

**SECTION 00 9115  
ADDENDUM NO. 3**

**PROJECT:** WESTSIDE ELEMENTARY SCHOOL  
CEDARTOWN, GEORGIA

**OWNER:** POLK COUNTY BOARD OF EDUCATION  
612 SOUTH COLLEGE STREET  
CEDARTOWN, GEORGIA, 30125

**ARCHITECT:** JAMES W. BUCKLEY & ASSOCIATES, INC.  
P.O. BOX 466, 423 PINE AVENUE  
ALBANY, GEORGIA, 31702  
PHONE (229)-883-4698, FAX (229)-883-0936

**DATE ISSUED:** MARCH 4, 2020

**BID DATE:** MARCH 10, 2020

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**NOTICE TO BIDDERS**

1. NOTICE

- A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract.
1. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda.
  2. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
- B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form. Failure to acknowledge receipt of addenda may, at the Owner's Option, subject the bidder to disqualification and subject the bid to rejection.

**RESPONSES TO GENERAL QUESTIONS**

1. QUESTIONS FROM BIDDERS:

- A. Question #1: Are bidders required be general contractors?
1. It is not the intent of the specifications to limit bidders to General Contractors.
  2. The specifications use the term 'General Contractor' and 'Roofer', in the context of this project, interchangeably.
  3. Bidders to have licenses appropriate for the work being performed.
- B. Question #2: Is an On-Site Temporary Office required?
1. A temporary office will not be required for this project.
- C. Question #3: Is overnight and Weekend Work allowed for this project:
1. Yes. The contractor will be permitted to work nights and weekends.
  2. The contractor shall be required to work with forces and hours required to complete the work in accordance with the specified schedule.
- D. Question #4: What Permits will be required to be pulled for this work:
1. The contractor is required to obtain all required permits.
  2. Contractors shall contact local authorities to determine what permits will be required.
- E. Question #5: If there is a vapor barrier fully adhered to the concrete roof deck can it remain in place :
1. No. The contractor shall remove all roofing materials, including vapor barriers, as required to expose the concrete roof deck.
  2. Refer to Sheet A2.0, General Notes F3 and G3

- F. Question #6: Membrane (TPO) coated metal specified for all flashings. Can membrane flashings be used?
1. The contractor shall bid the work as specified with membrane (TPO) coated metal flashings,
  2. Contractors may submit a proposed VE (Value engineering) option to change from membrane coated flashings to membrane flashings.
- G. Question #7: Is it acceptable to use wood framing and sheathing in lieu of steel angles and metal decking at skylight enclosures:
1. No. Combustible (wood) framing not permitted in this building type.
  2. Provide steel as specified.
- H. Question #8: Section 09 5123 References replacing damaged ceiling tile. Does the replacement only apply to damage caused from the roof replacement?:
1. No general replacement of ceiling tile is required.
  2. The contractor will only be responsible for replacement of ceiling tile and grid where damaged through the performance of the work of this contract.
- I. Question #9: Is it acceptable to use manufacture's standard bellows type expansion joints detail?:
1. The architect is not aware of any existing or new expansion joints on this project. Clarification of question required.
  2. Unless otherwise indicate, construct all conditions as detailed.
- J. Question #10: Provide layout for walkway pads:
1. Provide walkway pads in the following locations:
    - a. In locations where they currently exist.
    - b. Around each Hvac unit
- K. Question #11: Is a Builder's Risk Insurance Required?
1. Yes. A builder's risk policy is required. The Value of the policy to be equal to the value of the work performed under this contract.
- L. Question #12: What is to be done with wiring/cables on the surface of the roof :
1. Refer to Mechanical and Electrical Notes 'D'.
  2. Prior to demolishing wires, verify with Owner that the owner in question are no longer in use.
- M. Question #13: What is the 'Basis for Design' for the downspout boots specified to be installed as par of Additive Alternate #1:
1. Downspout Boots shall comply with the following:
    - a. Equal to: Neenah Foundry Co.; Catalog Series 4900.
    - b. Size:
      - 1) Width and depth required to match size of downspouts.
      - 2) Height minimum 30" above finished floor
      - 3) Extend boot underground and tie into underground storm drainage piping.
      - 4) Shape of end of boot required to match storm drain line.
      - 5) Apply offset to accommodate for footings.
- N. Question #14: Should fully tapered insulation system be installed on canopies.
1. The intent is that the roof be flat with drainage scuppers in wood nailers at east and west side as shown on drawings and as currently installed. Refer to 10/A14.0.
  2. Provide tapered insulation only if required by manufacturer to warrant system. If tapered insulation is used the drainage shall be to the east and west sides only.
- O. Question #15: Is it the intent that the gutters be installed at the same level as the existing gutters?
1. Base Bid: Yes. If the downspouts are not to be replaced (base bid), the gutters shall be installed in the their existing locations.
  2. Add Alternate: No. If the additive alternate to replaced the downspouts is accepted, raise gutter so that it is with 2" of the top of the roofing.
- P. Question #16: A downspout is missing at the east end of the building. Should the cost of replacing the downspout be included in the base bid?
1. Yes

- Q. Question #17: Are the supports for the gas piping to be reused or replaced? If reused additional supports will be required.
1. Reuse existing gas supports.
  2. Where supports are missing at intersections or where spacing exceeds 10'-0", add pipe supports as indicated on detail 25/A14.0
- R. Question #18: The demolition plan indicates that the existing Hvac condensate drains are to remain. The new work plan shows the condensate drain lines are to be replaced along with new supports. Which drawing governs?
1. Replace condensate drain lines and provide new supports as indicated on new work plan.

### CHANGES TO SPECIFICATIONS

1. SECTION B-BID FORM:
  - A. Delete proposal form.
  - B. Replace with Revised Bid Form, Section B, Form; Pages B-1 through B-5, inclusive attached hereto.
2. SECTION 01 2700; ALLOWANCES:
  - A. Page 01 2700-2; Paragraph A:
    1. Omit Item 1, Lightweight concrete roof deck
    2. Omit Item 3, Metal Roof Deck
3. SECTION 02 4123 ROOF REMOVAL:
  - A. Delete this section in its entirety.
  - B. Replace section with attached revised Section 02 4123, Roof Removal, Pages 02 4123-1 through 02 4123-13, plus attachments, attached hereto.
    1. Based on the asbestos reports provided, the contractor shall assume that ALL roofing built-up roofing materials (felts, tar, gravel, flashings, adhesives, ect) contain asbestos.
4. SECTION 07 2100; THERMAL INSULATION:
  - A. Delete Section 07 2100, Thermal Insulation in its entirety.
5. SECTION 07 5419; THERMOPLASTIC POLYOLEFIN (TPO) ROOFING:
  - A. Page 07 5419-8; Paragraph 3.05.I:
    1. Change 'mechanically' fastened insulation to 'fully adhered' insulation.
  - B. Page 07 5419-9; Paragraph 3.08.A:
    1. Change 'mechanically' fastened membrane to 'fully adhered' membrane.
  - C. Page 07 5419-9; Paragraph 3.08.D:
    1. Change 'Mechanically fastened or adhere' TO 'Fully Adhere'.

