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ROOF REPAIR, RESTORATION AND REPLACEMENT SPECIFICATIONS

FOR



Delaware Health and Social Services

**State of Delaware
Office of Management and Budget
540 South Dupont Highway, Suite 1
Dover, Delaware 19901**

AT

**The Emily P. Bissell Hospital
Main & 1912 Buildings
3000 Newport Gap Pike
Wilmington, DE 19808**

Contract #MJ3514000010

FROM

Professional

Consultants, Planners

Roof Services

9 Fairview Avenue

Middletown, DE 19709

ARCHITECT OR ENGINEER SEAL

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April 2015

STATE OF DELAWARE
DEPARTMENT OF FACILITIES MANAGEMENT
CONTRACT # MJ3514000010

SPECIFICATIONS
FOR THE
ROOF REPAIR, RESTORATION
AND REPLACEMENT PROJECT
AT THE
EMILY P. BISSELL HOSPITAL

3000 Newport Gap Pike
Wilmington, DE 19808

PREPARED
BY

Professional Roof Services, Inc.
9 Fairview Avenue
Middletown, DE 19709

ISSUED FOR BID
April 2015

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STATE OF DELAWARE
Contract #MJ3514000010
The Emily P. Bissell Hospital

DIVISION OF FACILITIES MANAGEMENT
Department of Health and Social Services
Roof Repair, Restoration & Replacement Project

LIST OF DRAWING SHEETS

COVER SHEET – G-001
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TAPERED INSULATION DRAWING

CANNOT BE USED FOR BIDDING

INVITATION TO BID

Document 001000

Sealed bids for OMB/DFM Contract No. MJ3514000010, The Emily P. Bissell Hospital Main and 1912 Building Roof Repair, Restoration and Replacement Project, will be received by the State of Delaware, Office of Management and Budget, Division of Facilities Management, at the DFM Large Conference Room (3rd Floor, Thomas Collins Building) 540 South DuPont Highway, Suite 1, Dover, Delaware 19901 until 2:30 P.M. local time on April 16, 2015, at which time they will be publicly opened and read aloud in the Conference Room. Bidder bears the risk of late delivery. Any bids received after the stated time will be returned unopened.

Project involves the replacement of designated roofs with a two-ply cold process modified roof with a flood and gravel surface. New perimeter and projection flashings will be installed along with new drains and edge metals. Restoration will include roof repairs and the installation of a white liquid applied coating. Other roof sections will receive miscellaneous roof repairs.

Attention is called to construction schedule as detailed in the Bid Documents. The buildings are located at 3000 Newport Gap Pike, Wilmington, Delaware 19808.

A **MANDATORY** Pre-Bid Meeting will be held on April 1, 2015, at 1:00 P.M. at the Emily P. Bissell Hospital's "G" Building, 3000 Newport gap Pike, Wilmington, Delaware 19808 for the purpose of establishing the listing of subcontractors and to answer questions. Representatives of each party to any Joint Venture must attend this meeting. **ATTENDANCE OF THIS MEETING IS A PREREQUISITE FOR BIDDING ON THIS CONTRACT.**

Sealed bids shall be addressed to the Division of Facilities Management 540 South DuPont Highway, Suite 1, Dover, DE 19901. The outer envelope should clearly indicate: **"OMB/DFM CONTRACT NO. MJ3514000010, EMILY P. BISSELL HOSPITAL MAIN AND 1912 BUILDING – ROOF REPAIR, RESTORATION AND REPLACEMENT PROJECT - SEALED BID - DO NOT OPEN."**

Contract documents may be obtained at the office of Professional Roof Services, 9 Fairview Avenue, Middletown, DE 19709 (please phone ahead to (302) 376-5220 to confirm availability) upon receipt of \$100.00 per set/non-refundable. Checks are to be made payable to "Professional Roof Services."

Construction documents will be available for review at the following locations: Professional Roof Services, Delaware Contractors Association and the Associated Builders and Contractors.

Minority Business Enterprises (MBE), Disadvantaged Business Enterprises (DBE) and Women-Owned Business Enterprises (WBE) will be afforded full opportunity to submit bids on this contract and will not be subject to discrimination on the basis of race, color, national origin or sex in consideration of this award. Each bid must be accompanied by a bid security equivalent to ten percent of the bid amount and all additive alternates. The successful bidder must post a performance bond and payment bond in a sum equal to 100 percent of the contract price upon execution of the contract. The Owner reserves the right to reject any or all bids and to waive any informalities therein. The Owner may extend the time and place for the opening of the bids from that described in the advertisement, with not less than two calendar days notice by certified delivery, facsimile machine or other electronic means to those bidders receiving plans.

INSTRUCTIONS TO BIDDERS

TABLE OF ARTICLES

1. DEFINITIONS
2. BIDDER'S REPRESENTATION
3. BIDDING DOCUMENTS
4. BIDDING PROCEDURES
5. CONSIDERATION OF BIDS
6. POST-BID INFORMATION
7. PERFORMANCE BOND AND PAYMENT BOND
8. FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

ARTICLE 1: GENERAL

1.1 DEFINITIONS

1.1.1 Whenever the following terms are used, their intent and meaning shall be interpreted as follows:

1.2 STATE: The State of Delaware.

1.3 AGENCY: Contracting State Agency as noted on cover sheet.

1.4 DESIGNATED OFFICIAL: The agent authorized to act for the Agency.

1.5 BIDDING DOCUMENTS: Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement for Bid, Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the Bid Form (including the Non-collusion Statement), and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, as well as the Drawings, Specifications (Project Manual) and all Addenda issued prior to execution of the Contract.

1.6 CONTRACT DOCUMENTS: The Contract Documents consist of the, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the form of agreement between the Owner and the Contractor, Drawings (if any), Specifications (Project Manual), and all addenda.

1.7 AGREEMENT: The form of the Agreement shall be AIA Document A101, Standard Form of Agreement between Owner and Contractor where the basis of payment is a STIPULATED SUM. In the case of conflict between the instructions contained therein and the General Requirements herein, these General Requirements shall prevail.

1.8 GENERAL REQUIREMENTS (or CONDITIONS): General Requirements (or conditions) are instructions pertaining to the Bidding Documents and to contracts in general. They contain, in summary, requirements of laws of the State; policies of the Agency and instructions to bidders.

1.9 SPECIAL PROVISIONS: Special Provisions are specific conditions or requirements peculiar to the bidding documents and to the contract under consideration and are supplemental to the General Requirements. Should the Special Provisions conflict with the General Requirements, the Special Provisions shall prevail.

1.10 ADDENDA: Written or graphic instruments issued by the Owner/Architect prior to the execution of the contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

1.11 BIDDER OR VENDOR: A person or entity who formally submits a Bid for the material or Work contemplated, acting directly or through a duly authorized representative who meets the requirements set forth in the Bidding Documents.

1.12 SUB-BIDDER: A person or entity who submits a Bid to a Bidder for materials or labor, or both for a portion of the Work.

1.13 BID: A complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

- 1.14 BASE BID: The sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids (if any are required to be stated in the bid).
- 1.15 ALTERNATE BID (or ALTERNATE): An amount stated in the Bid, where applicable, to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents is accepted.
- 1.16 UNIT PRICE: An amount stated in the Bid, where applicable, as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.
- 1.17 SURETY: The corporate body which is bound with and for the Contract, or which is liable, and which engages to be responsible for the Contractor's payments of all debts pertaining to and for his acceptable performance of the Work for which he has contracted.
- 1.18 BIDDER'S DEPOSIT: The security designated in the Bid to be furnished by the Bidder as a guaranty of good faith to enter into a contract with the Agency if the Work to be performed or the material or equipment to be furnished is awarded to him.
- 1.19 CONTRACT: The written agreement covering the furnishing and delivery of material or work to be performed.
- 1.20 CONTRACTOR: Any individual, firm or corporation with whom a contract is made by the Agency.
- 1.21 SUBCONTRACTOR: An individual, partnership or corporation which has a direct contract with a contractor to furnish labor and materials at the job site, or to perform construction labor and furnish material in connection with such labor at the job site.
- 1.22 CONTRACT BOND: The approved form of security furnished by the contractor and his surety as a guaranty of good faith on the part of the contractor to execute the work in accordance with the terms of the contract.

ARTICLE 2: BIDDER'S REPRESENTATIONS

2.1 PRE-BID MEETING

- 2.1.1 A pre-bid meeting for this project will be held at the time and place designated. Attendance at this meeting is a pre-requisite for submitting a Bid, unless this requirement is specifically waived elsewhere in the Bid Documents.

2.2 By submitting a Bid, the Bidder represents that:

- 2.2.1 The Bidder has read and understands the Bidding Documents and that the Bid is made in accordance therewith.
- 2.2.2 The Bidder has visited the site, become familiar with existing conditions under which the Work is to be performed, and has correlated the Bidder's his personal observations with the requirements of the proposed Contract Documents.
- 2.2.3 The Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception.

2.3 JOINT VENTURE REQUIREMENTS

- 2.3.1 For Public Works Contracts, each Joint Venturer shall be qualified and capable to complete the Work with their own forces.
- 2.3.2 Included with the Bid submission, and as a requirement to bid, a copy of the executed Joint Venture Agreement shall be submitted and signed by all Joint Venturers involved.
- 2.3.3 All required Bid Bonds, Performance Bonds, Material and Labor Payment Bonds must be executed by both Joint Venturers and be placed in both of their names.
- 2.3.4 All required insurance certificates shall name both Joint Venturers.
- 2.3.5 Both Joint Venturers shall sign the Bid Form and shall submit a copy of a valid Delaware Business License with their Bid.
- 2.3.6 Both Joint Venturers shall include their Federal E.I. Number with the Bid.
- 2.3.7 In the event of a mandatory Pre-bid Meeting, each Joint Venturer shall have a representative in attendance.
- 2.3.8 Due to exceptional circumstances and for good cause shown, one or more of these provisions may be waived at the discretion of the State.

2.4 ASSIGNMENT OF ANTITRUST CLAIMS

- 2.4.1 As consideration for the award and execution by the Owner of this contract, the Contractor hereby grants, conveys, sells, assigns and transfers to the State of Delaware all of its right, title and interests in and to all known or unknown causes of action it presently has or may now or hereafter acquire under the antitrust laws of the United States and the State of Delaware, relating to the particular goods or services purchased or acquired by the Owner pursuant to this contract.

ARTICLE 3: BIDDING DOCUMENTS

3.1 COPIES OF BID DOCUMENTS

- 3.1.1 Bidders may obtain complete sets of the Bidding Documents from the Architectural/Engineering firm designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein.
- 3.1.2 Bidders shall use complete sets of Bidding Documents for preparation of Bids. The issuing Agency nor the Architect assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 3.1.3 Any errors, inconsistencies or omissions discovered shall be reported to the Architect immediately.
- 3.1.4 The Agency and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

- 3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall report any errors, inconsistencies, or ambiguities discovered to the Architect.
- 3.2.2 Bidders or Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Architect at least seven days prior to the date for receipt of Bids. Interpretations, corrections and changes to the Bidding Documents will be made by written Addendum. Interpretations, corrections, or changes to the Bidding Documents made in any other manner shall not be binding.
- 3.2.3 The apparent silence of the specifications as to any detail, or the apparent omission from it of detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and only material and workmanship of the first quality are to be used. Proof of specification compliance will be the responsibility of the Bidder.
- 3.2.4 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all permits, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work.
- 3.2.5 The Owner will bear the costs for all impact and user fees associated with the project.

3.3 SUBSTITUTIONS

- 3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of quality, required function, dimension, and appearance to be met by any proposed substitution. The specification of a particular manufacturer or model number is not intended to be proprietary in any way. Substitutions of products for those named will be considered, providing that the Vendor certifies that the function, quality, and performance characteristics of the material offered is equal or superior to that specified. It shall be the Bidder's responsibility to assure that the proposed substitution will not affect the intent of the design, and to make any installation modifications required to accommodate the substitution.
- 3.3.2 Requests for substitutions shall be made in writing to the Architect at least ten days prior to the date of the Bid Opening. Such requests shall include a complete description of the proposed substitution, drawings, performance and test data, explanation of required installation modifications due the substitution, and any other information necessary for an evaluation. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval shall be final. The Architect is to notify Owner prior to any approvals.
- 3.3.3 If the Architect approves a substitution prior to the receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding.
- 3.3.4 The Architect shall have no obligation to consider any substitutions after the Contract award.

3.4 ADDENDA

- 3.4.1 Addenda will be mailed or delivered to all who are known by the Architect to have received a complete set of the Bidding Documents.

- 3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.
- 3.4.3 No Addenda will be issued later than 4 days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which extends the time or changes the location for the opening of bids.
- 3.4.4 Each bidder shall ascertain prior to submitting his Bid that they have received all Addenda issued, and shall acknowledge their receipt in their Bid in the appropriate space. Not acknowledging an issued Addenda could be grounds for determining a bid to be non-responsive.

ARTICLE 4: BIDDING PROCEDURES

4.1 PREPARATION OF BIDS

- 4.1.1 Submit the bids on the Bid Forms included with the Bidding Documents.
- 4.1.2 Submit the original Bid Form for each bid. Bid Forms may be removed from the project manual for this purpose.
- 4.1.3 Execute all blanks on the Bid Form in a non-erasable medium (typewriter or manually in ink).
- 4.1.4 Where so indicated by the makeup on the Bid Form, express sums in both words and figures, in case of discrepancy between the two, the written amount shall govern.
- 4.1.5 Interlineations, alterations or erasures must be initialed by the signer of the Bid.
- 4.1.6 BID ALL REQUESTED ALTERNATES AND UNIT PRICES, IF ANY. If there is no change in the Base Bid for an Alternate, enter "No Change". The Contractor is responsible for verifying that they have received all addenda issued during the bidding period. Work required by Addenda shall automatically become part of the Contract.
- 4.1.7 Make no additional stipulations on the Bid Form and do not qualify the Bid in any other manner.
- 4.1.8 Each copy of the Bid shall include the legal name of the Bidder and a statement whether the Bidder is a sole proprietor, a partnership, a corporation, or any legal entity, and each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current Power of Attorney attached, certifying agent's authority to bind the Bidder.
- 4.1.9 Bidder shall complete the Non-Collusion Statement form included with the Bid Forms and include it with their Bid.
- 4.1.10 In the construction of all Public Works projects for the State of Delaware or any agency thereof, preference in employment of laborers, workers or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State.
- 4.1.11 Each bidder shall include in their bid a copy of a valid Delaware Business License.'

4.2 BID SECURITY

4.2.1 All bids shall be accompanied by a deposit of either a good and sufficient bond to the agency for the benefit of the agency, with corporate surety authorized to do business in this State, the form of the bond and the surety to be approved by the agency, or a security of the bidder assigned to the agency, for a sum equal to at least 10% of the bid plus all add alternates, or in lieu of the bid bond a security deposit in the form of a certified check, bank treasurer's check, cashier's check, money order, or other prior approved secured deposit assigned to the State. The bid bond need not be for a specific sum, but may be stated to be for a sum equal to 10% of the bid plus all add alternates to which it relates and not to exceed a certain stated sum, if said sum is equal to at least 10% of the bid. The Bid Bond form used shall be the standard OMB form (attached).

4.2.2 The Agency has the right to retain the bid security of Bidders to whom an award is being considered until either a formal contract has been executed and bonds have been furnished or the specified time has elapsed so the Bids may be withdrawn or all Bids have been rejected.

4.2.3 In the event of any successful Bidder refusing or neglecting to execute a formal contract and bond within 20 days of the awarding of the contract, the bid bond or security deposited by the successful bidder shall be forfeited.

