work Area isolation.

Remove and preclean equipment, and/or supplies from the Work Area before commencing work, or completely cover with two (2) layers of polyethylene sheeting, at least 6 mil in thickness, securely taped in place with duct tape. Such equipment shall be considered outside the work area unless covering plastic or seal is breached.

EMERGENCY EXITS:

Provide emergency exits and emergency lighting as set forth below:

Emergency Exits: At each existing personnel decon and waste load out, display, on the work area side, a sign that reads:

EMERGENCY EXIT - Red Letters

**IN CASE OF LIFE THREATENING EMERGENCY, EXIT IMMEDIATELY -
Black Letters**

If power failure occurs and temporary lighting is lost, workers are to remain still until power can be restored or emergency lighting is provided to allow egress from the work area. Note: Workers remain in Work Area only if the situation is not life threatening (Life threatening is considered to be a fire or heart attack or similar emergency).

CONTROL ACCESS:

Isolate the Work Area to prevent entry by building occupants into Work Area or surrounding controlled areas. Accomplish isolation by the following:

Do not obstruct doors required for emergency exits from Work Area or from building.

Locked Access: Arrange Work Area so that the only access into Work Area is through lockable doors to personnel and equipment decontamination units.

Install temporary doors with hasps and padlocks that are lockable from the outside and always unlocked and operable from the inside.

Provide one key for each padlock to Owner and the Consultant, and maintain one key in clean room of decontamination unit (3 total).

Install on second poly-flap at entrance towards Work Area in Decon the following sign that reads:

LEGEND

DANGER
ASBESTOS
AUTHORIZED PERSONNEL ONLY
CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

All signs must be printed in English and Spanish.

Provide spacing between respective lines at least equal to the height of the respective upper line.

ALTERNATE METHODS OF ENCLOSURE:

Alternate methods of containing the Work Area may be submitted to the Consultant for approval in accordance with procedures set forth in Section 01100 Product Substitution. Do not proceed with any such method(s) without prior written approval of the Owner and Consultant.

TEMPORARY PHYSICAL BARRIERS:

Access to the Work Area shall be permitted only through the Personnel Decontamination Unit. Completely separate the Work Area enclosure from other areas of the building and the outside by installing temporary physical barriers at all doorways, or other openings in the Work Area. Seal all seams in these barriers with silicone caulk.

Permit access to the Work Area only through the personnel decontamination unit. Completely separate the Work Area from other portions of the building and the outside by installing temporary physical barriers at all doorways, elevators, and other openings into the Work Area, as designated on the drawings. Seal all seams in barriers airtight with silicone caulking.

CRITICAL BARRIERS:

Decontaminate and individually seal all equipment such as, but not limited to: electrical control panels, conduit joints, junction boxes (inside and outside), disconnect switches, and other equipment designated to remain with two layers of six (6) mil polyethylene sheeting and/or duct tape critical barrier.

At the Contractor's option, un-insulated piping, valves, fittings, electrical conduits designated to remain, hangers, etc. shall be cleaned and covered with one (1) layer of six (6) mil polyethylene and/or duct tape prior to abatement or left unprotected during abatement. All such unprotected items shall be thoroughly decontaminated at the completion of removal activities.

END OF SECTION - 02030

SECTION 02040-PRESSURE DIFFERENTIAL SYSTEM

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-2 Specification Sections, apply to work of this section.

MONITORING:

Continuously monitor and record the pressure differential between the Work Area and the building outside of the Work Area with a monitoring device incorporating a continuous recorder (e.g. strip chart). The Air Monitor for the Owner will read and record the pressure differential four (4) times during each work shift as required by SCDEHEC.

SUBMITTALS:

The Contractor shall submit data on Manometers utilized to monitor pressure differential at Personnel and Equipment Decontamination Units. Differential pressure meters (Manometers) shall be equipped with a continuous recorder. Manometers shall be equipped with a warning buzzer which will sound if pressure differential drops below -0.02" of water. Submit Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of Work Area (Section 02040).

On a weekly basis: Submit printout from pressure differential monitoring equipment. Mark printout with date and start of time for each day. Use printout paper that indicates elapsed time in intervals no greater than hours. Indicate on each day's record times of starting and stopping abatement work, type of work in progress, breaks for lunch or other purposes, periods of stop work, and filter changes. Cut printout into segments by day, attach to 8 1/2" by 11" paper. Label with project name, contractors name and date.

The Contractor shall submit data on HEPA filtered fan units. Collect Product Data into a single submittal. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings".

Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:

- Manufacturer's printed recommendations.
- Compliance with recognized trade association standards.

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Compliance with recognized testing agency standards.
Application of testing agency labels and seals.
Notation of dimensions verified by field measurement.
Notation of coordination requirements.

PART 2 - PRODUCTS:

HEPA FILTERED FAN UNITS:

General: Supply the required number of HEPA filtered fan units to the site in accordance with these specifications. Use units that meet the following requirements.

Cabinet: Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches to fit through standard-size doorways. Provide units whose cabinets are:

Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance

Arranged to provide access to and replacement of all air filters from intake end

Mounted on casters or wheels

Fans: Rate capacity of fan according to usable air-moving capacity under actual operating conditions.