6. SECTION 09 5123; ACOUSTICAL TILE CEILINGS:

- A. General: Where existing tile and grid is damaged, due to the performance of the work of this contract, the contractor, shall replace damaged components with new materials to meet the requirements of this specification section.

**CHANGES TO DRAWINGS**

1. SHEET A14.0:

A. Detail 12; Detail at Skylight Infill:

1. At location of each skylight:
  - a. At elevation of existing ceiling, install new acoustical tile ceiling and grid.
  - b. Refer to Section 09 5123, Acoustical Tile Ceilings and Grids

B. Detail 18; Skylight Well:

1. Metal Decking to be 1-1/2", Type B, G60 galvanized metal decking.
2. Decking to span width (narrow dimension) of opening

**END OF ADDENDUM NO. 3**

Attachments: The following enclosures are part of this addendum. Contractor shall review enclosure list and compare to enclosures provided. Should enclosures be found to be missing notify the Architect immediately.

A. GENERAL:

1. Pre-Bid Sign-In Sheet.

B. SPECIFICATIONS:

1. Section B, Bid Form; Pages B-1 through B-5, inclusive
2. Section 02 4123, Roof Removal, Pages 02 4123-1 through 02 4123-13, plus attachments





**SECTION B**  
**BID FORM**  
REVISED MARCH 10, 2020

To: Polk County Board of Education  
612 South College Street  
Cedartown, Georgia 30125  
Telephone 770-748-3821

For: Westside Elementary School  
Re-Roofing  
Cedartown, Polk County, Georgia

Gentlemen:

**B-01 BASE BID:** Having carefully examined the plans and specifications entitled **Westside Elementary School Re-Roofing, Cedartown, Georgia** and the drawings similarly entitled, and enumerated on the Index of Drawings and dated **February 10, 2020**, and Addendum No.(s) \_\_\_\_\_ as well as the premises and conditions affecting the work, the undersigned proposes to furnish all services, labor, and materials called for by them for the entire work, in accordance with said documents for the sum of:

\_\_\_\_\_ Do llars  
(\$ \_\_\_\_\_) which sum is herein after called the "Base Bid."

**B-02 ALTERNATES:** The following Alternate Prices are hereby established and subject to Owner approval: (1) may be incorporated into the Contract Price at the time of the award or (2) may form the basis of a Change Order. Said Alternate Prices shall remain in firm and in effect for sixty (60) days after Notice to Proceed is issued by the Owner. The Owner reserves the right to exercise/accept any combination of independent Alternates and adjust the Contract Price accordingly.

- A. ALTERNATE A-1 - ADDITIVE - REMOVE AND REPLACE DOWNSPOUTS  
ADD the Sum of: \_\_\_\_\_ Do llars (\$ \_\_\_\_\_)
- B. ALTERNATE A-2 - ADDITIVE - PAINT GAS PIPE  
ADD the Sum of: \_\_\_\_\_ Dollars (\$ \_\_\_\_\_)

**B-03 ALLOWANCES:**

- A. The base bid amount provided above to include certain allowances. The type and quantity of the allowances to be included in the contractors base bid are defined in Section 01 2100, Allowances, Technical Specification Sections and herein.
- B. The contractor is solely responsible for establishing the value of the work included in the allowances and for including all costs for work of allowances, including but not limited to materials, labor and equipment cost, overhead, profit, taxes, and related costs and costs of surveys to determine the amount of materials removed and replaced.
- C. The contractor to complete the form below by inserting quantities and costs as follows:  
1. Insert the material quantities indicated in Section 01 2100, Allowances and as modified by addenda.  
2. Insert value of unit prices listed in bid proposal form.  
3. Calculate total value of allowance.
- D. Value of allowance(s) included in this form shall be utilized to establish a value against which change orders will be charged. The unit cost used to establish the value of the allowance shall equal the unit costs used for adjustments to the contract as defined in paragraph titled 'UNIT PRICES' below.

- E. The value of the allowance shall be determined by multiplying the allowance quantity by the Unit Price listed
- F. Failure to complete this form and provide a reasonable dollar value shall be, at the Owner's options, grounds for rejection of bid.
- G. The following dollar amounts shall be included in the contractor's base bid proposal.
- H. The contractor further agrees that in the event that the actual quantities vary from the allowance quantities shown herein, the contractor's contract amount shall be adjusted based on the provisions of Paragraph B-04, Unit Prices below.

| DESCRIPTION OF ALLOWANCE                            | Quantity | Cost        |
|---|----------|-------------|
| <b>A. Pressure Treated Wood Nailers/Blocking</b>    |          |             |
| 1. Remove and Replace Pressure Treated 2 x 4 Lumber | 500 LF   |             |
| 2. Remove and Replace Pressure Treated 2 x 6 Lumber | 200 LF   |             |
| 3. Remove and Replace Pressure Treated 2 x 8 Lumber | 200 LF   |             |
| <b>B. Roof Drain Covers</b>                         |          |             |
| 1. Remove and replace existing roof drain covers    | 10 Each  |             |
| <b>C. Contingency Allowance:</b>                    |          | \$25,000.00 |
| <b>D. Total Costs</b>                               |          |             |

**B-04 UNIT PRICES:**

- A. The Base Bids for this project shall include the total cost of items listed below as defined by the contract documents. Should conditions be encountered which required work to be performed beyond that defined in the contract, such work will be performed utilizing unit prices listed below applied to field determined quantities. This form shall be completed in its entirety.
- B. Unit shall be used for changing quantities of work items from those indicated by the Contract Drawings.
- C. Unit prices shall include all labor, materials, overhead, profit, insurance, etc. to cover finished work of several kinds called for.
  - 1. Unit prices shall include required engineering, surveying, and testing.
  - 2. Where applicable unit costs shall include related work activities necessary to complete work.
  - 3. No additional surcharges shall be added to unit prices.
- D. Should changes to the contract quantities be requested a change order will be issued for modified scope based on unit costs contained herein.
- E. The owner and/or architect reserve the right to negotiate any and all unit prices where unit prices are not fair and reasonable for the scope of the work to be performed or where the unit prices submitted are considered to be inflated when compared against other bidders or normal costs for like work.