4.3 SUBCONTRACTOR LIST

4.3.1 As required by Delaware Code, Title 29, section 6962(d)(10)b, each Bidder shall submit with their Bid a completed List of Sub-Contractors included with the Bid Form. NAME ONLY ONE SUBCONTRACTOR FOR EACH TRADE. A Bid will be considered non-responsive unless the completed list is included.

4.3.2 Provide the Name and Address for each listed subcontractor. Addresses by City, Town or Locality, plus State, will be acceptable.

4.3.3 It is the responsibility of the Contractor to ensure that their Subcontractors are in compliance with the provisions of this law. Also, if a Contractor elects to list themselves as a Subcontractor for any category, they must specifically name themselves on the Bid Form and be able to document their capability to act as Subcontractor in that category in accordance with this law.

4.4 EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

4.4.1 During the performance of this contract, the contractor agrees as follows:

A. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, sexual orientation, gender identity or national origin. The Contractor will take affirmative action to ensure the applicants are employed, and that employees are treated during employment, without regard to their race, creed, sex, color, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.

- B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, sex, color, sexual orientation, gender identity or national origin."

4.5 PREVAILING WAGE REQUIREMENT

- 4.5.1 Wage Provisions: In accordance with Delaware Code, Title 29, Section 6960, renovation projects whose total cost shall exceed \$15,000, and \$100,000 for new construction, the minimum wage rates for various classes of laborers and mechanics shall be as determined by the Department of Labor, Division of Industrial Affairs of the State of Delaware.

- 4.5.2 The prevailing wage shall be the wage paid to a majority of employees performing similar work as reported in the Department's annual prevailing wage survey or in the absence of a majority, the average paid to all employees reported.

- 4.5.3 The employer shall pay all mechanics and labors employed directly upon the site of work, unconditionally and not less often than once a week and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the specifications regardless of any contractual relationship which may be alleged to exist between the employer and such laborers and mechanics.

- 4.5.4 The scale of the wages to be paid shall be posted by the employer in a prominent and easily accessible place at the site of the work.

- 4.5.5 Every contract based upon these specifications shall contain a stipulation that sworn payroll information, as required by the Department of Labor, be furnished weekly. The Department of Labor shall keep and maintain the sworn payroll information for a period of 6 months from the last day of the work week covered by the payroll.

4.6 SUBMISSION OF BIDS

- 4.6.1 Enclose the Bid, the Bid Security, and any other documents required to be submitted with the Bid in a sealed opaque envelope. Address the envelope to the party receiving the Bids. Identify with the project name, project number, and the Bidder's name and address. If the Bid is sent by mail, enclose the sealed envelope in a separate mailing envelope with the notation "BID ENCLOSED" on the face thereof. The State is not responsible for the opening of bids prior to bid opening date and time that are not properly marked.

- 4.6.2 Deposit Bids at the designated location prior to the time and date for receipt of bids indicated in the Advertisement for Bids. Bids received after the time and date for receipt of bids will be marked "LATE BID" and returned.

- 4.6.3 Bidder assumes full responsibility for timely delivery at location designated for receipt of bids.

- 4.6.4 Oral, telephonic or telegraphic bids are invalid and will not receive consideration.

- 4.6.5 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids, provided that they are then fully in compliance with these Instructions to Bidders.

4.7 MODIFICATION OR WITHDRAW OF BIDS

4.7.1 Prior to the closing date for receipt of Bids, a Bidder may withdraw a Bid by personal request and by showing proper identification to the Architect. A request for withdraw by letter or fax, if the Architect is notified in writing prior to receipt of fax, is acceptable. A fax directing a modification in the bid price will render the Bid informal, causing it to be ineligible for consideration of award. Telephone directives for modification of the bid price shall not be permitted and will have no bearing on the submitted proposal in any manner.

4.7.2 Bidders submitting Bids that are late shall be notified as soon as practicable and the bid shall be returned.

4.7.3 A Bid may not be modified, withdrawn or canceled by the Bidder during a thirty (30) day period following the time and date designated for the receipt and opening of Bids, and Bidder so agrees in submitting their Bid. Bids shall be binding for 30 days after the date of the Bid opening.

ARTICLE 5: CONSIDERATION OF BIDS

5.1 OPENING/REJECTION OF BIDS

5.1.1 Unless otherwise stated, Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids will be made available to Bidders.

5.1.2 The Agency shall have the right to reject any and all Bids. A Bid not accompanied by a required Bid Security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

5.1.3 If the Bids are rejected, it will be done within thirty (30) calendar day of the Bid opening.

5.2 COMPARISON OF BIDS

5.2.1 After the Bids have been opened and read, the bid prices will be compared and the result of such comparisons will be made available to the public. Comparisons of the Bids may be based on the Base Bid plus desired Alternates. The Agency shall have the right to accept Alternates in any order or combination.

5.2.2 The Agency reserves the right to waive technicalities, to reject any or all Bids, or any portion thereof, to advertise for new Bids, to proceed to do the Work otherwise, or to abandon the Work, if in the judgment of the Agency or its agent(s), it is in the best interest of the State.

5.2.3 An increase or decrease in the quantity for any item is not sufficient grounds for an increase or decrease in the Unit Price.

5.2.4 The prices quoted are to be those for which the material will be furnished F.O.B. Job Site and include all charges that may be imposed during the period of the Contract.

5.2.5 No qualifying letter or statements in or attached to the Bid, or separate discounts will be considered in determining the low Bid except as may be otherwise herein noted. Cash or separate discounts should be computed and incorporated into Unit Bid Price(s).

5.3 DISQUALIFICATION OF BIDDERS

5.3.1 An agency shall determine that each Bidder on any Public Works Contract is responsible before awarding the Contract. Factors to be considered in determining the responsibility of a Bidder include:

- A. The Bidder's financial, physical, personnel or other resources including Subcontracts;
- B. The Bidder's record of performance on past public or private construction projects, including, but not limited to, defaults and/or final adjudication or admission of violations of the Prevailing Wage Laws in Delaware or any other state;
- C. The Bidder's written safety plan;
- D. Whether the Bidder is qualified legally to contract with the State;
- E. Whether the Bidder supplied all necessary information concerning its responsibility; and,
- F. Any other specific criteria for a particular procurement, which an agency may establish; provided however, that, the criteria be set forth in the Invitation to Bid and is otherwise in conformity with State and/or Federal law.

5.3.2 If an agency determines that a Bidder is nonresponsive and/or nonresponsible, the determination shall be in writing and set forth the basis for the determination. A copy of the determination shall be sent to the affected Bidder within five (5) working days of said determination.

5.3.3 In addition, any one or more of the following causes may be considered as sufficient for the disqualification of a Bidder and the rejection of their Bid or Bids.

5.3.3.1 More than one Bid for the same Contract from an individual, firm or corporation under the same or different names.

5.3.3.2 Evidence of collusion among Bidders.

5.3.3.3 Unsatisfactory performance record as evidenced by past experience.

5.3.3.4 If the Unit Prices are obviously unbalanced either in excess or below reasonable cost analysis values.

5.3.3.5 If there are any unauthorized additions, interlineation, conditional or alternate bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite or ambiguous as to its meaning.

5.3.3.6 If the Bid is not accompanied by the required Bid Security and other data required by the Bidding Documents.

5.3.3.7 If any exceptions or qualifications of the Bid are noted on the Bid Form.

5.4 ACCEPTANCE OF BID AND AWARD OF CONTRACT

5.4.1 A formal Contract shall be executed with the successful Bidder within twenty (20) calendar days after the award of the Contract.

- 5.4.2 Per Section 6962(d)(13) a., Title 29, Delaware Code, "The contracting agency shall award any public works contract within thirty (30) days of the bid opening to the lowest responsive and responsible Bidder, unless the Agency elects to award on the basis of best value, in which case the election to award on the basis of best value shall be stated in the Invitation To Bid."
- 5.4.3 Each Bid on any Public Works Contract must be deemed responsive by the Agency to be considered for award. A responsive Bid shall conform in all material respects to the requirements and criteria set forth in the Contract Documents and specifications.
- 5.4.4 The Agency shall have the right to accept Alternates in any order or combination, and to determine the low Bidder on the basis of the sum of the Base Bid, plus accepted Alternates.
- 5.4.5 The successful Bidder shall execute a formal contract, submit the required Insurance Certificate, and furnish good and sufficient bonds, unless specifically waived in the General Requirements, in accordance with the General Requirement, within twenty (20) days of official notice of contract award. Bonds shall be for the benefit of the Agency with surety in the amount of 100% of the total contract award. Said Bonds shall be conditioned upon the faithful performance of the contract. Bonds shall remain in effect for period of one year after the date of substantial completion.
- 5.4.6 If the successful Bidder fails to execute the required Contract and Bond, as aforesaid, within twenty (20) calendar days after the date of official Notice of the Award of the Contract, their Bid guaranty shall immediately be taken and become the property of the State for the benefit of the Agency as liquidated damages, and not as a forfeiture or as a penalty. Award will then be made to the next lowest qualified Bidder of the Work or readvertised, as the Agency may decide.
- 5.4.7 Each bidder shall supply with its bid its taxpayer identification number (i.e., federal employer identification number or social security number) and a copy of its Delaware business license, and should the vendor be awarded a contract, such vendor shall provide to the agency the taxpayer identification license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the agency to which it is contracting, within 30 days of entering into such public works contract, copies of all Delaware Business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after the Bidder entered the public works contract the Delaware Business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.
- 5.4.8 The Bid Security shall be returned to the successful Bidder upon the execution of the formal contract. The Bid Securities of unsuccessful bidders shall be returned within thirty (30) calendar days after the opening of the Bids.

ARTICLE 6: POST-BID INFORMATION

6.1 CONTRACTOR'S QUALIFICATION STATEMENT

- 6.1.1 Bidders to whom award of a Contract is under consideration shall, if requested by the Agency, submit a properly executed AIA Document A305, Contractor's Qualification Statement, unless such a statement has been previously required and submitted.

6.2 BUSINESS DESIGNATION FORM

- 6.2.1 Successful bidder shall be required to accurately complete an Office of Management and Budget Business Designation Form for Subcontractors.

ARTICLE 7: PERFORMANCE BOND AND PAYMENT BOND

7.1 BOND REQUIREMENTS

- 7.1.1 The cost of furnishing the required Bonds that are stipulated in the Bidding Documents shall be included in the Bid.
- 7.1.2 If the Bidder is required by the Agency to secure a bond from other than the Bidder's usual sources, changes in cost will be adjusted as provide in the Contract Documents.
- 7.1.3 The Performance and Payment Bond forms used shall be the standard OMB forms (attached).

7.2 TIME OF DELIVERY AND FORM OF BONDS

- 7.2.1 The bonds shall be dated on or after the date of the Contract.
- 7.2.2 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix a certified and current copy of the power of attorney.

ARTICLE 8: FORM OF AGREEMENT BETWEEN AGENCY AND CONTRACTOR

- 8.1 Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment is a Stipulated Sum.

END OF INSTRUCTIONS TO BIDDERS

Emily P. Bissell Hospital
Main and 1912 Building
Roof Repair, Restoration and Replacement
Contract #MJ3514000010

BID FORM

For Bids Due: April 16, 2015 at 2:30 P.M.

To: State of Delaware
Office of Management & Budget
540 South DuPont Highway
Suite 1
Dover, DE 19901

Name of Bidder: _____

Delaware Business License No.: _____ **Taxpayer ID No.:** _____
(A copy of Bidder's Delaware Business License must be attached to this form.)

(Other License Nos.): _____

Phone No.: () _____ - _____ **Fax No.:** () _____ - _____

1. BASE BID – EMILY P. BISSELL HOSPITAL MAIN AND 1912 BUILDING ROOF REPAIR, RESTORATION AND REPLACEMENT:

Replacement of designated roofs with a two-ply cold process modified roof with a flood and gravel surface. New perimeter and projection flashings will be installed along with new drains and edge metals. Restoration will include roof repairs and the installation of a white liquid applied coating. Designated roofs will receive miscellaneous roof repairs.

\$ _____

In Words: _____

2. ALTERNATE #1:

There are no alternates associated with this project.

3. UNIT PRICES:

Unit prices conform to applicable project specification section. Refer to the specifications for a complete description of the following Unit Prices:

- a. Submit a square foot price for repair of metal decking, over and above the 400 square feet included in the base bid. Base price on prepping and priming the existing decking with Red Oxide Primer.
(Labor and Material) +\$ _____ /S.F.
- b. Submit a square foot price for replacement of existing metal decking, over and above, the 400 square feet included in the base bid. Base price on "nesting" new decking over existing.
(Labor and Material) +\$ _____ /S.F.

- c. Submit a square foot price for repair of concrete decking, over and above the 200 square feet included in the base bid. Base price on ½ inch thickness of Sika Top 123 Plus.
(Labor and Material) +\$ _____/S.F.
- d. Submit a square foot price for replacement of existing wood decking, over and above the 50 square feet included in the base bid. Base price on 5/8 inch CDX plywood.
(Labor and Material) +\$ _____/S.F.
- e. Submit a square foot price for replacement of lightweight concrete insulation, over and above the 1,200 square feet included in the base bid. Base price on 3 ½ inches of polyisocyanurate and ½ inch Securock adhered to the concrete decking.
(Labor and Material) +\$ _____/S.F.

I/We acknowledge Addendums numbered _____ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for sixty (60) days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within _____ calendar days of the Notice to Proceed.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By _____ Trading as _____
(Individual's / General Partner's / Corporate Name)

(State of Corporation)

Business Address: _____

Witness: _____ By: _____
(Authorized Signature)

(SEAL) _____
(Title)

Date: _____

ATTACHMENTS

Sub-Contractor List
Non-Collusion Statement
Bid Security
(Others as Required by Project Manuals)

Emily P. Bissell Hospital
Main and 1912 Buildings
Roof Repair, Restoration and Replacement
Contract #MJ3514000010

BID FORM

SUBCONTRACTOR LIST

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name, address and Subcontractors tax payer ID# or Delaware Business License# **must be listed for each category** where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the *Owner*, **it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work.**

<u>Subcontractor Category</u>	<u>Subcontractor</u>	<u>Address (City & State)</u>	<u>Subcontractors tax payer ID # or Delaware Business license #</u>
1. Roofing Contractor	<hr/>	<hr/>	<hr/>
2. Carpentry	<hr/>	<hr/>	<hr/>
3. Mechanical (Drains)	<hr/>	<hr/>	<hr/>
4. Sheet Metal	<hr/>	<hr/>	<hr/>
5. Mechanical (Units)	<hr/>	<hr/>	<hr/>
6. Masonry	<hr/>	<hr/>	<hr/>

Emily P. Bissell Hospital
Main and 1912 Buildings
Roof Repair, Restoration and Replacement
Contract #MJ3514000010

BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the Office of Management and Budget, Division of Facilities Management.

All the terms and conditions of the Emily P. Bissell Hospital Main and 1912 Building Roof Repair, Restoration and Replacement Project have been thoroughly examined and are understood.