HEPA Filters: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame. All units will have new (unused) HEPA filters installed prior to incorporation into containment.

Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal.

Provide new (unused) HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.

Provide filters that are marked with: the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

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Prefilters, which protect the HEPA filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of prefiltration are required. Provide units with the following prefilters:

First-stage prefilter: low-efficiency type (e.g., for particles 100 um and larger)

Second-stage (or intermediate) filter: medium efficiency (eg. effective for particles down to 5 um)

Provide units with prefilters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.

Instrumentation: Provide units equipped with:

Magnehelic gauge to measure the static pressure drop across filters and indicate when filter has become loaded and needs to be changed

A table indicating the usable air-handling capacity for various static pressure readings on the Magnehelic gauge affixed near the gauge for reference, or the Magnehelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) air delivery at that point

Elapsed time meter to show the total accumulated hours of operation

Safety and Warning Devices: Provide units with the following safety and warning devices:

Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter

Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter of

Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red)

Audible alarm if unit shuts down due to operation of safety systems

Electrical components: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.

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Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

Manufacturer: Subject to compliance with requirements, provide products of the following: (Or Approved Equal)

Critical Systems "Honker 18K"
5815 Gulf Freeway
Houston, Texas 77023

Aerospace America, Inc. "Aero-Clean 2000"
900 Truman Parkway
P.O. Box 189
Bay City, Michigan 48707

Asbestos Control Technology, Inc. "Micro-Trap"
P.O. Box 183
Maple Shade, NJ 08052

Control Resource Systems, Inc. "Hog" 2000
670 Mariner Drive
Michigan City, Indiana 46360

Global Consumer Services, Inc. "Red Baron"
1721 N. Highland Avenue
Los Angeles, CA 90028

Tri-Dim Filter Corporation "ACCU-2M"
1431 West Lake Street
Chicago, Illinois 60607

PART 3 - EXECUTION

PRESSURE DIFFERENTIAL ISOLATION

Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.

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Relative Pressure in Work Area: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. The Contractor shall provide Manometers to measure pressure differential in the Work Area from the areas outside the Work Area. One Manometer required per work area. Also provide one backup Manometer. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of:

-0.02 inches of water.

Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work Area. Determine the number of units required for pressure isolation by the following procedure:

Establish required air circulation in the work area, personnel and equipment decontamination units.

Establish isolation by increased pressure in adjacent areas or as part of seals where required.

Exhaust a sufficient number of units from the work area to develop the required pressure differential and required four (4) air changes per hour.

The required number of units is the number determined plus one additional unit per six units as a backup during filter change or unit breakdown.

HEPA units may be piggy-backed to allow proper number of units required so as to maintain adequate working space in the containment. Place one 2k unit on top of another unit and exhaust either separately or together with the use of a sheet metal "Y" connector. Ensure that single outlet of "Y" connector is large enough in diameter to permit exhaust without causing back pressure to piggy-backed units. This restriction or back pressure could cause unit shutdown.

Mount units to exhaust directly or through disposable ductwork.

Use only new ductwork except for sheet metal connections and elbows.

Use ductwork and fittings of same diameter or larger than discharge connection on fan unit.

Use inflatable, disposable plastic ductwork in lengths not greater than 100 feet.

Use spiral wire-reinforced flex duct in lengths not greater than 50 feet.

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Arrange exhaust as required to inflate duct to a rigidity sufficient to prevent flapping.

If direction of discharge from fan unit is not aligned with duct use sheet metal elbow to change direction. Use six feet of spiral wire reinforced flex duct after direction change.

AIR CIRCULATION IN THE WORK AREA:

Air Circulation: For purposes of this section air circulation refers to either the introduction of outside air to the Work Area or the circulation and cleaning of air within the Work Area.

Air circulation in the Work Area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the work area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in his worker protection program.

EXHAUST SYSTEM:

Pressure differential isolation and air circulation in the Work Area are to be accomplished by an exhaust system as described below.

Exhaust all units from the Work Area to meet air circulation requirements of this section.

Location of HEPA Filtered Fan Units: Locate fan unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.

Place End of Unit at an intake duct or its exhaust duct through an opening in the plastic barrier or wall covering. Seal plastic around the unit or duct with tape.

Decontamination Units: Arrange Work Area and decontamination units so that the majority of make up air comes through the Decontamination Units. Use only personnel or equipment Decontamination Unit at any time and seal the other so that make up air passes through unit in use.

HEPA Filtered Supplemental Makeup Air Inlets: Provide where required for proper air flow through the Work Area by making openings that allow air from outside the containment building into the Work Area. Cover with weighted flaps to reseal automatically if the pressure differential system should shut down for any reason. Spray flap and around opening with spray adhesive so that if flap closes meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry.

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AIR CIRCULATION IN DECONTAMINATION UNITS:

Air Circulation: Continuously maintain air circulation in Decontamination Units at same level as required for Work Area.

Air Movement: Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room.

USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM:

General: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of "Temporary Facilities." Do not use existing branch circuits to power fan units.

Testing the System: Test pressure differential system before any asbestos-containing material is wetted or removed. After the Work Area has been prepared, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system to the Consultant.