F. The following unit prices apply:

| UNIT COSTS  | Cost | Units |
|---|------|-------|
| A. Pressure Treated Wood Nailers/Blocking           |      |       |
| 1. Remove and Replace Pressure Treated 2 x 4 Lumber |      | LF    |
| 2. Remove and Replace Pressure Treated 2 x 6 Lumber |      | LF    |
| 3. Remove and Replace Pressure Treated 2 x 8 Lumber |      | LF    |
| B. Roof Drain Covers                                |      |       |
| 1. Remove and replace roof deck covers              |      | Each  |

**B-05 ACCEPTANCE:** For and in consideration of the sum of \$1.00, the receipt of which is hereby acknowledged, the undersigned agrees that this proposal may not be revoked or withdrawn after the time set for the opening of bids, but shall remain open for acceptance for a period of Sixty (60) days following such time.

**B-06 CONTRACT AWARD:** The undersigned understands and agrees to, if a contract is awarded, it will be awarded based on Base Bid, financial stability, proof of ability to fully complete the project and complete the project on schedule. Upon Owner's request all information needed to prove contractor's ability to complete the project and complete it on schedule will be provided immediately.

**B-07 CONTRACTS AND BONDS:** In the event that the undersigned is notified in writing by mail, telegraph, or delivery of the acceptance of this proposal within sixty (60) days after the time set for the opening of bids, the undersigned agrees to execute, within twenty one (21) days, a contract for the Work for the above stated compensation and at the same time to furnish and deliver to the Owner a Performance Bond and Payment Bond in accordance with the forms provided in General Conditions of the specifications, both in an amount equal to 100% of the Contract sum. The surety shall be one which is licensed to do business in the State of Georgia.

1. The surety shall be one which is licensed to do business in the State of Georgia and shall have an A rating or better by A.M. Best Company and shall be currently listed on the U.S. Department of Treasury's Listing of Approved Sureties (Department Circular 570) as a surety authorized to write bonds for the U.S. Government.

**B-08 COMMENCEMENT OF WORK:** The undersigned agrees to commence actual physical work on the site with an adequate work force and equipment within ten days of the date of the Notice to Proceed and to complete fully all work by **July 31, 2020**.

**B-09 BID BOND:**

A. Enclosed herewith is a bid bond in the amount of: \_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_) (being not less than 5% of the base bid). The undersigned agrees that the above-stated amount is the proper measure of liquidated damages which the Owner will sustain by the failure of the undersigned to execute the Contract and to furnish performance and payment bonds in case this proposal is accepted.

1. Provide surety bond only. Certified checks, cash or other forms of bid bond not acceptable.
2. Bonding Company's standard form acceptable.

B. If this proposal is accepted within 60 days after the date set for the opening of bids, and the undersigned fails to execute the Contract within twenty one (21) days after notice of such acceptance or if he fails to furnish both performance and payment bonds, the obligation of the bid bond will remain in full force and effect and the money payable thereon shall be paid into the funds of the Owner as liquidated damages for such failure; otherwise, obligation of the bond will be null and void.

**B-010** **CERTIFICATION:** In Submitting this Proposal, the Bidder certifies that provisions of the Act entitled "State Employees and Officials Trading with The State of Georgia", Georgia Laws 1956, pp. 60 et. seq., has been complied with.

**B-011** **QUALIFICATIONS:** The bidder submits the following statement of bidder's qualifications.

**B-012** The bidder submits the following statement of bidder's qualifications for consideration by the Owner.

Legal Name of Bidder \_\_\_\_\_  
as Registered With the Secretary of State

Business Address \_\_\_\_\_

When Organized \_\_\_\_\_ State Incorporated \_\_\_\_\_ Type \_\_\_\_\_  
Corp., Partnership, Sole Proprietorship

Georgia Resident: YES \_\_\_\_\_ NO \_\_\_\_\_

Federal I.D. No. \_\_\_\_\_ or Social Security No. \_\_\_\_\_

Number of years engaged in the contracting business under the present firm name? \_\_\_\_\_

Financial Statement: Working Capital \_\_\_\_\_ Net Worth \_\_\_\_\_ Date: \_\_\_\_\_

Credit Available for this Contract \$ \_\_\_\_\_

Contracts now in hand, Gross Amount \$ \_\_\_\_\_

Have you ever refused to sign a contract at your original bid? \_\_\_\_\_

Have you ever been declared in default on a contract? \_\_\_\_\_

Please check the box if the definition below applies to your company. (  )

Minority Business Enterprise (MBE) - The business is either: a) owned by a member of a minority race or b) a partnership of which a majority interest is owned by one or more members of a minority race or c) a public corporation of which a majority of the common stock is owned by one or more members of a minority race. A member of a minority race is defined as an individual who is a member of a race which comprises less than 50 percent of the total population of the State of Georgia. This request is made for statistical purposes only.

**B-013** Certify that I am a principal or other representative of the firm submitting this bid and that I am authorized by it to execute the foregoing offer on its behalf. I am a principal person of the foregoing with management responsibility for the foregoing subject matter and as such I am personally knowledgeable of all its pertinent matters.

**B-014** I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same materials, supplies, or equipment, and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of State and Federal law and can result in fines, prison sentences and civil damage awards. I agree to abide by all conditions of this bid and certify that provisions of Georgia O.C.G.A. Section 45-10-20, et.sec., have not and shall not be violated in any respect.

Respectfully submitted,

Firm Name: \_\_\_\_\_  
LEGAL NAME OF BUSINESS

Address: \_\_\_\_\_ LEGAL BUSINESS  
ADDRESS (P.O. BOX IS INSUFFICIENT)

\_\_\_\_\_  
CITY STATE ZIP

\_\_\_\_\_  
MAILING ADDRESS IF DIFFERENT FROM ABOVE

Telephone Number: \_\_\_\_\_  
AREA CODE NUMBER

BY: \_\_\_\_\_  
Authorized Signature (BLUE INK PLEASE)

\_\_\_\_\_  
Typed/Printed Name Title

The full names of persons and firms interested in the foregoing bids as principals are as follows:

(1) \_\_\_\_\_  
Check One: President ( ) Partner ( ) Owner ( )

(2) \_\_\_\_\_  
Check One: Vice President ( ) Secretary ( ) Partner ( )

If incorporated: The names of both the President and Corporate Secretary must be indicated. If a partnership: all partners must be indicated.

**NOTICE TO BIDDERS**

- 1) **MAKE SURE YOU HAVE SIGNED THIS PROPOSAL IN THE SPACE PROVIDED ABOVE.**
- 2) **SUBMIT ORIGINAL AND ONE COPY OF THE FORM OF PROPOSAL.**
- 3) **MAKE SURE YOU AND YOUR SURETY HAVE PROPERLY EXECUTED THE BID BOND.**

**SECTION 02 4123  
ROOFING REMOVAL**

**PART 1 - GENERAL**

1.01 WORK INCLUDED

- A. This Section includes all labor, materials, equipment, transportation, protection as necessary for exposed roof decks, all in preparation for tie-in of new insulation, roofing, flashings, curbs and similar work.