NAME OF BIDDER:

**AUTHORIZED REPRESENTATIVE
(TYPED):**

**AUTHORIZED REPRESENTATIVE
(SIGNATURE):**

TITLE:

ADDRESS OF BIDDER:

E-MAIL:

PHONE NUMBER:

Sworn to and Subscribed before me this _____ day of _____, 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

STATE OF DELAWARE
OFFICE OF MANAGEMENT AND BUDGET

BID BOND

TO ACCOMPANY PROPOSAL
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That: _____
_____ of _____ in the County of _____
_____ and State of _____ as **Principal**, and _____
_____ of _____ in the County of _____
and State of _____ as **Surety**, legally authorized to do business in the State of Delaware
("State"), are held and firmly unto the **State** in the sum of _____
Dollars (\$ _____), or _____ percent not to exceed _____
Dollars (\$ _____)
of amount of bid on Contract No. _____, to be paid to the **State** for the use and
benefit of _____ (*insert State agency name*) for which payment
well and truly to be made, we do bind ourselves, our and each of our heirs, executors, administrators, and
successors, jointly and severally for and in the whole firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bonded **Principal**
who has submitted to the _____ (*insert State agency name*) a
certain proposal to enter into this contract for the furnishing of certain material and/or services within the
State, shall be awarded this Contract, and if said **Principal** shall well and truly enter into and execute this
Contract as may be required by the terms of this Contract and approved by the _____
_____ (*insert State agency name*) this Contract to be entered into within twenty days after
the date of official notice of the award thereof in accordance with the terms of said proposal, then this
obligation shall be void or else to be and remain in full force and virtue.

Sealed with _____ seal and dated this _____ day of _____ in the year of our Lord two
thousand and _____ (20____).

SEALED, AND DELIVERED IN THE
Presence of

Name of Bidder (Organization)

By:

Authorized Signature

Title

Name of Surety

Witness: _____

By:

Title

STATE OF DELAWARE
Contract #MJ3514000010
The Emily P. Bissell Hospital

DIVISION OF FACILITIES MANAGEMENT
Department of Health and Social Services
Roof Repair, Restoration & Replacement Project

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR A101-2007

The contract to be utilized on this project shall be the "Standard Form of Agreement Between Owner and Contractor" AIA Document A101-2007.

CANNOT BE USED FOR BIDDING

SUPPLEMENT TO AGREEMENT BETWEEN OWNER AND CONTRACTOR A101-2007

The following supplements modify the "Standard Form of Agreement Between Owner and Contractor," AIA Document A101-2007. Where a portion of the Standard Form of Agreement is modified or deleted by the following, the unaltered portions of the Standard Form of Agreement shall remain in effect.

ARTICLE 5: PAYMENTS

5.1 PROGRESS PAYMENTS

5.1.3 Delete paragraph 5.1.3 in its entirety and replace with the following.

"Provided that a valid Application for Payment is received by the Architect that meets all requirements of the Contract, payment shall be made by the Owner not later than 30 days after the Owner receives the valid Application for Payment."

ARTICLE 6: DISPUTE RESOLUTION

6.2 BINDING DISPUTE RESOLUTION

Check Other – and add the following sentence:

"Any remedies available in law or in equity."

ARTICLE 8: MISCELLANEOUS PROVISIONS

8.2 Insert the following.

"Payments are due 30 days after receipt of a valid Application for Payment. After that 30 day period, interest may be charged at the rate of 1% per month not to exceed 12% per annum."

8.5 Delete paragraph 8.5 in its entirety and replace with the following:

"The Contractor's representative shall not be changed without ten days written notice to the Owner."

END OF SUPPLEMENT TO AGREEMENT BETWEEN OWNER AND CONTRACTOR

STATE OF DELAWARE
OFFICE OF MANAGEMENT AND BUDGET

PERFORMANCE BOND

Bond Number: _____

KNOW ALL PERSONS BY THESE PRESENTS, that we, _____, as principal ("**Principal**"), and _____, a _____ corporation, legally authorized to do business in the State of Delaware, as surety ("**Surety**"), are held and firmly bound unto the _____ ("**Owner**") (*insert State agency name*), in the amount of _____ (\$ _____), to be paid to **Owner**, for which payment well and truly to be made, we do bind ourselves, our and each and every of our heirs, executors, administrations, successors and assigns, jointly and severally, for and in the whole, firmly by these presents.

Sealed with our seals and dated this _____ day of _____, 20__.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, that if **Principal**, who has been awarded by **Owner** that certain contract known as Contract No. _____ dated the _____ day of _____, 20__ (the "Contract"), which Contract is incorporated herein by reference, shall well and truly provide and furnish all materials, appliances and tools and perform all the work required under and pursuant to the terms and conditions of the Contract and the Contract Documents (as defined in the Contract) or any changes or modifications thereto made as therein provided, shall make good and reimburse **Owner** sufficient funds to pay the costs of completing the Contract that **Owner** may sustain by reason of any failure or default on the part of **Principal**, and shall also indemnify and save harmless **Owner** from all costs, damages and expenses arising out of or by reason of the performance of the Contract and for as long as provided by the Contract; then this obligation shall be void, otherwise to be and remain in full force and effect.

Surety, for value received, hereby stipulates and agrees, if requested to do so by **Owner**, to fully perform and complete the work to be performed under the Contract pursuant to the terms, conditions and covenants thereof, if for any cause **Principal** fails or neglects to so fully perform and complete such work.

Surety, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of **Surety** and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition or change in or to the Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any work to be performed or any monies due or to become due thereunder; and **Surety** hereby waives notice of any and all such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers and hereby expressly stipulates and agrees that any and all

things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to **Surety** as though done or omitted to be done by or in relation to **Principal**.

Surety hereby stipulates and agrees that no modifications, omissions or additions in or to the terms of the Contract shall in any way whatsoever affect the obligation of **Surety** and its bond.

Any proceeding, legal or equitable, under this Bond may be brought in any court of competent jurisdiction in the State of Delaware. Notices to **Surety** or Contractor may be mailed or delivered to them at their respective addresses shown below.

IN WITNESS WHEREOF, **Principal** and **Surety** have hereunto set their hand and seals, and such of them as are corporations have caused their corporate seal to be hereto affixed and these presents to be signed by their duly authorized officers, the day and year first above written.

PRINCIPAL

Name: _____

Witness or Attest: Address: _____

Name: _____ By: _____ (SEAL)

Name: _____

Title: _____
(Corporate Seal)

SURETY

Name: _____

Witness or Attest: Address: _____

Name: _____ By: _____ (SEAL)

Name: _____

Title: _____
(Corporate Seal)

STATE OF DELAWARE
OFFICE OF MANAGEMENT AND BUDGET

BID BOND

TO ACCOMPANY PROPOSAL
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That: _____
_____ of _____ in the County of _____
_____ and State of _____ as **Principal**, and _____
_____ of _____ in the County of _____
and State of _____ as **Surety**, legally authorized to do business in the State of Delaware
("State"), are held and firmly unto the **State** in the sum of _____
_____ Dollars (\$ _____), or _____ percent not to exceed _____
_____ Dollars (\$ _____)
of amount of bid on Contract No. _____, to be paid to the **State** for the use and
benefit of _____ (*insert State agency name*) for which payment
well and truly to be made, we do bind ourselves, our and each of our heirs, executors, administrators, and
successors, jointly and severally for and in the whole firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bonded **Principal**
who has submitted to the _____ (*insert State agency name*) a
certain proposal to enter into this contract for the furnishing of certain material and/or services within the
State, shall be awarded this Contract, and if said **Principal** shall well and truly enter into and execute this
Contract as may be required by the terms of this Contract and approved by the _____
_____ (*insert State agency name*) this Contract to be entered into within twenty days after
the date of official notice of the award thereof in accordance with the terms of said proposal, then this
obligation shall be void or else to be and remain in full force and virtue.

Sealed with _____ seal and dated this _____ day of _____ in the year of our Lord two
thousand and _____ (20____).

SEALED, AND DELIVERED IN THE
Presence of

Name of Bidder (Organization)

By:

Authorized Signature

Title

Name of Surety

Witness: _____

By:

Title

APPLICATION AND CERTIFICATE
FOR PAYMENT

The enclosed are the Application and Certificate for Payment (G702) and the Continuation Sheet (G703) Forms that will be used for all requests for payments. The Contractor is required to purchase these forms through the American Institute of Architect.



GENERAL CONDITIONS

TO THE

CONTRACT

The General Conditions of this Contract are as stated in the American Institute of Architects Document AIA A201 (2007 Edition) entitled General Conditions of the Contract for Construction and is part of this project manual as if herein written in full.

SUPPLEMENTARY GENERAL CONDITIONS A201-2007

The following supplements modify the "General Conditions of the Contract for Construction," AIA Document A201-2007. Where a portion of the General Conditions is modified or deleted by the Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

TABLE OF ARTICLES

1. GENERAL PROVISIONS
2. OWNER
3. CONTRACTOR
4. ADMINISTRATION OF THE CONTRACT
5. SUBCONTRACTORS
6. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7. CHANGES IN THE WORK
8. TIME
9. PAYMENTS AND COMPLETION
10. PROTECTION OF PERSONS AND PROPERTY
11. INSURANCE AND BONDS
12. UNCOVERING AND CORRECTION OF WORK
13. MISCELLANEOUS PROVISIONS
14. TERMINATION OR SUSPENSION OF THE CONTRACT

ARTICLE 1: GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

Delete the last sentence in its entirety and replace with the following:

"The Contract Documents also include Advertisement for Bid, Instructions to Bidder, sample forms, the Bid Form, the Contractor's completed Bid and the Award Letter."

Add the following Paragraph:

1.1.1.1 In the event of conflict or discrepancies among the Contract Documents, the Documents prepared by the State of Delaware, Division of Facilities Management shall take precedence over all other documents.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following Paragraphs:

1.2.4 In the case of an inconsistency between the Drawings and the Specifications, or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

1.2.5 The word "PROVIDE" as used in the Contract Documents shall mean "FURNISH AND INSTALL" and shall include, without limitation, all labor, materials, equipment, transportation, services and other items required to complete the Work.

1.2.6 The word "PRODUCT" as used in the Contract Documents means all materials, systems and equipment.

1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

Delete Paragraph 1.5.1 in its entirety and replace with the following:

"All pre-design studies, drawings, specifications and other documents, including those in electronic form, prepared by the Architect under this Agreement are, and shall remain, the property of the Owner whether the Project for which they are made is executed or not. Such documents may be used by the Owner to construct one or more like Projects without the approval of, or additional compensation to, the Architect. The Contractor, Subcontractors, Sub-subcontractors and Material or Equipment Suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants appropriate to and for use in the execution of their Work under the Contract Documents. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or Material and Equipment Supplier on other Projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and Architect's consultants."

The Architect shall not be liable for injury or damage resulting from the re-use of drawings and specifications if the Architect is not involved in the re-use Project. Prior to re-use of construction documents for a Project in which the Architect is not also involved, the Owner will remove from such documents all identification of the original Architect, including name, address and professional seal or stamp.”

Delete Paragraph 1.5.2 in its entirety.

ARTICLE 2: OWNER

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

To Subparagraph 2.2.3 – Add the following sentence:

“The Contractor, at their expense shall bear the costs to accurately identify the location of all underground utilities in the area of their excavation and shall bear all cost for any repairs required, out of failure to accurately identify said utilities.”

Delete Subparagraph 2.2.5 in its entirety and substitute the following:

2.2.5 The Contractor shall be furnished free of charge up to five (5) sets of the Drawings and Project Manuals. Additional sets will be furnished at the cost of reproduction, postage and handling.

ARTICLE 3: CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Amend Paragraph 3.2.2 to state that any errors, inconsistencies or omissions discovered shall be reported to the Architect and Owner immediately.

Delete the third sentence in Paragraph 3.2.3.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

Add the following Paragraphs:

3.3.2.1 The Contractor shall immediately remove from the Work, whenever requested to do so by the Owner, any person who is considered by the Owner or Architect to be incompetent or disposed to be so disorderly, or who for any reason is not satisfactory to the Owner, and that person shall not again be employed on the Work without the consent of the Owner or the Architect.

3.3.4 The Contractor must provide suitable storage facilities at the Site for the proper protection and safe storage of their materials. Consult the Owner and the Architect before storing any materials.

3.3.5 When any room is used as a shop, storeroom, office, etc., by the Contractor or Subcontractor(s) during the construction of the Work, the Contractor making use of these areas will be held responsible for any repairs, patching or cleaning arising from such use.

3.4 LABOR AND MATERIALS

Add the Following Paragraphs:

3.4.4 Before starting the Work, each Contractor shall carefully examine all preparatory Work that has been executed to receive their Work. Check carefully, by whatever means are required, to insure that its Work and adjacent, related Work, will finish to proper contours, planes and levels. Promptly notify the General Contractor/Construction Manager of any defects or imperfections in preparatory Work which will in any way affect satisfactory completion of its Work. Absence of such notification will be construed as an acceptance of preparatory Work and later claims of defects will not be recognized.

3.4.5 Under no circumstances shall the Contractor's Work proceed prior to preparatory Work having been completely cured, dried and/or otherwise made satisfactory to receive this Work. Responsibility for timely installation of all materials rests solely with the Contractor responsible for that Work, who shall maintain coordination at all times.

3.5 WARRANTY

Add the following Paragraphs:

3.5.1 The Contractor will guarantee all materials and workmanship against original defects, except injury from proper and usual wear when used for the purpose intended, for two years after Acceptance by the Owner, and will maintain all items in perfect condition during the period of guarantee.

3.5.2 Defects appearing during the period of guarantee will be made good by the Contractor at his expense upon demand of the Owner, it being required that all work will be in perfect condition when the period of guarantee will have elapsed.

3.5.3 In addition to the General Guarantee there are other guarantees required for certain items for different periods of time than the two years as above, and are particularly so stated in that part of the specifications referring to same. The said guarantees will commence at the same time as the General Guarantee.

3.5.4 If the Contractor fails to remedy any failure, defect or damage within a reasonable time after receipt of notice, the Owner will have the right to replace, repair, or otherwise remedy the failure, defect or damage at the Contractor's expense.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following Paragraphs:

3.11.1 During the course of the Work, the Contractor shall maintain a record set of drawings on which the Contractor shall mark the actual physical location of all piping, valves, equipment, conduit, outlets, access panels, controls, actuators, including all appurtenances that will be concealed once construction is complete, etc., including all invert elevations.

3.11.2 At the completion of the project, the Contractor shall obtain a set of reproducible drawings from the Architect, and neatly transfer all information outlined in 3.11.1 to provide a complete record of the as-built conditions.

3.11.3 The Contractor shall provide two (2) prints of the as-built conditions, along with the reproducible drawings themselves, to the Owner and one (1) set to the Architect. In addition, attach one complete set to each of the Operating and Maintenance Instructions/Manuals.

3.17 In the second sentence of the paragraph, insert "indemnify" between "shall" and "hold".

ARTICLE 4: ADMINISTRATION OF THE CONTRACT

4.2 ADMINISTRATION OF THE CONTRACT

Delete the first sentence of Paragraph 4.2.7 and replace with the following:

The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples for the purpose of checking for conformance with the Contract Documents.

Delete the second sentence of Paragraph 4.2.7 and replace with the following:

The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work in the activities of the Owner, Contractor or separate Contractors, while allowing sufficient time in the Owner's professional judgment to permit adequate review.

Add the following Paragraph:

4.2.10.1 There will be no full-time project representative provided by the Owner or Architect on this project.

Add to Paragraph 4.2.13 "and in compliance with all local requirements." to the end of the sentence

ARTICLE 5: SUBCONTRACTORS

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

Delete Paragraph 5.2.3 in its entirety and replace with the following:

5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection, subject to the statutory requirements of 29 Delaware Code § 6962(d)(10)b.3 and 4.

ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

Delete Paragraph 6.1.4 in its entirety.