The Contractor Shall:

Demonstrate Condition of Equipment for each HEPA filtered fan unit and pressure differential monitoring equipment including proper operation of the following:

Squareness of HEPA Filter

Condition of Seals

Proper operation of all lights

Proper operation of automatic shut down if exhaust is blocked

Proper operation of alarms

Proper operation of magnehelic gauge

Proper operation and calibration on pressure monitoring equipment

Demonstrate Operation of the pressure differential system to the Consultant including, but not be limited to, the following:

Plastic barriers and sheeting move lightly in toward Work Area,

Curtain of decontamination units move lightly in toward Work Area,

There is a noticeable movement of air through the Decontamination Unit.

Use smoke tube to demonstrate air movement from Clean Room through Shower Room to Equipment Room.

Use smoke tubes to demonstrate a definite motion of air across all areas in which work is to be performed.

Use a differential pressure meter or manometer to demonstrate the required pressure differential at every barrier separating the Work Area from the balance of the building, equipment, and ductwork or outside.

Modify the Pressure Differential System as necessary to demonstrate successfully the above.

Use of System During Abatement Operations:

Start fan units before beginning work (before any asbestos-containing material is disturbed). After abatement has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the Work Area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.

Do not shut down air pressure differential system during lockdown encapsulation procedures, unless authorized by the Owner in writing. Supply sufficient pre-filters to allow frequent changes.

Start abatement work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement work seal all openings and do not resume until power is restored and fan units are operating again.

At completion of abatement work, allow fan units to run as specified under section 02090, to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the Work Area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during any abatement work.

Dismantling the System:

When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filter, decontaminate exterior of machine and seal intake to the machine with six (6) mil polyethylene. Remove and dispose of all HEPA filters as contaminated waste.

END OF SECTION - 02040

SECTION 02050- DECONTAMINATION UNITS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-2 Specification sections, apply to work of this section.

DESCRIPTION OF WORK:

Provide separate Personnel and Equipment Decontamination facilities as per requirements of this section. Require that the Personnel Decontamination Unit be the only means of ingress and egress for the Work Area. Require that all materials exit the Work Area through the Equipment Decontamination Unit. If personnel or equipment decontamination facilities are constructed inside the Work Area, they must be constructed to provide a load bearing capability of 100 pounds per square foot. The Contractor may submit alternative decon setups for approval by the Consultant. Do not use an alternative setup unless approved by the Consultant.

RELATED WORK SPECIFIED ELSEWHERE:

Refer to Section 02025 Temporary Facilities - Asbestos Abatement for electrical requirements and requirements relative to connection of decontamination facilities to building systems such as water, sewer, and electrical.

SUBMITTALS

Before the Start of Work: Submit the following to the Building Owner for review. Do not begin work until these submittals are returned with Building Owner's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

Shower Pan: Provide shop drawing.

Shower Walls: Provide product data.

Shower Head and Controls: Provide product data.

Filters: Provide product data and shop drawing of installation on decontamination unit.

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Hose Bib: Provide product data.

Shower Stall: for Wash Down Station provide product data and shop drawing showing and modifications.

Elastomeric membrane: Provide product data.

Lumber: Provide product data on fire resistance treatment (if required).

Sump Pump: Provide product data.

Signs: Submit samples of signs to be used.

PART 2 - PRODUCTS

Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, clear, frosted, or black.

G.E. - SCS 1000 Series Silicone Sealant: or approved equivalent.

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

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

Shower Pan: Provide one piece waterproof shower pan 4' x 8' by 6" deep. Fabricate from seamless fiberglass minimum 1/16" thick reinforced with wood, 18 ga. stainless or galvanized steel with welded seams, copper or lead with soldered seams, or a seamless liner of minimum 60 mil thick elastomeric membrane.

Shower Walls: Provide 8' long by approximately 7' high walls fabricated from rigid, impervious, waterproof material, either corrugated fiberglass roofing or equivalent. Structurally support as necessary for stability.

Shower Head and Controls: Provide a factory-made shower head producing a spray of water which can be adjusted for spray size and intensity. Feed shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.

Filters: Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter to sanitary sewer (no storm drains).

Primary Filter - Passes particles 20 microns and smaller

Secondary Filter - Passes particles 5 microns and smaller

Hose Bib: Provide heavy bronze angle type with wheel handle, vacuum breaker, and 3/4" National Standard male hose outlet.

Shower Stall: For Wash Down Station provide leak tight shower enclosure with integrated drain pan fabricated from fiberglass or other durable waterproof material, approximately 3' x 3' square with minimum 6' high sides and back. Structurally support as necessary for stability. Equip with hose bib, as specified in this section, mounted at approximately 4'-0" above drain pan. Connect drain to a reservoir, pump water from reservoir through filters to a drain or store and use for amended water. Mount filters inside shower stall on back wall beneath hose bib.

Lumber: Provide 2 X 4 wood studs of kiln dried lumber of any grade or species.

Plywood: Provide 1/2" thickness plywood sheathing. When specified, provide plywood that is labeled as meeting Standard 701 of the National Fire Protection Association.