1.02 EXISTING CONDITIONS

- A. The contractor is advised that the existing roof system leaks. Due to these leaks the contractor shall expect to find, as a minimum the following conditions:
  - 1. Standing water on roof surface.
  - 2. Saturated roof felts and rigid insulation.
  - 3. Standing water on roof deck.
- B. The contractor shall assume that trapped water exists within the roof system and that this trapped water will be released during re-roofing activities. The contractor shall:
  - 1. Provide protection for interior building components.
  - 2. Provide protection for furnishings and equipment within building.
  - 3. Repair or replace all materials and equipment and furnishings damaged as a result of roof leaks, releasing of trapped water, or other occurrences related to water, which occur as a result of re-roofing activities.

1.03 DOCUMENTATION OF EXISTING CONDITIONS

- A. Before commencing any removal of existing roofs, schedule meeting with Architect for inspection and documentation of existing conditions.
  - 1. Contractor shall document existing conditions, both at exterior and interior of building, through use or written report and photographs.
  - 2. Contractor shall repair damages inflicted upon building or building contents resulting from work performed under this contract.
  - 3. The contractor will not be responsible for pre-existing damages, documented through field visitation, unless specifically noted otherwise.
- B. Prior to commencing work the contractor shall set a meeting with the Architect and Owner's representative to review the condition of all roof top mechanical equipment.
  - 1. The condition of each unit shall be documented by the contractor and verified by the Architect and owner.
  - 2. After re-roofing has been completed the Contractor shall be responsible for providing all labor and material necessary to restore roof top mechanical equipment to the condition which existed prior to construction activities. Units which were operational prior to construction shall be operational after construction is completed.
- C. Submit, for review by Architect, documentation of existing conditions recorded, and schedule showing commencement, order, and completion dates for various parts of Work.

1.04 SINGLE RESPONSIBILITY

- A. Perform removal of existing roofs, flashings, curbs, and installation of new insulation, roofing, flashings and similar work under single Installer directly responsible to Contractor, so undivided responsibility exists for protecting buildings and keeping in "dry" condition during placement of new insulation, flashings and roofing systems.
- B. Removal and disposal of asbestos-containing roofing material performed only by State of Georgia licensed asbestos abatement contractor.

1.05 PROTECTION

- A. Make such explorations and probes necessary to ascertain any required protective measures before proceeding with roof removal; give particular attention to shoring and bracing requirements to prevent damage to existing construction.
- B. Provide, erect, and maintain catch platforms, lights, barriers, weather protection, warning signs, and other items required for proper protection of workmen engaged in removal operations, occupants of building, public, and adjacent construction.
- C. After roof is removed provide temporary protective measures as required and necessary to protect interior building components, furniture, and equipment from damage from dust, debris, and water.
  - 1. Protection devices shall be maintained until permanent roofing system is in place and is water tight.
  - 2. Materials damaged due to lack of or improper installation of protective systems will be replaced or repaired with new materials to match existing conditions by the contractor. All costs incurred by the contractor to repair or replace materials shall be paid by the contractor.
- D. Provide temporary roof and protective systems to maintain existing building in dry condition at all times.
- E. Provide and maintain temporary protection of existing structure designated to remain where removal and new work performed, connections made, materials handled, or equipment removed.
- F. Take necessary precautions to prevent dust and dirt from rising by wetting debris and protect unaltered portions of existing building affected by operations under this Section by adequate means.
- G. Provide adequate fire protection in accordance with local Fire Department regulations.
- H. Do not close or obstruct walkways, passageways, without authorization of Architect.
  - 1. Do not store or place materials in passageways, or other means of egress.
  - 2. Conduct operations with minimum traffic interference.
- I. Be responsible for any damage to existing structure or contents and of insufficiency of protection provided.
- J. Insure that windows and doors to building being roofed, and adjacent buildings within 100' of roofing activities are closed at all times in which roof removal and roofing performed.
- K. Protect existing landscape materials.

1.06 PREPARATION

- A. Remove all standing water from surface of roof. Allow roof surface to completely dry out prior to removal.
- B. Remove, using power booming techniques, all loose and partially embedded gravel.
- C. Implement initial protection devices necessary to protect building and contents from release of water due to removal of roof.

1.07 REMOVAL OF EXISTING ROOF SYSTEM

- A. It is intended that the existing roofing system be removed in its entirety and as required to expose the existing decking .

- B. Where new roofing system is to be installed the contractor shall remove the existing roofing as follows:
1. Single ply roof system (roof system #1) completely.
  2. Recovery board insulation.
  3. Existing built up roofing systems (roof system #2) completely .
  4. Flashings systems completely.
  5. Existing roof deck insulation, underlayment and cant strips, completely.
  6. Existing vapor barrier(s).
  7. Wood nailers where indicated or required to perform work required by this contract.
  8. Membrane and metal flashings where indicated or required to perform work required by this contract.
  9. Roof drains, copings, fascia, gravel stop, and trim where replaced with new, where indicated, or where required to perform work required by this contract.
  10. Abandoned roof top mechanical and electrical equipment.

1.08 REMOVAL OF EXISTING ROOF ACCESSORIES

- A. All existing roof mounted equipment, not specifically noted to be abandoned or removed, shall be removed, raise, and reinstalled in new roof system in accordance with details and manufacturers recommendations.
1. Provide a minimum of 8" clearance from roof surface to top of roof curb or vent stack.
- B. Where indicated on drawings, or required herein, or where required to obtain minimum 8" curb for flashing the contractor shall remove roof top equipment (exhaust fans, ventilators, fresh air intakes, kitchen hoods, etc), raise curbs to required heights and reinstall equipment in fully operational condition.
1. Curbs shall be extended using a combination of pressure treated 2 by lumber and 3/4" marine grade plywood, nailed and glued.
  2. Equipment shall be reinstalled in a watertight manner.
  3. Electrical work to be performed by licensed electrician.
- C. Where HVAC units or fans are raised due to changes in roof elevations provide duct extensions as required to accommodate relocation of equipment:
1. Duct work shall be of size and gage to match existing.
  2. All joints in duct work to be sealed with high pressure duct sealer.
  3. Insulate duct work with 1-1/2" fiberglass insulation, except at kitchen hood.
  4. Duct installations at kitchen hoods shall comply with applicable section of NFPA 101 and NFPA 96. Stainless steel ductwork for kitchen hood to be modified as required to accommodate the modifications required to roof curb. All duct at hood to be fully welded.
- D. Where indicated on drawings or determined from field visit that existing equipment is no longer in use the contractor shall remove equipment and related work (curb, support frames, electrical, etc.) from roof and dispose of in a legal manner.
- E. Where existing top turbine type ventilators are indicated to remain, the contractor shall remove the existing ventilator and replace with a new unit of material, style and size to match existing.
- F. Where plumbing vent stacks are currently located remove existing lead flashing and replace with new flashing boot.
1. Where the top of the existing roof vents are less than 8" above the surface of the new roof, raise vent stack so that top of stack is no less than 8" above roof and no more than 12" above roof.