6.2 MUTUAL RESPONSIBILITY

6.2.3 In the second sentence, strike the word "shall" and insert the word "may".

ARTICLE 7: CHANGES IN THE WORK

(SEE ARTICLE 7: CHANGES IN WORK IN THE GENERAL REQUIREMENTS)

ARTICLE 8: TIME

8.2 PROGRESS AND COMPLETION

Add the following Paragraphs:

8.2.1.1 Refer to Specification Section SUMMARY OF WORK for Contract time requirements.

8.2.4 If the Work falls behind the Progress Schedule as submitted by the Contractor, the Contractor shall employ additional labor and/or equipment necessary to bring the Work into compliance with the Progress Schedule at no additional cost to the Owner.

8.3 DELAYS AND EXTENSION OF TIME

8.3.1 Strike "arbitration" and insert "remedies at law or in equity".

Add the following Paragraph:

8.3.2.1 The Contractor shall update the status of the suspension, delay, or interruption of the Work with each Application for Payment. (The Contractor shall report the termination of such cause immediately upon the termination thereof.) Failure to comply with this procedure shall constitute a waiver for any claim for adjustment of time or price based upon said cause.

Delete Paragraph 8.3.3 in its entirety and replace with the following:

8.3.3 Except in the case of a suspension of the Work directed by the Owner, an extension of time under the provisions of Paragraph 8.3.1 shall be the Contractor's sole remedy in the progress of the Work and there shall be no payment or compensation to the Contractor for any expense or damage resulting from the delay.

Add the following Paragraph:

8.3.4 By permitting the Contractor to work after the expired time for completion of the project, the Owner does not waive their rights under the Contract.

ARTICLE 9: PAYMENTS AND COMPLETION

9.2 SCHEDULE OF VALUES

Add the following Paragraphs:

9.2.1 The Schedule of Values shall be submitted using AIA Document G702, Continuation Sheet to G703.

9.2.2 The Schedule of Values is to include a line item for Project Closeout Document Submittal. The value of this item is to be no less than 1% of the initial contract amount.

9.3 APPLICATIONS FOR PAYMENT

Add the following Paragraph:

- 9.3.1.3 Application for Payment shall be submitted on AIA Document G702 "Application and Certificate for Payment", supported by AIA Document G703 "Continuation Sheet". Said Applications shall be fully executed and notarized.

Add the following Paragraphs:

- 9.3.4 Until Closeout Documents have been received and outstanding items completed the Owner will pay 95% (ninety-five percent) of the amount due the Contractor on account of progress payments.
- 9.3.5 The Contractor shall provide a current and updated Progress Schedule to the Architect with each Application for Payment. Failure to provide Schedule will be just cause for rejection of Application for Payment.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

Add the following to 9.5.1:

- .8 failure to provide a current Progress Schedule;
.9 a lien or attachment is filed;
.10 failure to comply with mandatory requirements for maintaining Record Documents.

9.6 PROGRESS PAYMENTS

Delete Paragraph 9.6.1 in its entirety and replace with the following:

- 9.6.1 After the Architect has approved and issued a Certificate for Payment, payment shall be made by the Owner within 30 days after Owner's receipt of the Certificate for Payment.

9.7 FAILURE OF PAYMENT

In first sentence, strike "seven" and insert "thirty (30)". Also strike "binding dispute resolution" and insert "remedies at law or in equity".

9.8 SUBSTANTIAL COMPLETION

To Subparagraph 9.8.3 - Add the following sentence:

"If the Architect is required to make more than 2 inspections of the same portion of work, the Contractor shall be responsible for all costs associated with subsequent inspections including but not limited to any Architect's fees."

- 9.8.5 In the second sentence, strike "shall" and insert "may".

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

Add the following Paragraphs:

10.1.1.1.1 Each Contractor shall develop a safety program in accordance with the Occupational Safety and Health Act of 1970. A copy of said plan shall be furnished to the Owner and Architect prior to the commencement of that Contractor's Work.

10.1.2 Each Contractor shall appoint a Safety Representative. Safety Representatives shall be someone who is on site on a full time basis. If deemed necessary by the Owner or Architect, Contractor Safety meetings will be scheduled. The attendance of all Safety Representatives will be required. Minutes will be recorded of said meetings by the Contractor and will be distributed to all parties as well as posted in all job offices/trailers etc.

10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Paragraph:

10.2.4.1 As required in the Hazardous Chemical Act of June 1984, all vendors supplying any material that may be defined as hazardous must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a caution warning on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in foreseeable emergency situations. Material Safety Data Sheets shall be provided directly to the Owner, along with the shipping slips that include those products.

10.3 HAZARDOUS MATERIALS

Delete Paragraph 10.3.3 in its entirety.

Delete Paragraph 10.3.6 in its entirety.

ARTICLE 11: INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.4 Strike "the Owner" immediately following "(1)" and strike "and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations."

11.2 OWNER'S LIABILITY INSURANCE

Delete Paragraph 11.2 in its entirety.

11.3 PROPERTY INSURANCE

Delete Paragraph 11.3 in its entirety and replace with the following:

11.3 The State will not provide Builder's All Risk Insurance for the Project. The Contractor and all Subcontractors shall provide property coverage for their tools and equipment, as necessary. Any mandatory deductible required by the Contractor's Insurance shall be the responsibility of the Contractor.

11.4 PERFORMANCE BOND AND PAYMENT BOND

11.4.1 Add the following sentence: "The bonds will conform to those forms approved by the Office of Management and Budget."

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

12.2.2 AFTER SUBSTANTIAL COMPLETION

Add the following Paragraph:

12.2.2.1.1 At any time during the progress of the Work, or in any case where the nature of the defects will be such that it is not expedient to have corrected, the Owner, at its option, will have the right to deduct such sum, or sums, of money from the amount of the Contract as it considers justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

12.2.2.1 Strike "one" and insert "two".

12.2.2.2 Strike "one" and insert "two".

12.2.2.3 Strike "one" and insert "two".

12.2.5 In second sentence, strike "one" and insert "two".

ARTICLE 13: MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

Strike "except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4."

13.6 INTEREST

Strike "the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located." Insert "30 days of presentment of the authorized Certificate of Payment at the annual rate of 12% or 1% per month."

13.7 TIME LIMITS ON CLAIMS

Strike the last sentence.

Add the following Paragraph:

13.8 CONFLICTS WITH FEDERAL STATUTES OR REGULATIONS

13.8.1 If any provision, specifications or requirement of the Contract Documents conflict or is inconsistent with any statute, law or regulation of the government of the United State of America, the Contractor shall notify the Architect and Owner immediately upon discovery.

ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Delete Paragraph 14.4.3 in its entirety and replace with 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, and cost incurred by reason of such termination along with reasonable overhead.

ARTICLE 15: CLAIMS AND DISPUTES

15.1.2 Throughout the Paragraph strike "21" and insert "45".

15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

Delete Paragraph 15.1.6 in its entirety.

15.2 INITIAL DECISION

Delete Paragraph 15.2.5 in its entirety and replace with the following:

15.2.5 The Architect will approve or reject Claims by written decision, which shall state the reasons therefore and shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Architect shall be subject to mediation and other remedies at law or in equity.

Delete Paragraph 15.2.6 and its subparagraphs in their entirety.

15.3 MEDIATION

15.3.1 Strike "binding dispute resolution" and insert "any or all remedies at law or in equity".

15.3.2 In the first sentence, delete "administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedure in effect on the date of the Agreement," Strike "binding dispute resolution" and insert "remedies at law and in equity".

15.4 ARBITRATION

Delete Paragraph 15.4 and its sub-sections in its entirety.

END OF SUPPLEMENTARY GENERAL CONDITIONS

SECTION 00 73 46

WAGE DETERMINATION SCHEDULE

1 GENERAL

1.1 DOCUMENT INCLUDES

A. State of Delaware Prevailing Wage Rates.

1.2 RELATED DOCUMENTS

A. General and Supplementary Conditions of the Contract.

2 PRODUCTS Not Used.

3 EXECUTION

3.1 WAGE RATES

A. See attached Prevailing Wage Rate predetermination for rates. This regulation and the general State of Delaware prevailing minimum wage rates, as adopted by the Department of Labor on April 3, 1992, as determined by the Division of Industrial Affairs, Office of Labor Law Enforcement, which shall be paid for each craft or classification of all workers needed to perform the Contract during the anticipated term therefore in the locality in which public work is performed, are made part of this Specification.

END OF DOCUMENT

GENERAL REQUIREMENTS

TABLE OF ARTICLES

1. GENERAL PROVISIONS
2. OWNER
3. CONTRACTOR
4. ADMINISTRATION OF THE CONTRACT
5. SUBCONTRACTORS
6. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7. CHANGES IN THE WORK
8. TIME
9. PAYMENTS AND COMPLETION
10. PROTECTION OF PERSONS AND PROPERTY
11. INSURANCE AND BONDS
12. UNCOVERING AND CORRECTION OF WORK
13. MISCELLANEOUS PROVISIONS
14. TERMINATION OR SUSPENSION OF THE CONTRACT

ARTICLE 1: GENERAL

1.1 CONTRACT DOCUMENTS

1.1.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required to an extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

1.1.2 Work including material purchases shall not begin until the Contractor is in receipt of a bonafide State of Delaware Purchase Order. Any work performed or material purchases prior to the issuance of the Purchase Order is done at the Contractor's own risk and cost.

1.2 EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

1.2.1 For Public Works Projects financed in whole or in part by state appropriation the Contractor agrees that during the performance of this contract:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, sexual orientation, gender identity or national origin. The Contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, sex, color, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, sex, color, sexual orientation, gender identity or national origin."

ARTICLE 2: OWNER

(NO ADDITIONAL GENERAL REQUIREMENTS – SEE SUPPLEMENTARY GENERAL CONDITIONS)

ARTICLE 3: CONTRACTOR

3.1 Schedule of Values: The successful Bidder shall within twenty (20) days after receiving notice to proceed with the work, furnish to the Owner a complete schedule of values on the various items comprising the work.

3.2 Subcontracts: Upon approval of Subcontractors, the Contractor shall award their Subcontracts as soon as possible after the signing of their own contract and see that all material, their own and those of their Subcontractors, are promptly ordered so that the work will not be delayed by failure of materials to arrive on time.

- 3.3 Before commencing any work or construction, the General Contractor is to consult with the Owner as to matters in connection with access to the site and the allocation of Ground Areas for the various features of hauling, storage, etc.
- 3.4 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions.
- 3.5 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.
- 3.6 The Contractor warrants to the Owner that materials and equipment furnished will be new and of good quality, unless otherwise permitted, and that the work will be free from defects and in conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved, may be considered defective. If required by the Owner, the Contractor shall furnish evidence as to the kind and quality of materials and equipment provided.
- 3.7 Unless otherwise provided, the Contractor shall pay all sales, consumer, use and other similar taxes, and shall secure and pay for required permits, fees, licenses, and inspections necessary for proper execution of the Work.
- 3.8 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the Work. The Contractor shall promptly notify the Owner if the Drawings and Specifications are observed to be at variance therewith.
- 3.9 The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under contract with the Contractor.
- 3.10 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove from and about the Project all waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. The Contractor shall be responsible for returning all damaged areas to their original conditions.
- 3.11 STATE LICENSE AND TAX REQUIREMENTS
- 3.11.1 Each Contractor and Subcontractor shall be licensed to do business in the State of Delaware and shall pay all fees and taxes due under State laws. In conformance with Section 2503, Chapter 25, Title 30, Delaware Code, "the Contractor shall furnish the Delaware Department of Finance within ten (10) days after entering into any contract with a contractor or subcontractor not a resident of this State, a statement of total value of such contract or contracts together with the names and addresses of the contracting parties."
- 3.12. The Contractor shall comply with all requirements set forth in Section 6962, Chapter 69, Title 29 of the Delaware Code.

ARTICLE 4: ADMINISTRATION OF THE CONTRACT

4.1 CONTRACT SURETY

4.1.1 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

4.1.2 All bonds will be required as follows unless specifically waived elsewhere in the Bidding Documents.

4.1.3 Contents of Performance Bonds – The bond shall be in the form approved by the Office of Management and Budget. The bond shall be conditioned upon the faithful compliance and performance by the successful bidder of each and every term and condition of the contract and the proposal, plans, specifications, and bid documents thereof. Each term and condition shall be met at the time and in the manner prescribed by the Contract, Bid documents and the specifications, including the payment in full to every person furnishing material or performing labor in the performance of the Contract, of all sums of money due the person for such labor and material. (The bond shall also contain the successful bidder's guarantee to indemnify and save harmless the State and the agency from all costs, damages and expenses growing out of or by reason of the Contract in accordance with the Contract.)

4.1.4 Invoking a Performance Bond – The agency may, when it considers that the interest of the State so require, cause judgement to be confessed upon the bond.

4.1.5 Within twenty (20) days after the date of notice of award of contract, the Bidder to whom the award is made shall furnish a Performance Bond and Labor and Material Payment Bond, each equal to the full amount of the Contract price to guarantee the faithful performance of all terms, covenants and conditions of the same. The bonds are to be issued by an acceptable Bonding Company licensed to do business in the State of Delaware and shall be issued in duplicate.

4.1.6 Performance and Payment Bonds shall be maintained in full force (warranty bond) for a period of two (2) years after the date of the Certificate for Final Payment. The Performance Bond shall guarantee the satisfactory completion of the Project and that the Contractor will make good any faults or defects in his work which may develop during the period of said guarantees as a result of improper or defective workmanship, material or apparatus, whether furnished by themselves or their Sub-Contractors. The Payment Bond shall guarantee that the Contractor shall pay in full all persons, firms or corporations who furnish labor or material or both labor and material for, or on account of, the work included herein. The bonds shall be paid for by this Contractor. The Owner shall have the right to demand that the proof parties signing the bonds are duly authorized to do so.

4.2 FAILURE TO COMPLY WITH CONTRACT

4.2.1 If any firm entering into a contract with the State, or Agency that neglects or refuses to perform or fails to comply with the terms thereof, the Agency which signed the Contract may terminate the Contract and proceed to award a new contract in accordance with this Chapter 69, Title 29 of the Delaware Code or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond. Nothing herein shall preclude the Agency from pursuing additional remedies as otherwise provided by law.

4.3 CONTRACT INSURANCE AND CONTRACT LIABILITY

4.3.1 In addition to the bond requirements stated in the Bid Documents, each successful Bidder shall purchase adequate insurance for the performance of the Contract and, by submission of a Bid, agrees to indemnify and save harmless and to defend all legal or equitable actions brought against the State, any Agency, officer and/or employee of the State, for and from all claims of liability which is or may be the result of the successful Bidder's actions during the performance of the Contract.

4.3.2 The purchase or nonpurchase of such insurance or the involvement of the successful Bidder in any legal or equitable defense of any action brought against the successful Bidder based upon work performed pursuant to the Contract will not waive any defense which the State, its agencies and their respective officers, employees and agents might otherwise have against such claims, specifically including the defense of sovereign immunity, where applicable, and by the terms of this section, the State and all agencies, officers and employees thereof shall not be financially responsible for the consequences of work performed, pursuant to said contract.

4.4 RIGHT TO AUDIT RECORDS

4.4.1 The Owner shall have the right to audit the books and records of a Contractor or any Subcontractor under any Contract or Subcontract to the extent that the books and records relate to the performance of the Contract or Subcontract.

4.4.2 Said books and records shall be maintained by the Contractor for a period of seven (7) years from the date of final payment under the Prime Contract and by the Subcontractor for a period of seven (7) years from the date of final payment under the Subcontract.