Sump Pump: Provide totally submersible waterproof sump pump with integral float switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump. Adjust float switch so that a minimum of 3" remains between top of liquid and top of sump pan.

PART 3 - EXECUTION

PERSONNEL DECONTAMINATION UNIT:

Provide a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Clean Room, Shower Room, and Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through Personnel Decontamination Unit. Provide temporary lighting within Decontamination Units as necessary to reach a lighting level of 10 footcandles.

Changing Room (clean room): Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.

Exterior Decontamination Unit (if required)

Construct outer walls of entire Decon with minimum 1/2" plywood, any grade, and caulk adjoining edges with silicone based caulking to provide an airtight seal between the Decontamination Unit and the rest of the building. NOTE: Siliconized caulking is unacceptable. Line interior surfaces with 2 layers of six (6) mil poly. Provide 3 layers of clear six (6) mil poly on flooring surfaces.

Framework for outer walls shall be 2" x 4" studs any grade or species.

Locate so that access to Work Area from Changing Room is through Shower Room.

Separate Changing Room from the building exterior by a plywood doorway with a padlockable HASP on the exterior side with air louvers to permit inflow of air towards work area.

Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require Workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.

Maintain floor of changing room dry and clean at all times. Do not allow overflow water from shower to wet floor in changing room.

Damp wipe all surfaces twice after each shift change with a disinfectant solution.

Provide posted information for all emergency phone numbers and procedures.

Provide one storage locker per employee that is lockable with the name and social security number of the employee.

Provide two storage lockers that are lockable for visitors.

Airlock: Provide an airlock between Shower and Changing Room. This is a transit area for workers.

Separate access to this room from Shower and Changing Room by sheet plastic flapped doorways (6 mil). (Refer to drawings for proper configuration.)

Separate this room from the rest of the building with airtight walls fabricated of 1/2"

plywood and 2 layers of six (6) mil poly on interior surfaces. Provide 3 layers of clear six (6) mil poly on flooring surfaces.

Construct room by providing a pan continuous with or draining to Shower Room pan. Install a freely draining wooden or non-skid metal floor in pan at elevation of top of pan.

Shower Room: Provide a completely watertight operational shower to be used for transit by cleanly dressed workers heading for the Work Area from the Changing Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.

Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan. Install a freely draining wooden floor in shower pan at elevation of top of pan.

Separate this room from the rest of the building with airtight walls fabricated of 1/2" plywood with 2 layers of six (6) mil poly on interior surfaces.

Separate access to this room from the Airlock with sheet plastic flapped doorways. (Refer to drawings for proper configuration.)

Provide splash-proof entrances to the Airlock with doors arranged in the following configuration:

At each entrance to the Shower Room construct a door frame out of nominal 2" x 4" lumber with 3/4" jambs (sides) and 3/4" head (top) and sill (bottom). Attach to this door frame three fully overlapping flaps of six (6) mil polyethylene material, fastened at the head (top) and jambs (sides) (by clamping between a 1-1/2" x 3/4" batten and frame). All opposed flap door entrances shall be fully overlapped in a direction that presents a shingle-like configuration to the water stream from the shower. Overlap sill (bottom) by 1-1/2" minimum. Arrange so that any air movement out of the Work Area will cause the flaps to seal against the door frame.

Provide shower head and controls.

Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.

Provide a liquid soap dispenser and a continuous adequate supply of liquid soap and maintain in sanitary condition.

Arrange so that water from showering does not splash into the Changing or Equipment Rooms.

Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area.

Provide flexible hose shower head.

Inspect area around shower pan daily for indications of water leaks.

Pump waste water to sanitary sewer drain. Provide 20 micron and 5 micron waste water filters in line to drain. Change filters as required (filter loading). Locate filters inside shower unit so that water lost during filter changes is caught by shower pan.

Provide hose bib.

Airlock: Provide an airlock between Shower Room and Equipment Room. This is a transit area for workers.

Separate this room from the rest of the building with airtight walls fabricated of 1/2" plywood overlaid with 2 layers six mil on interior surfaces. Provide 3 layers of clear six (6) mil on flooring surfaces.

Separate access to this room from the Equipment Room and Shower Room with flapped doorways fabricated of six (6) mil polyethylene. Refer to drawings for proper configuration.)

Equipment Room (contaminated area): Require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.

Separate this room from the rest of the building with airtight walls fabricated of 1/2" plywood overlaid with six (6) mil poly, 2 layers on interior surfaces. Provide 3 layers of clear six (6) mil on flooring surfaces.

Separate access to this room from the Shower Room Airlock and Work Area with flapped doorways fabricated of 6 mil polyethylene. (Refer to drawings for proper configuration.)

Provide a drop cloth layer of sheet plastic on floor in the Equipment Room for every shift change expected. Roll drop cloth layer of plastic from Equipment Room into Work Area after each shift change. Replace before next shift change. Provide a minimum of three (3) layers of plastic at all times. Use only clear plastic to cover floors.

Work Area: Separate access to Work Area from the Equipment Room by three opposed polyethylene flaps, six (6) mil thickness. Damp wipe clean all surfaces after each shift change. Provide one additional floor layer of clear six (6) mil polyethylene per shift change and remove contaminated layer after each shift.