1.09 INSTALLATION OF TEMPORARY ROOF

- A. After removal of existing roof system install mopped in place temporary roof system to maintain the building in water tight condition.
- B. Temporary roof may remain in place, under new roof system, provided such application is consistent with manufacturers recommendations.

1.10 ASBESTOS

- A. The owner has conducted an inspection of the existing roofing materials and found that certain of the materials contain asbestos. The materials found to contain asbestos are documented herein.
- B. The asbestos inspection report is available for viewing in the office of the Local Board of Education's. Contractors shall view report in its entirety prior to bidding so that necessary work is included in the contractor's bid.
  - 1. The contractor shall assume that where a sample of one material shows asbestos content, all like or similar materials will contain asbestos.
- C. Removal and disposal of asbestos-containing roofing material performed only by State of Georgia licensed asbestos abatement contractor.
- D. Asbestos containing materials to be removed in accordance with applicable standards and requirements contained herein.
  - 1. All asbestos containing material removed shall be removed in accordance with the provisions of paragraph 3.02 below.

**PART 2 - PRODUCTS NOT USED**

**PART 3 - EXECUTION**

3.01 REMOVAL OF EXISTING ROOFING (ASBESTOS AND NON-ASBESTOS ROOFS)

- A. Workmanship: Roofing removal and alteration work shown on drawings, but not necessarily limited to only these items.
  - 1. All associated work to keep each building "dry" and usable by Owners at all times is part of this work.
  - 2. Where removing existing roofs, Contractor install temporary roofing.
  - 3. Perform required work with due care, including shoring, bracing and protection.
  - 4. Assume responsibility for damage caused by such work to any part or parts of existing buildings, or items designated for re-use, by relocation or storage for Owner.
  - 5. Perform patching, restoration, and new work in accordance with Contract Documents.
  - 6. Remove materials or items stored for Owner with care under supervision of trade associated with equipment or item.
  - 7. Remove materials or items requiring removal and reinstallation as result of work under this Section with care under supervision of trade responsible for reinstallation.
    - a. Protect and store until required.
    - b. Replace material or items damaged in its removal with similar new material.
  - 8. Materials or items demolished and not designated as Owner's salvage or for reinstallation is Contractor's property. The contractor shall remove from site and dispose of in a legal manner.
  - 9. Execute work in careful and orderly manner, with least possible disturbance to public and to occupants of buildings.

3.02 REMOVAL OF EXISTING ROOFING (ASBESTOS-CONTAINING)

- A. Procedural: Contractor responsible for providing necessary notifications to all Local, State and Federal regulatory agencies.
  - 1. Submit copies of notifications to Architect.
  - 2. Contractor to pay all fees required.
  - 3. Submit written proof that contractor is licensed by the State of Georgia to perform asbestos removal work.
- B. Release Forms: Both the General Contractor and the Asbestos Contractor shall submit, as part of close out documentation, the following certificates. Copies of forms are enclosed at end of this Section.
  - 1. Certificate of Worker Release.
  - 2. Certificate of Contractors Release.

- C. Preparation: Work includes provision of labor, materials and equipment necessary to remove asbestos-containing roofing and other materials herein specified.
1. Do not commence asbestos abatement work until:
    - a. Arrangements made for disposal of waste at acceptable site.
    - b. Arrangements made for containing and disposal of waste water resulting from wet stripping.
    - c. Work areas and parts of the building required to remain in use are segregated as specified.
    - d. Tools, equipment, and material waste receptors are on hand.
    - e. Arrangements made for building security.
    - f. All other preparatory steps taken and applicable notices posted and permits obtained.
  2. Accomplish all asbestos removal under this Section while structure not occupied.
  3. If, at any time during removal, air testing or visual inspections indicate contamination of areas outside work area, Contractor take immediate steps to decontaminate these areas.
    - a. Prohibit unprotected individuals from entering contaminated areas until air sampling and visual inspections verify decontamination.
    - b. Cost for decontaminating these areas paid by Contractor.
- D. Workmanship: Comply methods and procedures utilized under this section with applicable AHERA, EPA, OSHA, and NIOSH recommendations and regulations.
1. If conflict exists between requirements of these specifications and those of regulatory agencies, more stringent of requirements governs.
- E. Respirators: Respiratory equipment and personnel comply with OSHA regulations and as a minimum, includes, but not limited to:
1. NIOSH/EPA approved half-face, negative pressure, HEPA filtered respirator.
  2. Protective full body clothing consisting of coveralls, headgear, foot wear and gloves.
  3. Hard hats and eye protection as required by job conditions, applicable safety regulations and Architect/Consultant.
  4. Contractor may delete requirements for use of half-face respirators if he can prove, through daily area (downwind) and personal air monitoring, fiber exposure levels equal to or below 0.01 fibers per cubic centimeter (f/cc).
    - a. Establish 0.01 f/cc or less exposure level through eight hour time weighted averages (8 hr. TWA) for three (3) consecutive days.
    - b. One day a week (after the 0.01 f/cc or less exposure level has been established) Contractor perform air monitoring to document that fiber exposure level below 0.01 f/cc.
- F. Air Monitoring: Continuous air monitoring (daily area/personnel) required downwind of work site while removing asbestos-containing roofing materials unless otherwise noted (see above).
1. If air monitoring indicates a rise in fiber counter approaching 0.1 f/cc, Contractor cease all work until fiber count reduced to level comparable to background (ambient) monitoring levels.
  2. Utilize phase contrast microscopy analysis during shingle removal operations.
  3. Contractor may elect to verify results of tests by utilizing TEM analysis; however, costs of additional tests borne by Contractor.
  4. Conduct daily air sampling using collection media and procedures in accordance with NIOSH 7400 Method (Revision No. 2 dated March 1, 1987) utilizing "B" counting rules.
- G. Perimeter: Contractor establish 25' perimeter around work area using 2" to 3" barrier tape with pre-printed asbestos warning; post asbestos warning signs at all entrances/exits to work area and established perimeter.
- H. Removal Techniques: Remove roofing material in small, manageable sections using hand tools in manner to minimize potential for fiber release; no power tools permitted unless specifically noted in writing to Architect/Consultant.
1. Do not allow asbestos-containing roofing material to fall or drop to ground.
  2. Wrap/seal roofing material in two (2) layers of 6-mil plastic or place in drums/dumpsters lined with two (2) layers of 6-mil plastic; place small pieces of built-up roofing debris in 6-mil lined drums or other approved impermeable containers.
  3. Remove insulation or felts under roofing material and dispose of as asbestos contaminated waste; dispose of asbestos-containing material and/or contaminated waste according to EPA, OSHA, and State of Georgia regulations.
  4. Wet wipe and/or clean substrate from which the ACM removed with HEAP vacuum equipment.