ARTICLE 5: SUBCONTRACTORS

5.1 SUBCONTRACTING REQUIREMENTS

5.1.1 All contracts for the construction, reconstruction, alteration or repair of any public building (not a road, street or highway) shall be subject to the following provisions:

1. A contract shall be awarded only to a Bidder whose Bid is accompanied by a statement containing, for each Subcontractor category, the name and address (city or town and State only – street number and P.O. Box addresses not required) of the subcontractor whose services the Bidder intends to use in performing the Work and providing the material for such Subcontractor category.
2. A Bid will not be accepted nor will an award of any Contract be made to any Bidder which, as the Prime Contractor, has listed itself as the Subcontractor for any Subcontractor unless:
 - A. It has been established to the satisfaction of the awarding Agency that the Bidder has customarily performed the specialty work of such Subcontractor category by artisans regularly employed by the Bidder's firm;
 - B. That the Bidder is duly licensed by the State to engage in such specialty work, if the State requires licenses; and

- C. That the Bidder is recognized in the industry as a bona fide Subcontractor or Contractor in such specialty work and Subcontractor category.

5.1.2 The decision of the awarding Agency as to whether a Bidder who list itself as the Subcontractor for a Subcontractor category shall be final and binding upon all Bidders, and no action of any nature shall lie against any awarding agency or its employees or officers because of its decision in this regard.

5.1.3 After such a Contract has been awarded, the successful Bidder shall not substitute another Subcontractor for any Subcontractor whose name was set forth in the statement which accompanied the Bid without the written consent of the awarding Agency.

5.1.4 No Agency shall consent to any substitution of Subcontractors unless the Agency is satisfied that the Subcontractor whose name is on the Bidders accompanying statement:

- A. Is unqualified to perform the work required;
- B. Has failed to execute a timely reasonable Subcontract,
- C. Has defaulted in the performance on the portion of the work covered by the Subcontract; or
- D. Is no longer engaged in such business.

5.1.5 Should a Bidder be awarded a contract, such successful Bidder shall provide to the agency the taxpayer identification license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the agency to which it is contracting, within 30 days of entering into such public works contract, copies of all Delaware Business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after the Bidder entered the public works contract the Delaware Business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

5.2 PENALTY FOR SUBSTITUTION OF SUBCONTRACTORS

5.2.1 Should the Contractor fail to utilize any or all of the Subcontractors in the Contractor's Bid statement in the performance of the Work on the public bidding, the Contractor shall be penalized in the amount of (project specific amount*). The Agency may determine to deduct payments of the penalty from the Contractor or have the amount paid directly to the Agency. Any penalty amount assessed against the Contractor may be remitted or refunded, in whole or in part, by the Agency awarding the Contract, only if it is established to the satisfaction of the Agency that the Subcontractor in question has defaulted or is no longer engaged in such business. No claim for the remission or refund of any penalty shall be granted unless an application is filed within one year after the liability of the successful Bidder accrues. All penalty amounts assessed and not refunded or remitted to the contractor shall be reverted to the State.

*one (1) percent of contract amount not to exceed \$10,000

5.3 ASBESTOS ABATEMENT

5.3.1 The selection of any Contractor to perform asbestos abatement for State-funded projects shall be approved by the Office of Management and Budget, Division of Facilities Management pursuant to Chapter 78 of Title 16.

5.4 STANDARDS OF CONSTRUCTION FOR THE PROTECTION OF THE PHYSICALLY HANDICAPPED

5.4.1 All Contracts shall conform with the standard established by the Delaware Architectural Accessibility Board unless otherwise exempted by the Board.

5.5 CONTRACT PERFORMANCE

5.5.1 Any firm entering into a Public Works Contract that neglects or refuses to perform or fails to comply with its terms, the Agency may terminate the Contract and proceed to award a new Contract or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond.

ARTICLE 6: CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS

6.1 The Owner reserves the right to simultaneously perform other construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other Projects at the same site.

6.2 The Contractor shall afford the Owner and other Contractors reasonable opportunity for access and storage of materials and equipment, and for the performance of their activities, and shall connect and coordinate their activities with other forces as required by the Contract Documents.

ARTICLE 7: CHANGES IN THE WORK

7.1 The Owner, without invalidating the Contract, may order changes in the Work consisting of Additions, Deletions, Modifications or Substitutions, with the Contract Sum and Contract completion date being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Professional, as the duly authorized agent, the Contractor and the Owner.

7.2 The Contract Sum and Contract Completion Date shall be adjusted only by a fully executed Change Order.

7.3 The additional cost, or credit to the Owner resulting from a change in the Work shall be by mutual agreement of the Owner, Contractor and the Architect. In all cases, this cost or credit shall be based on the 'DPE' wages required and the "invoice price" of the materials/equipment needed.

7.3.1 "DPE" shall be defined to mean "direct personnel expense". Direct payroll expense includes direct salary plus customary fringe benefits (prevailing wage rates) and documented statutory costs such as workman's compensation insurance, Social Security/Medicare, and unemployment insurance (a maximum multiplier of 1.35 times DPE).

7.3.2 "Invoice price" of materials/equipment shall be defined to mean the actual cost of materials and/or equipment that is paid by the Contractor, (or subcontractor), to a material distributor, direct factory vendor, store, material provider, or equipment leasing entity. Rates for equipment that is leased and/or owned by the Contractor or subcontractor(s) shall not exceed those listed in the latest version of the "Means Building Construction Cost Data" publication.

7.3.3 In addition to the above, the General Contractor is allowed a fifteen percent (15%) markup for overhead and profit for additional work performed by the General Contractor's own forces. For additional subcontractor work, the Subcontractor is allowed a fifteen (15) percent overhead and profit on change order work above and beyond the direct costs stated previously. To this amount, the General Contractor will be allowed a mark-up not exceeding seven and one half percent (7.5%) on the subcontractors work. These mark-ups shall include all costs including, but not limited to: overhead, profit, bonds, insurance, supervision, etc. No markup is permitted on the work of the subcontractors subcontractor. No additional costs shall be allowed for changes related to the Contractor's onsite superintendent/staff, or project manager, unless a change in the work changes the project duration and is identified by the CPM schedule. There will be no other costs associated with the change order.

ARTICLE 8: TIME

8.1 Time limits, if any, are as stated in the Project Manual. By executing the Agreement, the Contractor confirms that the stipulated limits are reasonable, and that the Work will be completed within the anticipated time frame.

8.2 If progress of the Work is delayed at any time by changes ordered by the Owner, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions, unavoidable casualties or other causes beyond the Contractor's control, the Contract Time shall be extended for such reasonable time as the Owner may determine.

8.3 Any extension of time beyond the date fixed for completion of the construction and acceptance of any part of the Work called for by the Contract, or the occupancy of the building by the Owner, in whole or in part, previous to the completion shall not be deemed a waiver by the Owner of his right to annul or terminate the Contract for abandonment or delay in the matter provided for, nor relieve the Contractor of full responsibility.

8.4 SUSPENSION AND DEBARMENT

8.4.1 Per Section 6962(d)(14), Title 29, Delaware Code, "Any Contractor who fails to perform a public works contract or complete a public works project within the time schedule established by the Agency in the Invitation To Bid, may be subject to Suspension or Debarment for one or more of the following reasons: a) failure to supply the adequate labor supply ratio for the project; b) inadequate financial resources; or, c) poor performance on the Project."

8.4.2 "Upon such failure for any of the above stated reasons, the Agency that contracted for the public works project may petition the Director of the Office of Management and Budget for Suspension or Debarment of the Contractor. The Agency shall send a copy of the petition to the Contractor within three (3) working days of filing with the Director. If the Director concludes that the petition has merit, the Director shall schedule and hold a hearing to determine whether to suspend the Contractor, debar the Contractor or deny the petition. The Agency shall have the burden of proving, by a preponderance of the

evidence, that the Contractor failed to perform or complete the public works project within the time schedule established by the Agency and failed to do so for one or more of the following reasons: a) failure to supply the adequate labor supply ratio for the project; b) inadequate financial resources; or, c) poor performance on the project. Upon a finding in favor of the Agency, the Director may suspend a Contractor from Bidding on any project funded, in whole or in part, with public funds for up to 1 year for a first offense, up to 3 years for a second offense and permanently debar the Contractor for a third offense. The Director shall issue a written decision and shall send a copy to the Contractor and the Agency. Such decision may be appealed to the Superior Court within thirty (30) days for a review on the record."

8.5 RETAINAGE

8.5.1 Per Section 6962(d)(5) a.3, Title 29, Delaware Code: The Agency may at the beginning of each public works project establish a time schedule for the completion of the project. If the project is delayed beyond the completion date due to the Contractor's failure to meet their responsibilities, the Agency may forfeit, at its discretion, all or part of the Contractor's retainage.

8.5.2 This forfeiture of retainage also applies to the timely completion of the punchlist. A punchlist will only be prepared upon the mutual agreement of the Owner, Architect and Contractor. Once the punchlist is prepared, all three parties will by mutual agreement, establish a schedule for its completion. Should completion of the punchlist be delayed beyond the established date due to the Contractor's failure to meet their responsibilities, the Agency may hold permanently, at its discretion, all or part of the Contractor's retainage.

ARTICLE 9: PAYMENTS AND COMPLETION

9.1 APPLICATION FOR PAYMENT

9.1.1 Applications for payment shall be made upon AIA Document G702. There will be a five percent (5%) retainage on all Contractor's monthly invoices until completion of the project. This retainage may become payable upon receipt of all required closeout documentation, provided all other requirements of the Contract Documents have been met.

9.1.2 A date will be fixed for the taking of the monthly account of work done. Upon receipt of Contractor's itemized application for payment, such application will be audited, modified, if found necessary, and approved for the amount. Statement shall be submitted to the Owner.

9.1.3 Section 6516, Title 29 of the Delaware Code annualized interest is not to exceed 12% per annum beginning thirty (30) days after the "presentment" (as opposed to the date) of the invoice.

9.2 PARTIAL PAYMENTS

9.2.1 Any public works Contract executed by any Agency may provide for partial payments at the option of the Owner with respect to materials placed along or upon the sites or stored at secured locations, which are suitable for use in the performance of the contract.

9.2.2 When approved by the agency, partial payment may include the values of tested and acceptable materials of a nonperishable or noncontaminative nature which have been produced or furnished for incorporation as a permanent part of the work yet to be completed, provided acceptable provisions have been made for storage.

9.2.2.1 Any allowance made for materials on hand will not exceed the delivered cost of the materials as verified by invoices furnished by the Contractor, nor will it exceed the contract bid price for the material complete in place.

9.2.3 If requested by the Agency, receipted bills from all Contractors, Subcontractors, and material, men, etc., for the previous payment must accompany each application for payment. Following such a request, no payment will be made until these receipted bills have been received by the Owner.

9.3 SUBSTANTIAL COMPLETION

9.3.1 When the building has been made suitable for occupancy, but still requires small items of miscellaneous work, the Owner will determine the date when the project has been substantially completed.

9.3.2 If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and without terminating the Contract, the Owner may make payment of the balance due for the portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment that it shall not constitute a waiver of claims.

9.3.3 On projects where commissioning is included, the commissioning work as defined in the specifications must be complete prior to the issuance of substantial completion.

9.4 FINAL PAYMENT

9.4.1 Final payment, including the five percent (5%) retainage if determined appropriate, shall be made within thirty (30) days after the Work is fully completed and the Contract fully performed and provided that the Contractor has submitted the following closeout documentation (in addition to any other documentation required elsewhere in the Contract Documents):

9.4.1.1 Evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work have been paid,

9.4.1.2 An acceptable RELEASE OF LIENS,

9.4.1.3 Copies of all applicable warranties,

9.4.1.4 As-built drawings,

9.4.1.5 Operations and Maintenance Manuals,

9.4.1.6 Instruction Manuals,

9.4.1.7 Consent of Surety to final payment.

9.4.1.8 The Owner reserves the right to retain payments, or parts thereof, for its protection until the foregoing conditions have been complied with, defective work corrected and all unsatisfactory conditions remedied.

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

- 10.1 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take all reasonable precautions to prevent damage, injury or loss to: workers, persons nearby who may be affected, the Work, materials and equipment to be incorporated, and existing property at the site or adjacent thereto. The Contractor shall give notices and comply with applicable laws ordinances, rules regulations, and lawful orders of public authorities bearing on the safety of persons and property and their protection from injury, damage, or loss. The Contractor shall promptly remedy damage and loss to property at the site caused in whole or in part by the Contractor, a Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.
- 10.2 The Contractor shall notify the Owner in the event any existing hazardous material such as lead, PCBs, asbestos, etc. is encountered on the project. The Owner will arrange with a qualified specialist for the identification, testing, removal, handling and protection against exposure or environmental pollution, to comply with applicable regulation laws and ordinances. The Contractor and Architect will not be required to participate in or to perform this operation. Upon completion of this work, the Owner will notify the Contractor and Architect in writing the area has been cleared and approved by the authorities in order for the work to proceed. The Contractor shall attach documentation from the authorities of said approval.
- 10.3 As required in the Hazardous Chemical Information Act of June 1984, all vendors supplying any materials that may be defined as hazardous, must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a warning caution on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in any foreseeable emergency situation. Material Safety Data Sheets must be provided directly to the Owner along with the shipping slips that include those products.
- 10.4 The Contractor shall certify to the Owner that materials incorporated into the Work are free of all asbestos. This certification may be in the form of Material Safety Data Sheet (MSDS) provided by the product manufacturer for the materials used in construction, as specified or as provided by the Contractor.

ARTICLE 11: INSURANCE AND BONDS

- 11.1 The Contractor shall carry all insurance required by law, such as Unemployment Insurance, etc. The Contractor shall carry such insurance coverage as they desire on their own property such as a field office, storage sheds or other structures erected upon the project site that belong to them and for their own use. The Subcontractors involved with this project shall carry whatever insurance protection they consider necessary to cover the loss of any of their personal property, etc.
- 11.2 Upon being awarded the Contract, the Contractor shall obtain a minimum of two (2) copies of all required insurance certificates called for herein, and submit one (1) copy of each certificate, to the Owner, within 20 days of contract award.
- 11.3 Bodily Injury Liability and Property Damage Liability Insurance shall, in addition to the coverage included herein, include coverage for injury to or destruction of any property arising out of the collapse of or structural injury to any building or structure due to demolition work and evidence of these coverages shall be filed with and approved by the Owner.