Decontamination Sequence: Require that all workers adhere to the following sequence when entering or leaving the Work Area.

Entering Work Area: Worker enters Changing Room and removes street clothing, puts on clean disposable overalls and respirator, and passes through the Shower Room into the Equipment Room.

Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.

Worker proceeds to Work Area.

Exiting Work Area:

Before leaving the Work Area, require the worker to remove all gross contamination and debris from overalls and feet.

The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.

Extra work clothing such as boots, hard hats, goggles, and gloves are to be stored in contaminated end of the Equipment Room.

Disposable coveralls are placed in a properly labeled six (6) mil polyethylene bag for disposal with other material.

After showering, the worker moves to the Changing Room and dresses in either new coveralls for another entry or street clothes if leaving.

EQUIPMENT DECONTAMINATION UNIT:

Provide an Equipment Decontamination Unit consisting of a serial arrangement of rooms, Clean Area, Holding Room, and Wash Room for removal of equipment and material from Work Area. Do not allow personnel to enter or exit Work Area through Equipment Decontamination Unit.

Arrange with airlocks between rooms as required below.

Wash Room: provide wash room for cleaning of bagged or containerized asbestos-containing waste materials passed from the Work Area.

Construct wash room of nominal 2" x 4 wood framing and 1/2" plywood, lined with clear six (6) mil polyethylene and located so that packaged materials, after being wiped clean, can be passed to the Holding Room.

Separate this room from the Work Area by a three-layered opposed flapped door of clear six (6) mil polyethylene sheeting.

Provide a drop cloth layer of plastic on floor in the Wash Room for every load-out operation. Roll this drop cloth layer of plastic from Wash Room into Work Area after each load-out. Provide a minimum of three (3) layers of plastic at all times. Use only clear plastic to cover floors.

Airlock: Provide an airlock between Wash Room and Holding Room. This is a transit area.

Separate access to this room from adjacent spaces by a sheet plastic flapped doorway.

Separate this room from the rest of the building and adjacent spaces with airtight walls fabricated of 1/2" plywood sheathing lined with six (6) mil polyethylene on interior surfaces. Provide 3 layers of clear six (6) mil poly on floor surfaces.

Holding Room: Provide Holding Room as a drop location for bagged asbestos-containing materials passed from the Wash Room. Construct Holding Room of nominal 2" x 4 wood framing and 1/2" plywood lined with 2 layers six (6) mil polyethylene and located so that bagged materials can be passed from the Wash Room through the Holding Room to the Clean Area.

Separate access to this room from the adjacent building area (Clean Area) by a plywood door with lockable hasp.

Decontamination Sequence: Take all equipment or material from the Work Area through the Equipment Decontamination Unit according to the following procedure:

At wash-down station, thoroughly wet clean contaminated equipment or sealed polyethylene bags and pass into Wash Room.

When passing equipment or containers into the Wash Room, close all doorways of the Equipment Decontamination Unit, other than the doorway between the Wash-down Station and the Wash Room. Keep all outside personnel clear of the Equipment Decontamination Unit.

Once inside the washroom, wet clean the bags and/or equipment. When cleaning is complete pass items into Holding Room. Close all doorways except the doorway between the Holding Room and building area.

Workers from the building (non-contained side) enter Holding Area and remove decontaminated equipment and/or containers for disposal.

Require these workers to wear full protective clothing and appropriate respiratory protection.

At no time is a worker from an uncontaminated area to enter the enclosure when a removal worker is inside.

CONSTRUCTION OF THE DECONTAMINATION UNITS:

Walls and Ceiling: Construct airtight walls and ceiling using 1/2" plywood sheathing. Attach to a temporary framework of 2" x 4" studs any grade or species. Caulk all adjoining edges with silicone based caulking. (Siliconized caulking is unacceptable).

Interior Surfaces: Line interior surfaces with two layers of six (6) mil polyethylene. Any decontamination unit (waste or personnel) constructed in the Work Area shall have a load bearing capability of 100 pounds per square foot.

Floors: Use 3 layers (minimum) of six (6) mil polyethylene sheeting to cover floors in all areas of the Decontamination Units. Use only clear plastic to cover floors.

Flap Doors: Fabricated from three (3) fully overlapping sheets with openings a minimum of three feet (3') wide. Configure so that sheeting overlaps adjacent surfaces. Weight sheets at bottoms as required so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of six feet (6') between entrance and exit of any room. Provide a minimum of three feet (3') between doors to airlocks.

Alternate methods of providing Decontamination facilities may be submitted to the Consultant for approval. Do not proceed with any such method(s) without authorization of the Consultant.

Electrical: Provide sub-panel at Changing Room to accommodate all removal equipment. Connect all electrical branch circuits in Decontamination unit and particularly any pumps in shower room to a ground-fault circuit protection device.

CLEANING OF DECONTAMINATION UNITS:

Clean debris and residue from inside of Decontamination Units on a daily basis or as otherwise indicated in Contract Specifications. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.