- I. Clearance criteria: Air monitoring professional and Architect conduct visual inspection of the substrate; if any visible dust or debris found, Contractor re-clean substrate.
    - 1. Once substrate passes visual inspection, apply penetrating encapsulant to all areas from which asbestos-containing materials removed.
    - 2. No initial or final air monitoring required unless daily air monitoring (area/personnel) and/or visual inspection of site indicates possibility of inadvertent contamination to areas adjacent to work area.
      - a. If initial and final air monitoring required, Contractor responsible for all costs associated with cleaning and testing of area(s).
- 3.03 EMBEDDED ITEMS
- A. Cut out embedded anchorage and attachment items required to properly provide for patching and installation of new insulation and roofing system.
- 3.04 CLEAN UP
- A. Perform **DAILY** and final clean up. Do not allow materials to accumulate on site.

**END OF SECTION 02 4123**

**CONTRACTOR'S LETTERHEAD**

**CERTIFICATE OF CONTRACTOR'S RELEASE**

DATE \_\_\_\_\_

CONTRACTOR \_\_\_\_\_

ASBESTOS ABATEMENT FOR: \_\_\_\_\_  
(Project Name)

In consideration of work awarded to \_\_\_\_\_ in  
(Contractor's Name)

connection with the removal and disposal of asbestos, or other work in asbestos-contaminated work area, and in consideration of the sum of ONE and NO/100 (\$1.00) DOLLAR and other good and valuable consideration in hand paid, at and before the sealing and delivery of these presents, the receipt, sufficiency, and adequacy of which are hereby acknowledged, the undersigned does hereby acknowledge, warrant, represent, covenant and agree as follows:

1. \_\_\_\_\_ knowingly assumes all risks in connection with potential exposure asbestos and  
(Contractor's Name)  
hereby, for itself and its heirs at law, release independent testing laboratory or engineers employed by the Owner, Owner's Representative, Architect and all of their directors, officers, employees, nominees, personal representatives, affiliates, successors and assigns from and against any and all liability whatsoever. Except as specifically set forth herein \_\_\_\_\_ waives and relinquishes any and  
(Contractor's Name)  
all claims of every nature which

\_\_\_\_\_ now has or may have or claims to have which are in any way  
(Contractor's Name)  
directly or indirectly related to exposure to asbestos and asbestos-contaminated materials.

2. \_\_\_\_\_ agree to hold the Owner, Owner's Representative, Architect and  
(Contractor's Name)  
all other consultants harmless from litigation, cost or any liability arising from this asbestos removal project.

CONTRACTOR: \_\_\_\_\_  
BY: \_\_\_\_\_  
NAME: \_\_\_\_\_

Signed in Presence of: \_\_\_\_\_  
(Notary Public)

My Commission Expires: \_\_\_\_\_

**CONTRACTOR'S LETTERHEAD**  
**CERTIFICATE OF WORKER'S RELEASE**

DATE: \_\_\_\_\_

Asbestos Abatement for: \_\_\_\_\_  
(Project Name)  
\_\_\_\_\_  
(Location)

In consideration of my employment by \_\_\_\_\_  
(Contractor's Name)

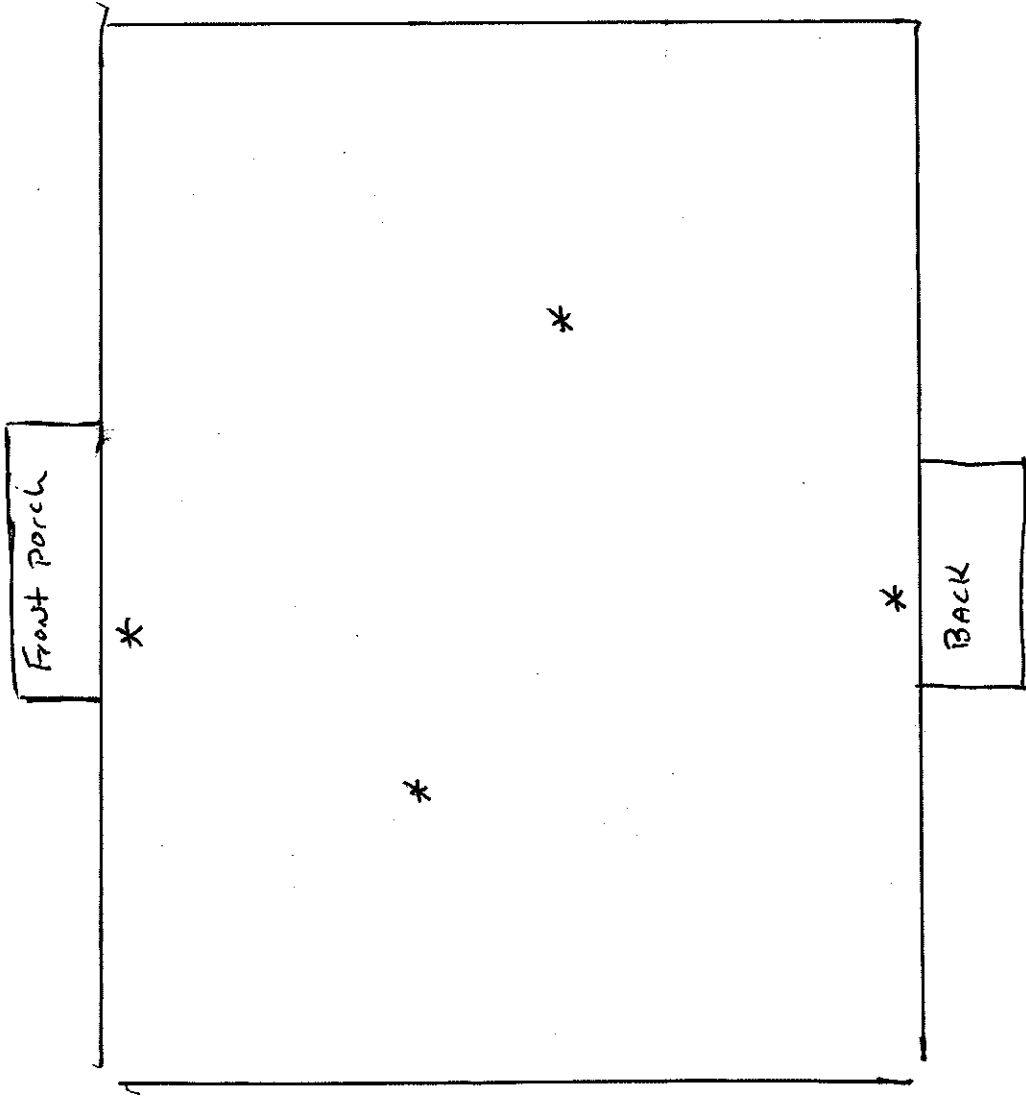
in connection with the removal and disposal of asbestos, or other work in asbestos-contaminated work areas, and in consideration of the sum of One and NO/100 (\$1.00) Dollar and other good and valuable consideration in hand paid, at and before the sealing and delivery of these presents, the receipt, sufficiency, and adequacy of which are hereby acknowledged, the undersigned does hereby acknowledge, warrant, represent, covenant and agree as follows:

1. I acknowledge and understand that I have been or will be employed in connection with the removal of, disposal of, or other treatment to, asbestos, or other work in asbestos-contaminated work areas and I acknowledge that I have been advised of and I understand the danger inherent in handling asbestos and breathing asbestos dust, including but not limited to, THE FACT THAT ASBESTOS CAN CAUSE ASBESTOSIS AND IS A KNOWN CARCINOGEN AND CAN, THEREFORE, CAUSE VARIOUS TYPES OF CANCER.
2. I acknowledge and understand that ANY CONTACT WITH ASBESTOS, WHETHER IT CAN BE SEEN OR NOT, MAY CAUSE ASBESTOSIS AND VARIOUS FORMS OF CANCER, WHICH MAY NOT SHOW UP FOR MANY YEARS, AND I covenant and agree faithfully to take all precautions required of me.
3. I knowingly assume all risks in connection with potential exposure to asbestos and I do hereby, for myself and my heirs at law agree to hold harmless, release and forever discharge \_\_\_\_\_  
(Contractor's Name)  
and all of their directors, officers, employees, nominees, personal representatives, affiliates, successors and assigns from and against any and all liability whatsoever, at common law or otherwise, except any rights which the undersigned may have under the provisions of the applicable workmen's compensation laws. Except as specifically set forth herein I hereby waive and relinquish any and all claims of every nature which I now have or may have or claim to have which are in any way directly or indirectly related to exposure to asbestos contaminated materials.
4. I agree to hold the Owner, Owner's Representative, Architect and all other consultants harmless from litigation, cost, or any liability arising from this asbestos removal project.
5. I hereby warrant and represent that I have not been disabled, laid off, or compensated in damages or otherwise because of the disease of asbestosis.

SIGNATURE \_\_\_\_\_

SOCIAL SECURITY NUMBER \_\_\_\_\_

SIGNED IN PRESENCE OF \_\_\_\_\_  
(No tary/Notary Seal)



\* Locations of core samples

Gym  
W. Side



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

**Chain of Custody**  
**EMSL Order Number (Lab Use Only):**

071909912

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

EW HR62

|  |   |   |              |
|--|---|---|--------------|
| Company: ENVIRONMENTAL HAZARDOUS REMOVAL   |   | EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different |              |
| Street: 202 CHEROKEE CIR   |   | If Bill to is Different note instructions in Comments**                                   |              |
| City: CEDARTOWN  | State/Province: GA  | Zip/Postal Code: 30125  | Country: USA |
| Report To (Name): TOM REILLY   | Third Party Billing requires written authorization from third party |   |              |
| Telephone #: 770-510-3983  | Fax #:  |   |              |
| Project Name/Number: WEST SIDE ROAD  | Email Address: REILLY202@CHARTER.NET                                |   |              |
| Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email | Purchase Order:   | U.S. State Samples Taken: 4   |              |

**Turnaround Time (TAT) Options\* - Please Check**

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

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

**Asbestos**

|   |  |   |
|---|--|---|
| <b>PCM - Air</b><br><input type="checkbox"/> NIOSH 7400<br><input type="checkbox"/> w/ 8hr. TWA<br><b>TEM - Air</b> <input type="checkbox"/> 4-4.5hr TAT (AHERA ONLY)<br><input type="checkbox"/> AHERA 40 CFR, Part 763<br><input type="checkbox"/> NIOSH 7402<br><input type="checkbox"/> EPA Level II<br><input type="checkbox"/> ISO 10312<br><b>TEM - Water</b><br>Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking<br>All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking | <b>PLM - Bulk</b><br><input checked="" type="checkbox"/> PLM EPA 600/R-93/116<br><input type="checkbox"/> PLM EPA NOB (<1%)<br><input type="checkbox"/> NYS 198.1 (friable-NY)<br><input type="checkbox"/> NYS 198.6 (non-friable-NY)<br>Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)<br>Point Count w/ Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) | <b>TEM - Bulk</b><br><input type="checkbox"/> TEM EPA NOB<br><input type="checkbox"/> NYS NOB 198.4 (non-friable-NY)<br><input type="checkbox"/> Chatfield SOP<br><b>Soil/Rock/Vermiculite</b><br><input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity)<br><input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity)<br><input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity)<br><input type="checkbox"/> EPA Reg. 1 Screening Protocol (Qualitative) |
| <b>TEM - Dust</b>   |  | <b>Other:</b>   |
| <input type="checkbox"/> Microvac - ASTM D 5755<br><input type="checkbox"/> Wipe-ASTM D6480   |  |   |

**Lead (Pb)**

|   |  |
|---|--|
| <b>Flame Atomic Absorption</b><br><input type="checkbox"/> Chips SW846-7000B or AOAC 974.02<br><input type="checkbox"/> Soil SW846-7000B/7420<br><input type="checkbox"/> Air NIOSH 7082<br><input type="checkbox"/> Wastewater SM3111B or SW846-7000B/7420<br><input type="checkbox"/> ASTM Wipe SW846-7000B/7420<br><input type="checkbox"/> non ASTM Wipe SW846-7000B/7420<br><input type="checkbox"/> TCLP SW846-1311/7420/SM 3111B | <b>ICP</b><br><input type="checkbox"/> Air NIOSH 7300 Modified<br><input type="checkbox"/> non ASTM Wipe SW846-6010B or C<br><input type="checkbox"/> ASTM Wipe SW846-6010B or C<br><input type="checkbox"/> Soil SW846-6010 B or C<br><input type="checkbox"/> Waste Water SW846-6010B or C<br><input type="checkbox"/> TCLP SW846-6010B or C |
| <b>Graphite Furnace Atomic Absorption</b><br><input type="checkbox"/> Soil SW846-7421 <input type="checkbox"/> Wastewater EPA 200.9<br><input type="checkbox"/> Air NIOSH 7105 <input type="checkbox"/> Drinking Water EPA 200.9  | <b>Other:</b> <input type="checkbox"/>   |