- 11.4 The Contractor's Property Damage Liability Insurance shall, in addition to the coverage noted herein, include coverage on all real and personal property in their care, custody and control damaged in any way by the Contractor or their Subcontractors during the entire construction period on this project.
- 11.5 Builders Risk (including Standard Extended Coverage Insurance) on the existing building during the entire construction period, shall not be provided by the Contractor under this contract. The Owner shall insure the existing building and all of its contents and all this new alteration work under this contract during entire construction period for the full insurable value of the entire work at the site. Note, however, that the Contractor and their Subcontractors shall be responsible for insuring building materials (installed and stored) and their tools and equipment whenever in use on the project, against fire damage, theft, vandalism, etc.
- 11.6 Certificates of the insurance company or companies stating the amount and type of coverage, terms of policies, etc., shall be furnished to the Owner, within 20 days of contract award.
- 11.7 The Contractor shall, at their own expense, (in addition to the above) carry the following forms of insurance:
- 11.7.1 Contractor's Contractual Liability Insurance
- Minimum coverage to be:
- | | | |
|-----------------|---|---|
| Bodily Injury | \$500,000
\$1,000,000
\$1,000,000 | for each person
for each occurrence
aggregate |
| Property Damage | \$500,000
\$1,000,000 | for each occurrence
aggregate |
- 11.7.2 Contractor's Protective Liability Insurance
- Minimum coverage to be:
- | | | |
|-----------------|---|---|
| Bodily Injury | \$500,000
\$1,000,000
\$1,000,000 | for each person
for each occurrence
aggregate |
| Property Damage | \$500,000
\$500,000 | for each occurrence
aggregate |
- 11.7.3 Automobile Liability Insurance
- Minimum coverage to be:
- | | | |
|-----------------|----------------------------|--|
| Bodily Injury | \$1,000,000
\$1,000,000 | for each person
for each occurrence |
| Property Damage | \$500,000 | per accident |
- 11.7.4 Prime Contractor's and Subcontractors' policies shall include contingent and contractual liability coverage in the same minimum amounts as 11.7.1 above.
- 11.7.5 Workmen's Compensation (including Employer's Liability):

- 11.7.5.1 Minimum Limit on employer's liability to be as required by law.
- 11.7.5.2 Minimum Limit for all employees working at one site.
- 11.7.6 Certificates of Insurance must be filed with the Owner guaranteeing fifteen (15) days prior notice of cancellation, non-renewal, or any change in coverages and limits of liability shown as included on certificates.
- 11.7.7 Social Security Liability
- 11.7.7.1 With respect to all persons at any time employed by or on the payroll of the Contractor or performing any work for or on their behalf, or in connection with or arising out of the Contractor's business, the Contractor shall accept full and exclusive liability for the payment of any and all contributions or taxes or unemployment insurance, or old age retirement benefits, pensions or annuities now or hereafter imposed by the Government of the United States and the State or political subdivision thereof, whether the same be measured by wages, salaries or other remuneration paid to such persons or otherwise.
- 11.7.7.2 Upon request, the Contractor shall furnish Owner such information on payrolls or employment records as may be necessary to enable it to fully comply with the law imposing the aforesaid contributions or taxes.
- 11.7.7.3 If the Owner is required by law to and does pay any and/or all of the aforesaid contributions or taxes, the Contractor shall forthwith reimburse the Owner for the entire amount so paid by the Owner.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

- 12.1 The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed, and shall correct any Work found to be not in accordance with the requirements of the Contract Documents within a period of two years from the date of Substantial Completion, or by terms of an applicable special warranty required by the Contract Documents. The provisions of this Article apply to work done by Subcontractors as well as to Work done by direct employees of the Contractor.
- 12.2 At any time during the progress of the work, or in any case where the nature of the defects shall be such that it is not expedient to have them corrected, the Owner, at their option, shall have the right to deduct such sum, or sums, of money from the amount of the contract as they consider justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

ARTICLE 13: MISCELLANEOUS PROVISIONS

13.1 CUTTING AND PATCHING

- 13.1.1 The Contractor shall be responsible for all cutting and patching. The Contractor shall coordinate the work of the various trades involved.

13.2 DIMENSIONS

- 13.2.1 All dimensions shown shall be verified by the Contractor by actual measurements at the project site. Any discrepancies between the drawings and specifications and the existing conditions shall be referred to the Owner for adjustment before any work affected thereby has been performed.

13.3 LABORATORY TESTS

13.3.1 Any specified laboratory tests of material and finished articles to be incorporated in the work shall be made by bureaus, laboratories or agencies approved by the Owner and reports of such tests shall be submitted to the Owner. The cost of the testing shall be paid for by the Contractor.

13.3.2 The Contractor shall furnish all sample materials required for these tests and shall deliver same without charge to the testing laboratory or other designated agency when and where directed by the Owner.

13.4 ARCHAEOLOGICAL EVIDENCE

13.4.1 Whenever, in the course of construction, any archaeological evidence is encountered on the surface or below the surface of the ground, the Contractor shall notify the authorities of the Delaware Archaeological Board and suspend work in the immediate area for a reasonable time to permit those authorities, or persons designated by them, to examine the area and ensure the proper removal of the archaeological evidence for suitable preservation in the State Museum.

13.5 GLASS REPLACEMENT AND CLEANING

13.5.1 The General Contractor shall replace without expense to the Owner all glass broken during the construction of the project. If job conditions warrant, at completion of the job the General Contractor shall have all glass cleaned and polished.

13.6 WARRANTY

13.6.1 For a period of two (2) years from the date of substantial completion, as evidenced by the date of final acceptance of the work, the contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect of equipment, material or workmanship performed by the contractor or any of his subcontractors or suppliers. However, manufacturer's warranties and guarantees, if for a period longer than two (2) years, shall take precedence over the above warranties. The contractor shall remedy, at his own expense, any such failure to conform or any such defect. The protection of this warranty shall be included in the Contractor's Performance Bond.

ARTICLE 14: TERMINATION OF CONTRACT

14.1 If the Contractor defaults or persistently fails or neglects to carry out the Work in accordance with the Contract Documents or fails to perform a provision of the Contract, the Owner, after seven days written notice to the Contractor, may make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor. Alternatively, at the Owner's option, and the Owner may terminate the Contract and take possession of the site and of all materials, equipment, tools, and machinery thereon owned by the Contractor and may finish the Work by whatever method the Owner may deem expedient. If the costs of finishing the Work exceed any unpaid compensation due the Contractor, the Contractor shall pay the difference to the Owner.

14.2 "If the continuation of this Agreement is contingent upon the appropriation of adequate state, or federal funds, this Agreement may be terminated on the date beginning on the first fiscal year for which funds are not appropriated or at the exhaustion of the appropriation. The Owner may terminate this Agreement by providing written notice to the parties of such non-appropriation. All payment obligations of the Owner will cease

upon the date of termination. Notwithstanding the foregoing, the Owner agrees that it will use its best efforts to obtain approval of necessary funds to continue the Agreement by taking appropriate action to request adequate funds to continue the Agreement.”

END OF GENERAL REQUIREMENTS

Section 00 90 10

ASBESTOS CONTENT

- The following asbestos containing material was found within the existing roofing and flashing systems:

1912 Building

Summary Of Materials Assessed			
ID	Material Description	Analytical Results	Quantity
001	Roof Material (Modified Mop Down)	No Asbestos Detected	440 SF
002	Roof Flashing	10% Chrysotile Asbestos	8 SF
003	Roof Material (Modified Mop Down)	No Asbestos Detected	777 SF
004	Mechanical Flashing	No Asbestos Detected	32 SF
005	Roof Flashing	10% Chrysotile Asbestos	21 SF
006	Roof Material (EPDM)	No Asbestos Detected	96 SF
007	Roof Material (EPDM)	No Asbestos Detected	480 SF
008	Roof Flashing	10% Chrysotile Asbestos	7 SF
009	Roof Material (EPDM)	No Asbestos Detected	880 SF
010	Roof Flashing	No Asbestos Detected	126 SF
011	Roof Material (EPDM)	No Asbestos Detected	1,739 SF
012	Roof Material (Modified Mop Down)	No Asbestos Detected	627 SF
013	Roof Flashing (Seam)	No Asbestos Detected	32 SF
014	Mechanical Flashing	No Asbestos Detected	32 SF
015	Roof Material (Modified Mop Down)	No Asbestos Detected	627 SF
016	Roof Flashing (Seam)	No Asbestos Detected	32 SF
017	Mechanical Flashing	No Asbestos Detected	32 SF
018	Roof Material (EPDM)	No Asbestos Detected	714 SF
019	Roof Flashing	No Asbestos Detected	76 SF
020	Roof Material	No Asbestos Detected	464 SF
021	Roof Flashing	10% Chrysotile Asbestos	16 SF
022	Roof Material - Roof #12	No Asbestos Detected	1,272 SF
023	Roof Shingle - Roof #12	No Asbestos Detected	2,296 SF
024	Roof Felt Paper - Roof #12	No Asbestos Detected	2,296 SF
025	Roof Material - Roof #12	2% Chrysotile Asbestos	1,272 SF
026	Roof Material - Roof #12	5% Chrysotile Asbestos	1,272 SF

Main Hospital

Summary Of Materials Assessed

ID	Material Description	Analytical Results	Quantity
001	Roof Material (EPDM Seam Caulk)	No Asbestos Detected	576 SF
002	Roof Material (Modified Mop Down)	No Asbestos Detected	864 SF
003	Roof Material (EPDM Seam Caulk)	No Asbestos Detected	2,132 SF
004	Roof Material (EPDM Seam Tape)	No Asbestos Detected	3,825 SF
005	Roof Flashing	5% Chrysotile Asbestos	20 SF
006	Roof Material (EPDM Seam Caulk)	No Asbestos Detected	6,063 SF
007	Shingle Boards (Carei Tread) Green	No Asbestos Detected	192 SF
008	Shingle Boards (Carei Tread) Black	3% Chrysotile Asbestos	192 SF
009	Roof Flashing (Around Fan Units)	5% Chrysotile Asbestos	88 SF
010	Roof Material (EPDM Seam Tape)	No Asbestos Detected	300 SF
011	Roof Material	No Asbestos Detected	888 SF
012	Roof Material (Built up-F/G Felt)	No Asbestos Detected	2,295 SF
013	Roof Flashing	No Asbestos Detected	102 SF
014	Mechanical Flashing	No Asbestos Detected	20 SF
015	Roof Material (Built up F/G Felt)	No Asbestos Detected	2,600 SF
016	Roof Flashing	5% Chrysotile Asbestos	130 SF
017	Roof Material (Built up F/G Felt)	No Asbestos Detected	648 SF
018	Roof Flashing	10% Chrysotile Asbestos	10 SF
019	Roof Material (Built up)	No Asbestos Detected	132 SF

- The roofing contractor will be responsible to coordinate the asbestos removal so the correct amount of roofing can be installed to keep the buildings watertight.
- The roofing contractor will be responsible to temporally flash all areas where asbestos material has been removed.

Emily P. Bissell Hospital
1912 Building
Asbestos Roof Inspections
Wilmington, DE

FINAL REPORT – 4/26/13
Harvard Project # 12015

Prepared For:

Daniel Episcopo
State of Delaware Division of Facilities Management
1901 N. Dupont Highway
New Castle, DE 19720

Prepared By:

Harvard Environmental, Inc.
760 Pulaski Highway
Bear Delaware 19701
302-326-2333

Written By: Michael Sanders
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Harvard Environmental, Inc.


Released By: 
W.G. Morrison, Jr.
President
Harvard Environmental, Inc.

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Introductions & Executive Summary

Harvard Environmental, Inc. herein presents data associated with inspections performed at the Main Building of the Emily P. Bissell Hospital located at 3000 Newport Gap Pike in Wilmington, DE 19808. This inspection was performed to provide compliance with 40 CFR Part 61, "Asbestos NESHAP. These Environmental Protection Agency, (EPA), regulations require inspections to be performed by certified asbestos building inspectors prior to renovations and/or demolition of facilities. This effort was performed at the request of State of Delaware Health & Social Services and Division of Facilities Management.

This project was performed in order to identify asbestos containing roofing materials that may impacted during future roofing repair projects to the 1912 Building. Harvard Environmental Inc. assessed the impacted building materials which would be considered suspect asbestos containing. A listing of locations, systems and/or materials which were not assessed may be found under "Non Assessed Conditions" found further in this report.

Harvard requested drawings of the existing facility layouts/designs to assist in documenting field assessments and to provide insight as to the location of suspect materials which may be associated with the facility. Floor plans of the facility were not available.

The last day of visitation to the site was performed on 1/30/13. Conditions described within this document are accurate as of the date of last visitation. Mr. Jeffrey Hogate was the responsible Harvard Environmental, Inc. employee which led the field efforts associated with the work.

Representative sampling of suspect asbestos building materials was performed on impacted building materials. The sampling effort was conducted in accordance with EPA regulations and industry accepted standards.

Asbestos analysis was completed utilizing Polarized Light Microscopy, (PLM). PLM utilizes an optical microscope equipped with a polarizing lens through which trained microscopist can identify asbestos fibers according to their crystalline structure. This method of analysis is recognized throughout the industry as standard practice. Prior to determining the type of fiber, the sample was placed under a "Stereo Microscope" at approximately 150X magnification for purposes of visual estimation. Various fiber types were pulled from the sample and oils applied to determine refractive indices under the polarized light microscope.

This recognized method of analysis has a detection limit of 1% by volume. Percentages of asbestos < 1% are reported as "trace" and are not considered asbestos containing materials under EPA regulations.

In order to best document the assessment, Harvard Environmental, Inc. assessed the layout and design of locations requiring assessment and assigned each geographic area a unique alpha/numeric "grid" identifier. These identifiers are specific locations of the assessment and are the basis for orientation of the data.

Based on the information provided to Harvard Environmental, Inc., coupled with field inspections and laboratory analysis of samples collected, asbestos was present on five (5) roof sections.

Provided is a summary listing of materials assessed under this inspection. The detailed inspection data is provided as appendices further in the report.

Summary Of Materials Assessed

ID	Material Description	Analytical Results	Quantity
001	Roof Material (Modified Mop Down)	No Asbestos Detected	440 SF
002	Roof Flashing	10% Chrysotile Asbestos	8 SF
003	Roof Material (Modified Mop Down)	No Asbestos Detected	777 SF
004	Mechanical Flashing	No Asbestos Detected	32 SF
005	Roof Flashing	10% Chrysotile Asbestos	21 SF
006	Roof Material (EPDM)	No Asbestos Detected	96 SF
007	Roof Material (EPDM)	No Asbestos Detected	480 SF
008	Roof Flashing	10% Chrysotile Asbestos	7 SF
009	Roof Material (EPDM)	No Asbestos Detected	880 SF
010	Roof Flashing	No Asbestos Detected	126 SF
011	Roof Material (EPDM)	No Asbestos Detected	1,739 SF
012	Roof Material (Modified Mop Down)	No Asbestos Detected	627 SF
013	Roof Flashing (Seam)	No Asbestos Detected	32 SF
014	Mechanical Flashing	No Asbestos Detected	32 SF
015	Roof Material (Modified Mop Down)	No Asbestos Detected	627 SF
016	Roof Flashing (Seam)	No Asbestos Detected	32 SF
017	Mechanical Flashing	No Asbestos Detected	32 SF
018	Roof Material (EPDM)	No Asbestos Detected	714 SF
019	Roof Flashing	No Asbestos Detected	76 SF
020	Roof Material	No Asbestos Detected	464 SF
021	Roof Flashing	10% Chrysotile Asbestos	16 SF
022	Roof Material - Roof #12	No Asbestos Detected	1,272 SF
023	Roof Shingle - Roof #12	No Asbestos Detected	2,296 SF
024	Roof Felt Paper - Roof #12	No Asbestos Detected	2,296 SF
025	Roof Material - Roof #12	2% Chrysotile Asbestos	1,272 SF
026	Roof Material - Roof #12	5% Chrysotile Asbestos	1,272 SF

Non Assessed Conditions

Systems and/or materials provided on the list below were not assessed under this inspection and therefore should not be disturbed. In the event disturbance is required to accomplish the project objectives additional investigations will be required.

- This inspection was limited to the roof areas and materials identified within the appendices of this report.

Recommendations

Based on the findings of the inspection, Harvard Environmental, Inc. is providing the following recommendations.

- If over the course of project execution, materials of questionable content are discovered, or should the Scope of Work expand beyond the parameters communicated to Harvard Environmental, Inc., additional inspections will be required in order to maintain compliance with Federal and State regulations.
- Abatement of all asbestos containing building materials must be performed prior to any demolition or renovations of those areas containing the materials. Harvard Environmental, Inc. can further assist your needs for compliance with state regulations regarding asbestos abatement projects.