If the Changing Room of the Personnel Decontamination Unit becomes contaminated with asbestos-containing debris, abandon the entire

Decontamination Unit and erect a new Decontamination Unit. Use the former Changing Room as an inner section of the new Equipment Room.

SIGNS:

Post an approximately 20 inch by 14 inch plastic manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

Provide signs in both English and Spanish.

LEGEND

DANGER

ASBESTOS

AUTHORIZED PERSONNEL ONLY

**CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA**

Provide spacing between respective lines at least equal to the height of the respective upper line.

Post an approximately 10 inch by 14 inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following:

Provide signs in both English and Spanish.

LEGEND

NOTATION

NO FOOD, BEVERAGES OR TOBACCO PERMITTED

3/4" block

**ALL PERSONS SHALL DON PROTECTIVE
CLOTHING (COVERINGS) BEFORE
ENTERING THE WORK AREA**

3/4" block

**ALL PERSONS SHALL SHOWER IMMEDIATELY
AFTER LEAVING WORK AREA AND BEFORE
ENTERING THE CHANGING AREA**

3/4" block

END OF SECTION - 02050

SECTION 02081 - REMOVAL

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 2 Specification Sections, apply to work of this section.

RELATED WORK SPECIFIED ELSEWHERE:

Installation of Critical and Primary Barriers, and Work Area Isolation Procedures.

Project Decontamination procedures after removal of the Secondary Barrier are specified in Section 02090 Project Decontamination.

Disposal of asbestos-containing waste is specified in Section 02084 Disposal.

SUBMITTALS:

Before Start of Work: Submit the following to the Building Owner for review. Do not start work until these submittals are returned with Building Owner's action stamp indicating that the submittal is returned for unrestricted use.

Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.

Removal Encapsulant: Submit product data, use instructions and recommendations from manufacturer of removal encapsulant intended for use. Include data substantiating that material complies with requirements.

Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material and solvent proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated. Also submit material safety data sheet for type of asbestos in materials being abated on this project.

PART 2 - PRODUCTS:

Wetting Materials: For wetting prior to disturbance of Asbestos-Containing Materials use either amended water or a removal encapsulant:

Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.

Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos-Containing Material. Use a material which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.

Disposal Bags: Provide six (6) mil thick leak-tight polyethylene bags properly labeled as required by Section 02084 Disposal of Asbestos Containing Waste Material.

PART 3 - EXECUTION

WORKER PROTECTION:

Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

WET REMOVAL:

Adequately wet to satisfaction of the Consultant, Asbestos-Containing Materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Perforate outer covering of any insulation which has been painted and/or jacketed in order to allow penetration of amended water or removal encapsulant, or use injection equipment to wet material under the covering. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

Remove saturated Asbestos-Containing Material in small sections from all areas. Do not allow material to dry out, and do not allow ACM to drop to floor. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over (gooseneck) and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Material Decontamination Unit.

NOTE: Evacuate air from disposal bags with a HEPA filtered vacuum cleaner before sealing.

Restrict Access: Maintain existing access restrictions to areas with active electrical equipment. Allow access to area only to qualified tradespersons with prior experience in the installation and repair of involved equipment.

Personnel: Work on active electrical equipment is to be performed by qualified tradespersons with prior experience in the installation or repair of the involved equipment. Restrict access to electrical equipment.

Electrical Isolation: Cover exposed conductors with a minimum 1/8" thick neoprene blanket draped over the conductor and surrounding area.

Protective Equipment: Provide workers working on or in the vicinity of active electrical with appropriate protective equipment including insulating gloves, boots, and non-conductive tools.

Work Procedures: Perform removal work as per Sections 02040 and 02081.

END OF SECTION - 02081

SECTION 02090 - PROJECT DECONTAMINATION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-2 Specification Sections, apply to work of this section.

DESCRIPTION OF WORK:

Work of this section includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:

1. Primary and critical barriers erected by the work of Section 02030.
2. Pressure differential system installed by the work of Section 02040.
3. Decontamination unit erected by the work of Section 02050.

Work of this section includes the cleaning and decontamination of all surfaces of the Work Area, and all equipment in the Work Area.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION:

GENERAL:

Previous work: During completion of the asbestos abatement work specified in other sections, the secondary barrier of polyethylene sheeting will have been removed, and disposed of along with any gross debris generated by the asbestos abatement work.

Start of work: Work of this section begins with the cleaning of the primary barrier. At the start of work, the following will be in place:

Primary Barrier: One layer of four (4) mil polyethylene sheeting on walls.

Critical Barrier: Two layers of six (6) mil polyethylene sheeting over windows, doorways, floor drains, ventilation openings, equipment designated to remain, etc.

Physical Barriers: Any openings between the Work Area and the rest of the building or the outside, etc.

Decontamination Unit: In operating condition.

Pressure Differential System: In operation.

INITIAL CLEANING:

Carry out a cleaning of all surfaces in the Work Area including primary barriers on walls, equipment, piping, ductwork, etc.; exposed piping, electrical conduit, etc., by use of damp cleaning and mopping, and a High Efficiency Particulate Air (HEPA) filtered vacuum. Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces.