**Materials Science**

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

**Microbiology**

|  |   |
|--|---|
| <b>Wipe and Bulk Samples</b><br><input type="checkbox"/> Mold & Fungi - Direct Examination<br><input type="checkbox"/> Mold & Fungi Culture (Genus Only)<br><input type="checkbox"/> Mold & Fungi Culture (Genus & Species)<br><input type="checkbox"/> Bacterial Count & ID (Up to Three Types)<br><input type="checkbox"/> Bacterial Count & ID (Up to Five Types)<br><input type="checkbox"/> MRSA<br><input type="checkbox"/> Pseudomonas aeruginosa | <b>Air Samples</b><br><input type="checkbox"/> Mold & Fungi (Spore Trap)<br><input type="checkbox"/> Mold & Fungi Culture (Genus Only)<br><input type="checkbox"/> Mold & Fungi (Genus & Species)<br><input type="checkbox"/> Bacterial Culture & ID (Up to Three Types)<br><input type="checkbox"/> Bacterial Culture & ID (Up to Five Types)<br><input type="checkbox"/> Endotoxin Testing<br><b>Real Time Q-PCR</b> (See Analytical Guide for Code)<br>Code: |
| <b>Water Samples</b><br><input type="checkbox"/> Total Coliform and E.coli (P/A)<br><input type="checkbox"/> Fecal Coliform (SM 9222D)<br><input type="checkbox"/> Sewage Screen<br><input type="checkbox"/> Heterotrophic Plate Count (SM 9215)   | <b>Legionella</b><br><input type="checkbox"/> Level 1 <input type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 <input type="checkbox"/> Level 4<br><b>Other:</b> <input type="checkbox"/>  |

**IAQ**

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

**\*\*Comments/Special Instructions:**  
EMAIL RESULTS TO: REILLY202@CHARTER.NET

|                                    |                       |
|------------------------------------|-----------------------|
| Client Sample #'s: 51, 52, 53 & 54 | Total # of Samples: 4 |
| Relinquished (Client): F. Reilly   | Date: 11/20/19        |
| Received (Lab): F.O.               | Date: 11/22/19        |
|                                    | Time: 1:30 PM US MAIL |
|                                    | Time: 4:15 PM Normal  |





# EMSL Analytical, Inc.

2205 Corporate Plaza Parkway SE, Suite 200 Smyrna, GA 30080

Tel/Fax: (770) 956-9150 / (770) 956-9181

<http://www.EMSL.com> / [atlantalab@emsl.com](mailto:atlantalab@emsl.com)

EMSL Order: 071909912

Customer ID: ENHR62

Customer PO:

Project ID:

**Attention:** Tom Reilly  
Environmental Hazard Removal  
202 Cherokee Circle  
Cedartown, GA 30125

**Phone:** (770) 510-3983

**Fax:** (770) 748-6877

**Received Date:** 11/22/2019 4:15 PM

**Analysis Date:** 11/26/2019

**Collected Date:** 11/20/2019

**Project:** West Side Roof

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

| Sample                                       | Description      | Appearance                           | Non-Asbestos  |                          | Asbestos       |
|--|------------------|--------------------------------------|---------------|--------------------------|----------------|
|  |                  |                                      | % Fibrous     | % Non-Fibrous            | % Type         |
| S1-Layer 1<br><small>071909912-0001</small>  | Roof Core (N)    | Black<br>Non-Fibrous<br>Homogeneous  | 25% Cellulose | 60% Non-fibrous (Other)  | 15% Chrysotile |
| S1-Layer 2<br><small>071909912-0001A</small> | Roof Core (N)    | Black<br>Non-Fibrous<br>Homogeneous  | 30% Cellulose | 70% Non-fibrous (Other)  | None Detected  |
| S1-Layer 3<br><small>071909912-0001B</small> | Roof Core (N)    | Black<br>Non-Fibrous<br>Homogeneous  |               | 100% Non-fibrous (Other) | None Detected  |
| S1-Layer 4<br><small>071909912-0001C</small> | Roof Core (N)    | Black<br>Non-Fibrous<br>Homogeneous  | 10% Cellulose | 90% Non-fibrous (Other)  | None Detected  |
| S1-Layer 5<br><small>071909912-0001D</small> | Roof Core (N)    | Yellow<br>Non-Fibrous<br>Homogeneous |               | 100% Non-fibrous (Other) | None Detected  |
| S1-Layer 6<br><small>071909912-0001E</small> | Roof Core (N)    | Tan<br>Fibrous<br>Homogeneous        | 70% Cellulose | 30% Non-fibrous (Other)  | None Detected  |
| S2-Layer 1<br><small>071909912-0002</small>  | Roof Core (S)    | Black<br>Non-Fibrous<br>Homogeneous  | 25% Cellulose | 60% Non-fibrous (Other)  | 15% Chrysotile |
| S2-Layer 2<br><small>071909912-0002A</small> | Roof Core (S)    | Black<br>Fibrous<br>Homogeneous      | 30% Cellulose | 70% Non-fibrous (Other)  | None Detected  |
| S2-Layer 3<br><small>071909912-0002B</small> | Roof Core (S)    | Black<br>Non-Fibrous<br>Homogeneous  |               | 100% Non-fibrous (Other) | None Detected  |
| S2-Layer 4<br><small>071909912-0002C</small> | Roof Core (S)    | Black<br>Non-Fibrous<br>Homogeneous  |               | 92% Non-fibrous (Other)  | 8% Chrysotile  |
| S2-Layer 5<br><small>071909912-0002D</small> | Roof Core (S)    | Tan<br>Fibrous<br>Homogeneous        | 80% Cellulose | 20% Non-fibrous (Other)  | None Detected  |
| S3-Layer 1<br><small>071909912-0003</small>  | Roof Core (V)    | Black<br>Non-Fibrous<br>Homogeneous  |               | 100% Non-fibrous (Other) | None Detected  |
| S3-Layer 2<br><small>071909912-0003A</small> | Roof Core (V)    | Gray<br>Fibrous<br>Homogeneous       | 45% Cellulose | 55% Non-fibrous (Other)  | None Detected  |
| S3-Layer 3<br><small>071909912-0003B</small> | Roof Core (V)    | Yellow<br>Non-Fibrous<br>Homogeneous |               | 100% Non-fibrous (Other) | None Detected  |
| S4-Layer 1<br><small>071909912-0004</small>  | Roof Core (EDGE) | Black<br>Non-Fibrous<br>Homogeneous  | 15% Cellulose | 73% Non-fibrous (Other)  | 12% Chrysotile |
| S4-Layer 2<br><small>071909912-0004A</small> | Roof Core (EDGE) | Black<br>Non-Fibrous<br>Homogeneous  | 35% Cellulose | 65% Non-fibrous (Other)  | None Detected  |

Initial report from: 11/26/2019 12:13:52



# EMSL Analytical, Inc.

2205 Corporate Plaza Parkway SE, Suite 200 Smyrna, GA 30080

Tel/Fax: (770) 956-9150 / (770) 956-9181

<http://www.EMSL.com> / [atlantab@emsl.com](mailto:atlantab@emsl.com)

EMSL Order: 071909912

Customer ID: ENHR62

Customer PO:

Project ID:

Analyst(s)

Ibironke Owa (16)

Michael Murphy  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc Smyrna, GA NVLAP Lab Code 101048-1

Initial report from: 11/26/2019 12:13:52