This report is intended to provide "basic data" only. It is assumed that individuals reading and interpreting the sample locations and results, methods of analysis and hazards associated with the materials, are knowledgeable in all areas of discussion. Should any questions arise regarding the content of the information presented, contact should be exclusively to Harvard Environmental, Inc., Bear, Delaware, 1-302-326-2333. This document should be archived by the Owner for historical reference.

Certifications And Accreditations

Appendix A

LICENSE NO. 1993108790 STATE OF DELAWARE
POST CONSPICUOUSLY DIVISION OF REVENUE VALID
01/01/11 - 12/31/13
NOT TRANSFERABLE

DLN: 11 50117 84 BUSINESS CODE 099 LICENSED PROFESSIONAL AND/OR PRSL SRVCS-UNCLASSIFIED
GROUP CODE 007 ACTIVITY PROFESSIONAL AND/OR PERSONAL SERVICES

DATE ISSUED: 01/10/11
LICENSE FEE: \$ 225.00 **VALIDATED**

MAILING ADDRESS BUSINESS LICENSE BUSINESS LOCATION
#BWNKHPS
#18MO X3V0 1LM0 8IB0#
HARVARD ENVIRONMENTAL INC
760 PULASKI HWY
BEAR DE 19701-5200

HARVARD ENVIRONMENTAL INC
760 PULASKI HWY
BEAR DE 19701-5200

IS HEREBY LICENSED TO PRACTICE, CONDUCT OR ENGAGE IN THE OCCUPATION
OR BUSINESS ACTIVITY INDICATED ABOVE IN ACCORDANCE WITH THE LICENSE
APPLICATION DULY FILED PURSUANT TO TITLE 30, DEL. CODE

PATRICK T. CARTER
DIRECTOR OF REVENUE

STATE OF DELAWARE
THIS CERTIFIES THAT
Harvard Environmental, Incorporated
Has satisfactorily completed the requirements prescribed by the Office of Management & Budget as a
Asbestos Abatement Professional Service Firm this
Twelfth Day of February Two Thousand Thirteen
This certification is valid for one (1) year to perform asbestos services within the State of Delaware.
This certification shall be proof that the above named Contractor has met the minimum requirements
established by the State of Delaware for temporary certification. It is not intended as an overall
endorsement of the Contractor's ability to provide services of varying size and shape. It does not endorse
the methods and types of respiratory protection used by the Contractor.

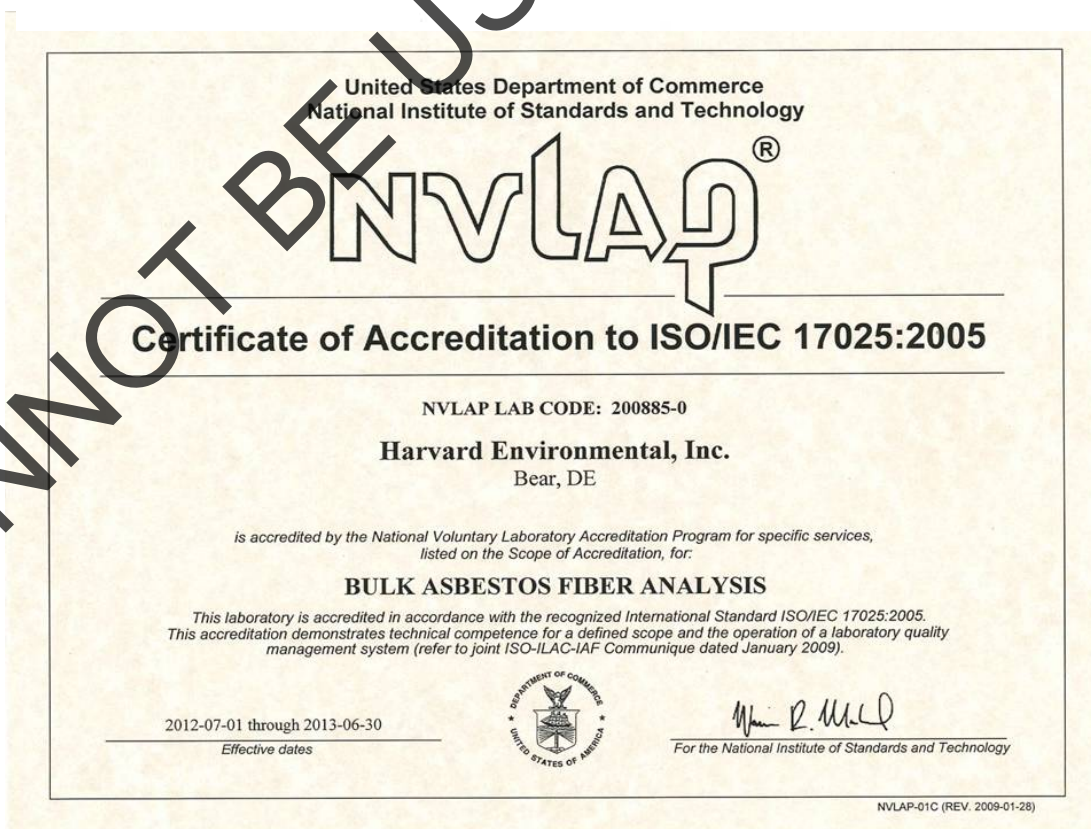
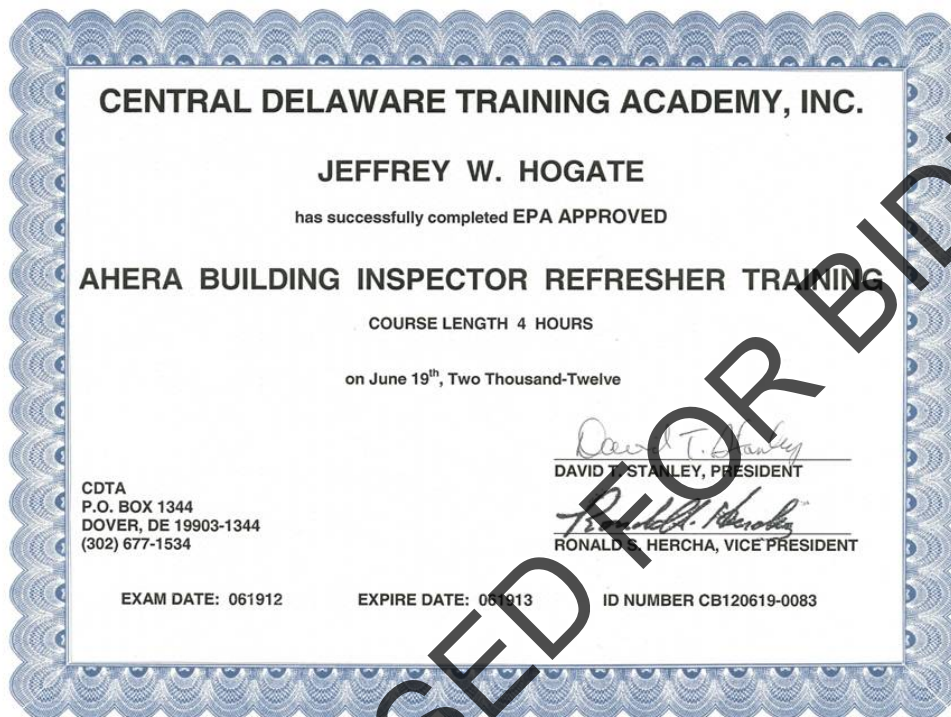
Contractor's Address: 760 Pulaski Highway
Bear, DE 19701

Expiration Date: February 12, 2014

Certification Number: PS-054

Director
Division of Facilities Management

Certifications And Accreditations



Homogeneous Characterizations Report

Appendix B

CANNOT BE USED FOR BIDDING

Homogeneous Systems Report

Homogeneous System 001	<div><div></div>440 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 001A	RM 001B	RM 001C		
	Collection Point Grid	R-1	R-1	R-1		
Description Roof Material (Modified Mop Down)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 002	<div><div></div>8 SF</div>	<input checked="" type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results 10% Chrysotile Asbestos	Sample Identification	RF 002A	RF 002B	RF 002C		
	Collection Point Grid	R-1	R-1	R-1		
Description Roof Flashing	Analytical Results	10% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed		
Homogeneous System 003	<div><div></div>777 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 003A	RM 003B	RM 003C		
	Collection Point Grid	R-2	R-2	R-2		
Description Roof Material (Modified Mop Down)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 004	<div><div></div>32 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	MF 004A	MF 004B	MF 004C		
	Collection Point Grid	R-2	R-2	R-2		
Description Mechanical Flashing	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		

Notes:

- "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
- "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 005	21 SF		<input checked="" type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results 10% Chrysotile Asbestos	Sample Identification	RF 005A	RF 005B	RF 005C
Description Roof Flashing	Collection Point Grid	R-2	R-2	R-2
	Analytical Results	10% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed

Homogeneous System 006	96 SF		<input type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input checked="" type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results No Asbestos Detected	Sample Identification	RM 006A	RM 006B	RM 006C
Description Roof Material (EPDM)	Collection Point Grid	R-3	R-3	R-3
	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

Homogeneous System 007	480 SF		<input type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input checked="" type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results No Asbestos Detected	Sample Identification	RM 007A	RM 007B	RM 007C
Description Roof Material (EPDM)	Collection Point Grid	R-4	R-4	R-4
	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

Homogeneous System 008	7 SF		<input checked="" type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results 10% Chrysotile Asbestos	Sample Identification	RF 008A	RF 008B	RF 008C
Description Roof Flashing	Collection Point Grid	R-4	R-4	R-4
	Analytical Results	10% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed

Notes:

1. "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
2. "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 009	<div><div></div>880 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 009A	RM 009B	RM 009C		
	Collection Point Grid	R-5	R-5	R-5		
Description Roof Material (EPDM)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 010	<div><div></div>126 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RF 010A	RF 010B	RF 010C		
	Collection Point Grid	R-5	R-5	R-5		
Description Roof Flashing	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 011	<div><div></div>1739 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 011A	RM 011B	RM 011C		
	Collection Point Grid	R-7	R-7	R-7		
Description Roof Material (EPDM)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 012	<div><div></div>627 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 012A	RM 012B	RM 012C		
	Collection Point Grid	R-8	R-8	R-8		
Description Roof Material (Modified Mop Down)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		

Notes:

- "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
- "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 013	<div><div></div><div>32</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RF 013A	RF 013B	RF 013C		
	Collection Point Grid	R-8	R-8	R-8		
Description Roof Flashing (Seam)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 014	<div><div></div><div>32</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	MF 014A	MF 014B	MF 014C		
	Collection Point Grid	R-8	R-8	R-8		
Description Mechanical Flashing	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 015	<div><div></div><div>627</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 015A	RM 015B	RM 015C		
	Collection Point Grid	R-9	R-9	R-9		
Description Roof Material (Modified Mop Down)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 016	<div><div></div><div>32</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RF 016A	RF 016B	RF 016C		
	Collection Point Grid	R-9	R-9	R-9		
Description Roof Flashing (Seam)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		

Notes:

- "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
- "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 017	<div><div></div><div>32</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	MF 017A	MF 017B	MF 017C		
	Collection Point Grid	R-9	R-9	R-9		
Description Mechanical Flashing	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 018	<div><div></div><div>714</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 018A	RM 018B	RM 018C		
	Collection Point Grid	R-10	R-10	R-10		
Description Roof Material (EPDM)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 019	<div><div></div><div>76</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RF 019A	RF 019B	RF 019C		
	Collection Point Grid	R-10	R-10	R-10		
Description Roof Flashing	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 020	<div><div></div><div>464</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 020A	RM 020B	RM 020C		
	Collection Point Grid	R-11	R-11	R-11		
Description Roof Material	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		

Notes:

- "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
- "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 021	16 SF		<input checked="" type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results 10% Chrysotile Asbestos	Sample Identification	RF 021A	RF 021B	RF 021C
Description Roof Flashing	Collection Point Grid	R-11	R-11	R-11
	Analytical Results	10% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed

Homogeneous System 022	1272 SF		<input type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input checked="" type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results No Asbestos Detected	Sample Identification	022A	022B	022C
Description Roof Material - Roof #12	Collection Point Grid	R-12	R-12	R-12
	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

Homogeneous System 023	2296 SF		<input type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input checked="" type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results No Asbestos Detected	Sample Identification	RS 023 A	RS 023 B	RS 023 C
Description Roof Shingle - Roof #12	Collection Point Grid	R-12	R-12	R-12
	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

Homogeneous System 024	2296 SF		<input type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input checked="" type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results No Asbestos Detected	Sample Identification	RFP 024 A	RFP 024 B	RFP 024 C
Description Roof Felt Paper - Roof #12	Collection Point Grid	R-12	R-12	R-12
	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

Notes:

- "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
- "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 025	1272 SF		<input checked="" type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results 2% Chrysotile Asbestos	Sample Identification	RM 025 A	RM 025 B	RM 025 C
Description Roof Material - Roof #12	Collection Point Grid	R-12	R-12	R-12
	Analytical Results	2% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed

Homogeneous System 026	1272 SF		<input checked="" type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results 5% Chrysotile Asbestos	Sample Identification	RM 026 A	RM 026 B	RM 026 C
Description Roof Material - Roof #12	Collection Point Grid	R-12	R-11	R-12
	Analytical Results	5% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed

Homogeneous System NAS			<input type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input type="checkbox"/> Non-Friable	
Analytical Results	Sample Identification			
Description No Suspected ACM Roofing Materials	Collection Point Grid			
	Analytical Results			

Notes:

- "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
- "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Schematic Diagrams/Sample Locations & Material Inventory Report