VISUAL INSPECTION:

Upon receipt of Contractor's request for inspection, the Consultant shall perform a complete visual inspection of the entire Work Area including: decontamination units, all plastic sheeting, seals over access door openings, piping and conduit, and other openings, looking for debris from any sources, residue on surfaces, dust or other matter. If any such debris, residue, dust or other matter is found, the Contractor shall repeat cleaning and continue decontamination procedures from that point.

ENCAPSULATION:

Upon approval of the Consultant, the Contractor shall perform encapsulation of all surfaces within the Work Area barriers in accordance with Section 02100. Maintain pressure differential system in operation during encapsulation work.

Wait a minimum of four (4) hours to allow encapsulant to dry and pressure differential machines to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of Work Area(s) during this period. Maintain pressure differential system in operation for the entire period.

CLEARANCE AIR MONITORING:

WORK AREA CLEARANCE (If required):

After the Work Area is found to be visually clean, air samples will be taken and analyzed in accordance with the procedure set forth in Section 02110.

If clearance release criteria are not met, repeat initial cleaning, visual inspection, and encapsulation procedures and clearance air sampling procedures at the Contractor's expense until satisfactory levels are achieved.

COMPLETION OF ABATEMENT WORK:

Prior to removal of pressure differential machines from the Work Area(s), remove and properly dispose of all prefilters; primary and secondary and HEPA filters, damp clean units completely inside and out; and wrap in a minimum of two (2) layers of six (6) mil polyethylene sheeting, (with all joints, seams, and overlaps sealed with duct tape).

Decontaminate and remove the decontamination unit, waste loadout, PDM baffle enclosures, critical barriers, all equipment, materials, and debris from the Work Area(s).

Dispose of all HEPA filters from HEPA vacuums and respirators as ACM.

Fulfill project closeout requirements of Section 02120.

END OF SECTION - 02090

SECTION 02100 - LOCKDOWN ENCAPSULATION OF RESIDUAL ASBESTOS FIBERS
FOLLOWING ABATEMENT

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 2 Specification Sections, apply to work of this section.

DESCRIPTION OF WORK:

The Extent of lockdown encapsulation work is shown on the drawings and as herein specified.

The work includes the sealing of all structural surfaces from which asbestos-containing have been removed with one (1) wet coat of lockdown encapsulant.

Lockdown encapsulant shall be made visible when dry through the use of a color identification lockdown encapsulant (blue in color).

SUBMITTALS:

Product Data: Submit manufacturer's technical information including label analysis and application instructions for each material proposed for use.

Installation Instructions: Submit manufacturer's installation instructions with specific project requirements noted.

Performance Warrantee: Submit manufacturer's performance guarantee.

Certification: Submit written approval of entity installing the encapsulant from encapsulant manufacturer.

Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant and encapsulating material proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

DELIVERY AND STORAGE:

Deliver materials to the job site in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:

- Name or title of material
- Manufacturer's stock number and date of manufacture
- Manufacturer's name
- Thinning instructions
- Application instructions
- Acceleration instructions (if any)
- Coloring instructions

JOB CONDITIONS:

Apply lockdown encapsulating materials only when environmental conditions in the work area are as required by the manufacturer's instructions.

QUALITY ASSURANCE:

Installation of Spray-On Lockdown Encapsulation Materials: Install spray-on materials by a firm and personnel approved by the manufacturer of the primary materials.

Testing: Test material to be encapsulated using methods set forth in ASTM Proposed Specification P-189 "Specification for Encapsulants for Friable Asbestos Containing Building Materials".

PART 2 - PRODUCTS

Encapsulants: Provide lockdown encapsulants specifically designed for application to substrates involved in the scope of work (shall be U.L. Listed).

Draft Standards: Product shall be rated as acceptable for use intended when field tested in accordance with ASTM Proposed Specification P-189 "Specification for Encapsulants for Friable Asbestos Containing Building Materials".

Fire Safety: Use only materials that have a non-flammable rating, when dry (shall be U.L. Listed).

MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

Manufacturer: Subject to compliance with requirements, provide the following:

Lockdown Encapsulants:

SELECT APPROPRIATE ENCAPSULANTS FROM THOSE RATED AS "ACCEPTABLE" WHEN TESTED UNDER THE PROCEDURES OF: "BATTELLE COLUMBUS LABORATORIES' TESTS FOR THE EVALUATION OF ENCAPSULANTS FOR FRIABLE ASBESTOS-CONTAINING MATERIALS." AN UPDATED LIST IS MAINTAINED BY THE EPA.

PART 3 - EXECUTION

GENERAL:

Do Not Commence Application of lockdown encapsulating materials until all removal work within the work area has been completed and a visual inspection of the work area has been approved.

WORKER PROTECTION:

Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

STRUCTURAL SUBSTRATES AND ASSOCIATED SURFACES:

Apply one (1) coat of lockdown encapsulant to the substrates after all Asbestos-Containing Materials have been removed. Apply in strict accordance with the manufacturer's printed instructions for use of the lockdown encapsulant. Any deviations from such printed instructions must be approved by the Owner's Consultant in writing prior to commencing work.

Apply lockdown encapsulant with an airless spray gun with air pressure and nozzle orifice as recommended by the encapsulant manufacturer.

SECTION 02110 - WORK AREA CLEARANCE

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division - 1 Specification Sections, apply to work of this section.

DESCRIPTION OF WORK: (If required):

This section sets forth the limits of the post-abatement airborne asbestos concentrations in the Work Area and describes testing procedures the Owner will use to measure these levels.

ANALYTICAL METHODS:

Phase Contrast Microscopy (PCM): Fibers on each filter will be analyzed using the OSHA Reference Method.

Transmission Electron Microscopy (TEM): Fibers on each filter will be measured using the AHERA Analysis Protocol (U.S. EPA 40 CFR Part 763, October 30, 1987) (if required).

CLEARANCE RELEASE CRITERIA:

The work for this project is complete when the Work Area is visually clean and airborne fiber concentrations for each of the samples collected within the Work Area do not exceed 0.010 fibers/cubic centimeters of air (f/cc) for PCM and 70 structures per square millimeter for TEM.

QUALITY ASSURANCE:

The services of a testing laboratory will be employed by the Owner to perform laboratory analysis of Clearance air samples.

PART 2 - PRODUCTS

SAMPLING CASSETTE:

PCM: Provide 25mm diameter sampling cassettes with conductive cowling and mixed cellulose ester (MCE) membranes. Cassettes will be factory loaded and manufactured by Millipore, Nucleopore, Environmental Monitoring Systems, or approved equal. Pore size shall be 0.8um.

TEM: Provide 25mm diameter sampling cassettes with conductive cowling and mixed cellulose ester (MCE) membranes. Cassettes will be factory loaded and manufactured by Millipore, Nucleopore, Environmental Monitoring Systems, or approved equal. Pore size shall be 0.45um.

SAMPLING PUMP:

Air sampling pumps shall be capable of creating a flow rate of 2.0 to 16.0 liters per minute, with flexible connecting tubing.

PART 3 - EXECUTION

GENERAL:

Pressure Differential System: The Pressure Differential System shall remain operational for the duration of sampling and until the Consultant instructs the Contractor that Clearance Release Criteria has been met.

Containment Barriers: Critical barriers on walls, floors, or ceilings shall remain in place during aggressive sampling and until the Clearance sampling and analysis has been completed and results meet Clearance criteria as specified under Section 2110 - ANALYTICAL METHODS.

Visual Inspection: Prior to aggressive Clearance procedures, the Work Area shall be inspected by the Consultant to ensure all asbestos has been removed, and the Work Area is visually clean.

Encapsulation Settling Period: Wait a sufficient amount of time so as to allow complete drying of encapsulation lockdown in the Work Area.

AGGRESSIVE AIR SAMPLING:

After the Area has passed a thorough visual inspection by the Consultant, aggressive sampling will be performed to dislodge any remaining dust. The Consultant will utilize the following methodology:

Prior to start of sampling pumps, the exhaust from forced air equipment (a leaf blower with at least a one horsepower rated electric motor) will be swept against all walls, ceilings, floors, ledges, and other surfaces of the Work Area. This procedure will be continued for five minutes per 10,000 cubic feet of room volume.

One 20-inch diameter fan per 10,000 cubic feet of room volume shall be mounted at a central location, approximately six (6) feet above the floor, directed toward the ceiling, and run continuously at low speed for the entire period of sample collection.

At the completion of air sampling, all samples shall be collected and pumps shall be shut off before the shutdown of the 20-inch fan(s).

Air samples shall be collected in areas subject to normal air circulation and away from room corners, obstructed locations, and sites near windows, doors, or vents.

SCHEDULE OF AIR SAMPLES:

The number of samples (TEM and PCM) collected shall be determined by the Owner and his Consultant based on removal area of this project

- * PCM - A minimum of five (5) PCM clearance samples shall be collected from each Work Area up to 25,000 square feet (per floor). An additional PCM sample shall be collected for each additional 5,000 square feet of area per Work Area.
- * TEM - A minimum of five (5) TEM clearance samples shall be collected for Work Area(s) up to 25,000 square feet. Five (5) TEM samples shall also be collected outside the Work Area(s) for possible Z Test comparison should Work Area samples fail. One (1) additional TEM sample shall be collected for each 5,000 square feet beyond the initial 25,000 square feet based on homogenous Work Area{s}. Include one (1) field blank from the Work Area, one (1) field blank from outside of the building, and one (1) sealed blank from the cassette lot utilized for this clearance.

Air volumes shall be sufficient enough so as to accurately determine fiber concentrations to 0.010 f/cc for PCM, or 0.005 s/cc for TEM. A minimum air volume of 1800 liters shall be collected for PCM (1,199 liters for TEM), and a maximum of 1800 liters for TEM analysis.

PCM and TEM samples shall be collected at a flow rate not to exceed ten (10) liters per minute.

RECLEANING:

If the airborne concentration of any of the Clearance air samples collected is above the Clearance level criteria specified in this Section, the decontamination is incomplete and it shall be required of the Contractor to reclean the Work Area. This will be followed by additional Clearance air sampling. The cost of resampling and analysis shall be borne by the Contractor.

END OF SECTION 02110