Appendix C

CANNOT BE USED FOR BIDDING

Grid Descriptions

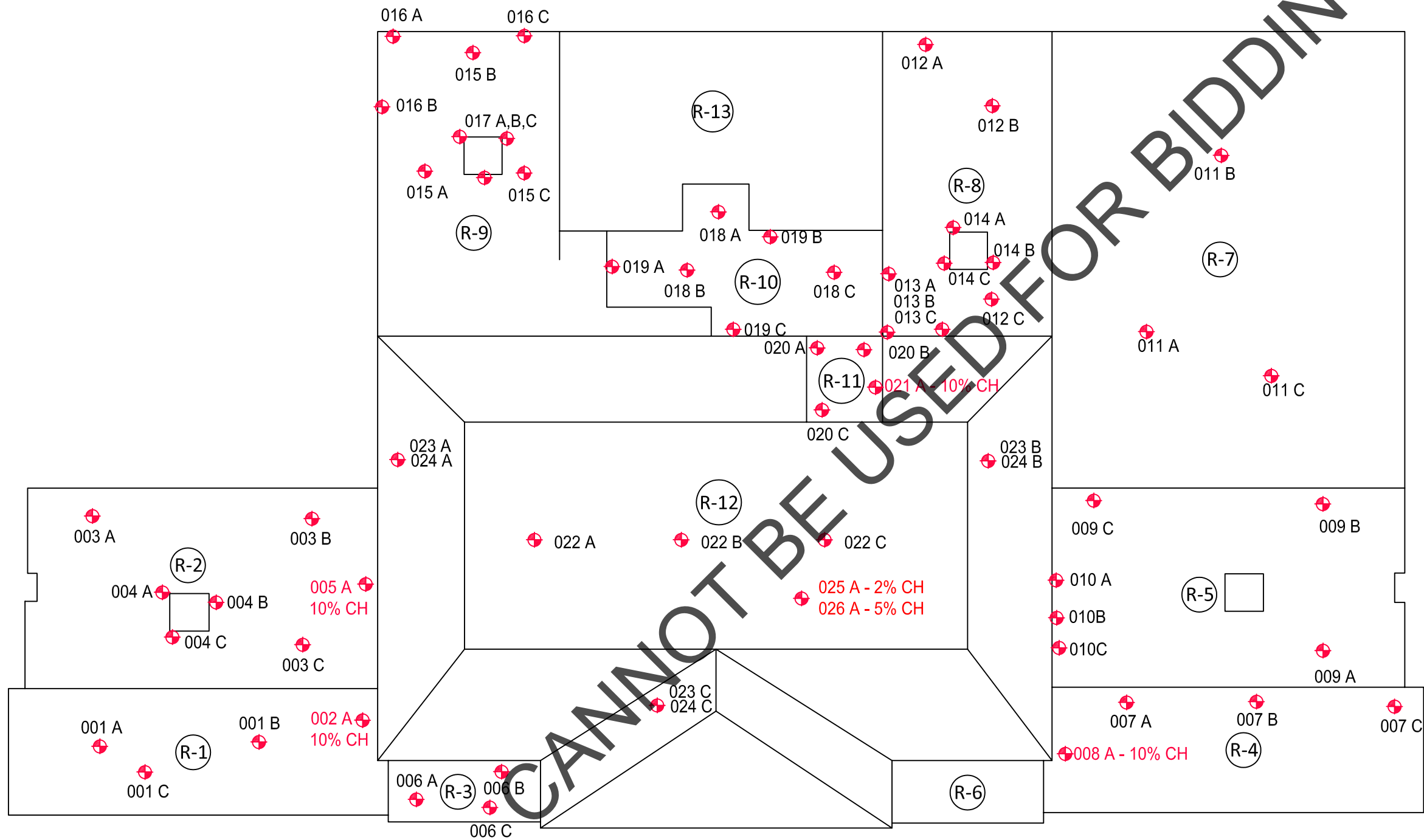
R-1	Roof	11x40-modified mop down-concrete deck-4" OSO-1" Perlite
R-10	Roof	21x34-EPDM o/concrete
R-11	Roof	29x16-Carlisle roof-wood deck-tin roof under densdeck
R-12	Roof	24x53-Carlisle roof-wood deck-tin roof under densdeck-aluminum under tin roof
R-13	Roof	11x9-new roof-EPDM per PRS-not sampled
R-2	Roof	21x37-modified mop down-concrete deck-5 1/2" ISO-1/2" fiberboard-2 ply cap
R-3	Roof	6x16-EPDM-no seam-EPDM over plywood
R-4	Roof	12x40-concrete deck-EPDM roof-1/2" Perlite-2" ISO
R-5	Roof	22x40-EPDM roof-ply wood deck-1" Perlite-2" ISO
R-6	Roof	6x10-EPDM o/plywood-no seam-not sampled
R-7	Roof	47x37-EPDM roof/ concrete deck-1" Perlite-3" ISO
R-8	Roof	33x19-wood deck-2" ISO-1" Perlite-2 ply cap
R-9	Roof	19x33-wood deck-2" ISO-1" Perlite-2 ply cap

Materials Inventory Report

Grid	System	Homogeneous	Material	Description	Quantity		Analytical Results
R-1 Roof							
	RM	001	Misc. Material	Roof Material (Modified Mop Down)	440	SF	No Asbestos Detected
	RF	002	Misc. Material	Roof Flashing	8	SF	10% Chrysotile Asbestos
R-10 Roof							
	RM	018	Misc. Material	Roof Material (EPDM)	714	SF	No Asbestos Detected
	RF	019	Misc. Material	Roof Flashing	76	SF	No Asbestos Detected
R-11 Roof							
	RM	020	Misc. Material	Roof Material	464	SF	No Asbestos Detected
	RF	021	Misc. Material	Roof Flashing	16	SF	10% Chrysotile Asbestos
R-12 Roof							
	RM	022	Misc. Material	Roof Material - Roof #12	1272	SF	No Asbestos Detected
	RS	023	Misc. Material	Roof Shingle - Roof #12	2296	SF	No Asbestos Detected
	RFP	024	Misc. Material	Roof Felt Paper - Roof #12	2296	SF	No Asbestos Detected
	RM	025	Misc. Material	Roof Material - Roof #12	1272	SF	2% Chrysotile Asbestos
	RM	026	Misc. Material	Roof Material - Roof #12	1272	SF	5% Chrysotile Asbestos
R-13 Roof							
	NAS	NAS		No Suspected ACM Roofing Materials			
R-2 Roof							
	RM	003	Misc. Material	Roof Material (Modified Mop Down)	777	SF	No Asbestos Detected
	MF	004	Misc. Material	Mechanical Flashing	32	SF	No Asbestos Detected
	RF	005	Misc. Material	Roof Flashing	21	SF	10% Chrysotile Asbestos

Materials Inventory Report

Grid	System	Homogeneous	Material	Description	Quantity		Analytical Results
R-3	Roof						
	RM	006	Misc. Material	Roof Material (EPDM)	96	SF	No Asbestos Detected
R-4	Roof						
	RM	007	Misc. Material	Roof Material (EPDM)	480	SF	No Asbestos Detected
	RF	008	Misc. Material	Roof Flashing	7	SF	10% Chrysotile Asbestos
R-5	Roof						
	RM	009	Misc. Material	Roof Material (EPDM)	880	SF	No Asbestos Detected
	RF	010	Misc. Material	Roof Flashing	126	SF	No Asbestos Detected
R-6	Roof						
	NAS	NAS		No Suspected ACM Roofing Materials			
R-7	Roof						
	RM	011	Misc. Material	Roof Material (EPDM)	1739	SF	No Asbestos Detected
R-8	Roof						
	RM	012	Misc. Material	Roof Material (Modified Mop Down)	627	SF	No Asbestos Detected
	RF	013	Misc. Material	Roof Flashing (Seam)	32	SF	No Asbestos Detected
	MF	014	Misc. Material	Mechanical Flashing	32	SF	No Asbestos Detected
R-9	Roof						
	RM	015	Misc. Material	Roof Material (Modified Mop Down)	627	SF	No Asbestos Detected
	RF	016	Misc. Material	Roof Flashing (Seam)	32	SF	No Asbestos Detected
	MF	017	Misc. Material	Mechanical Flashing	32	SF	No Asbestos Detected

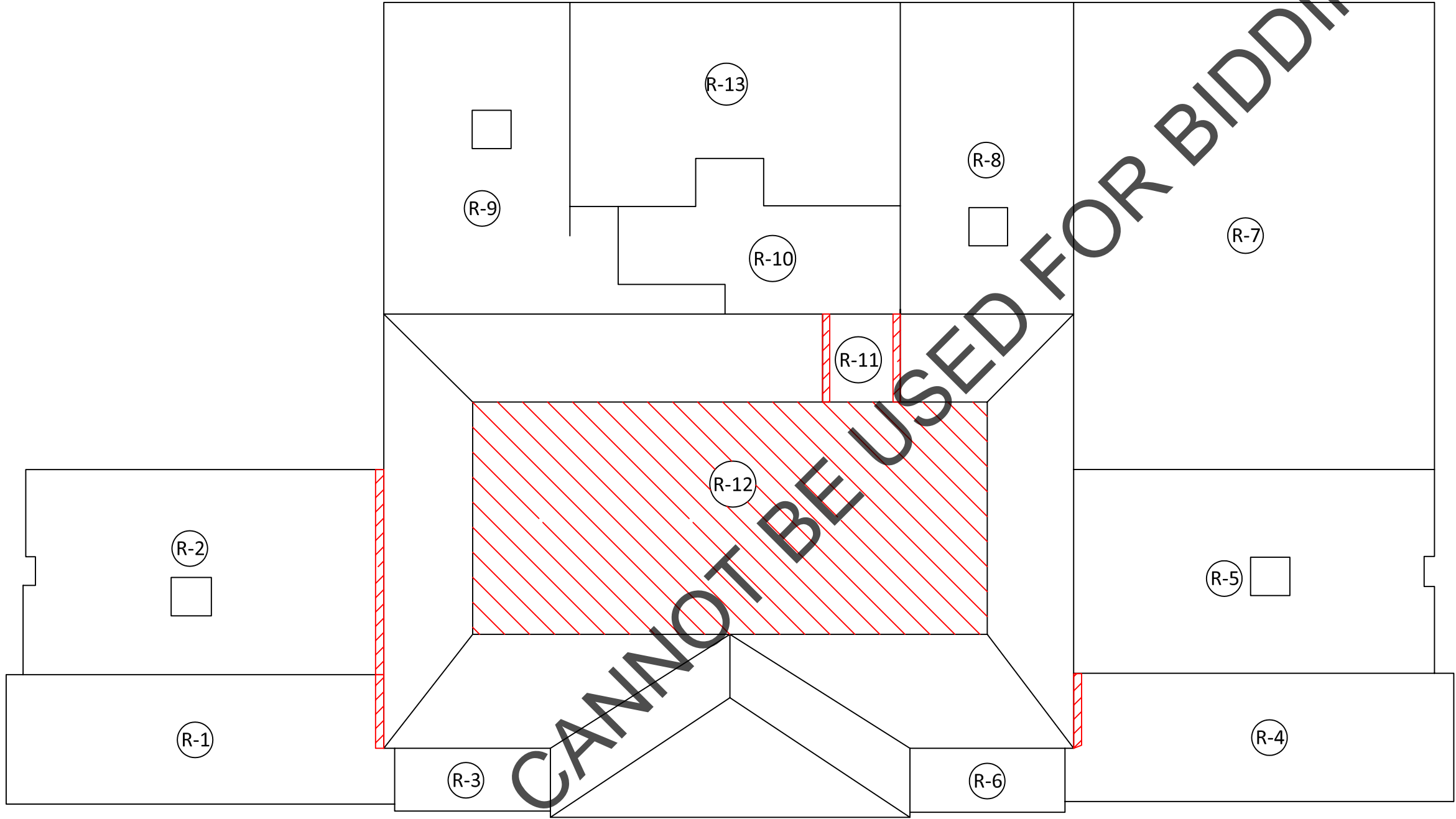


General Notes:

1. Presentation of information is based on best available information. Drawing schematics were provided to Harvard Environmental by the State of Delaware.
2. Project #12015 involved asbestos inspections for purposes of identifying asbestos roofing materials located on 1912 Building. These Drawings are not to be considered to scale and are intended to be used for orientation purposes only and identifying the locations of roofing sections and bulk samples.

Legend:



- (R-1) Roof Grid ID
- PLM Bulk Sample Location



General Notes:

- 1. Presentation of information is based on best available information. Drawing schematics were provided to Harvard Environmental by the State of Delaware.
- 2. Project #12015 involved asbestos inspections for purposes of identifying asbestos roofing materials located on 1912 Building. These Drawings are not to be considered to scale and are intended to be used for orientation purposes only and identifying the locations of roofing sections and bulk samples.

Legend:

- (R-1) Roof Grid ID
-  Asbestos Roof Flashing Tar
35 Total SF
-  Asbestos Roof Material Tar
1,272 SF



Laboratory Analysis

Appendix D

CANNOT BE USED FOR BIDDING

CERTIFICATE OF ANALYSIS

12015

To: **Mr Danny Episcopo**

Monday, February 04, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9888

QTY

Received Ashley Mote 1/30/2013 78
Logged Ashley Mote 1/31/2013 78
Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 002A

COC Description: Roof Flashing - Roof #1

LAB SAMPLE ID
69897

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
10	Chrysotile			90	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 002B

COC Description: Roof Flashing - Roof #1

LAB SAMPLE ID
69898

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 002C

COC Description: Roof Flashing - Roof #1

LAB SAMPLE ID
69899

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 003A

COC Description: Roof Material - Roof #2

LAB SAMPLE ID
69900

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	20	Cellulose	80	

Color: Black
Other Color: Grey
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.
This report shall not be reproduced except in full, without written approval of the laboratory.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based on the sample matrix. Quantification at <1% by volume is possible with this method. Analyst specific measurements of uncertainty at lower concentrations are available upon request. Analysis indicates all distinct separable layers in accordance with EPA 800 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Asghar Keyvanfar

Analyst



NVLAP Lab Code 200885-0

Approved For Release

Page 1 of 20

CERTIFICATE OF ANALYSIS

12015

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Monday, February 04, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9888

QTY

Received Ashley Mote 1/30/2013 78

Logged Ashley Mote 1/31/2013 78

Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 003B

COC Description: Roof Material - Roof #2

LAB SAMPLE ID

69901

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	20	Cellulose	80	

Color: Black
Other Color: Grey
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 003C

COC Description: Roof Material - Roof #2

LAB SAMPLE ID

69902

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	20	Cellulose	80	

Color: Black
Other Color: Grey
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 004A

COC Description: Mechanical Flashing - Roof #2

LAB SAMPLE ID

69903

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	10	Cellulose	90	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 004B

COC Description: Mechanical Flashing - Roof #2

LAB SAMPLE ID

69904

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	10	Cellulose	90	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based on the sample matrix. Quantification at <1% by volume is possible with this method. Analyst specific measurements of uncertainty at lower concentrations are available upon request. Analysis indicates all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Asghar Keyvanfar

Analyst



NVLAP Lab Code 200885-0

Approved For Release

Page 2 of 20

CERTIFICATE OF ANALYSIS

12015

To: **Mr Danny Episcopo**

Monday, February 04, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9888

QTY

Received Ashley Mote 1/30/2013 78
Logged Ashley Mote 1/31/2013 78
Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 004C

COC Description: Mechanical Flashing - Roof #2

LAB SAMPLE ID
69905

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	10	Cellulose	90	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 005A

COC Description: Roof Flashing - Roof #2

LAB SAMPLE ID
69906

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
10	Chrysotile			90	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 005B

COC Description: Roof Flashing - Roof #2

LAB SAMPLE ID
69907

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 005C

COC Description: Roof Flashing - Roof #2

LAB SAMPLE ID
69908

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based on the sample matrix. Quantification at <1% by volume is possible with this method. Analyst specific measurements of uncertainty at lower concentrations are available upon request. Analysis indicates all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Asghar Keyvanfar
Analyst

NVLAP
NVLAP Lab Code 200885-0

Approved For Release

Page 3 of 20

CERTIFICATE OF ANALYSIS

12015

To: **Mr Danny Episcopo**

Monday, February 04, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9888

QTY

Received Ashley Mote 1/30/2013 78

Logged Ashley Mote 1/31/2013 78

Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 006A

COC Description: Roof Material - Roof #3

LAB SAMPLE ID
69909

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Healed
Texture: Firm

Sample Number: 006B

COC Description: Roof Material - Roof #3

LAB SAMPLE ID
69910

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Healed
Texture: Firm

Sample Number: 006C

COC Description: Roof Material - Roof #3

LAB SAMPLE ID
69911

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Healed
Texture: Firm

Sample Number: 007A

COC Description: Roof Material - Roof #4

LAB SAMPLE ID
69912

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Healed
Texture: Firm

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Analysis Method: EPA 600/R-93/116

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Asghar Keyvanfar

Analyst



NVLAP Lab Code 200885-0

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CERTIFICATE OF ANALYSIS

12015

To: **Mr Danny Episcopo**

Monday, February 04, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9888

QTY

Received Ashley Mote 1/30/2013 78

Logged Ashley Mote 1/31/2013 78

Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 007B

COC Description: Roof Material - Roof #4

LAB SAMPLE ID
69913

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 007C

COC Description: Roof Material - Roof #4

LAB SAMPLE ID
69914

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 008A

COC Description: Roof Flashing - Roof #4

LAB SAMPLE ID
69915

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
10	Chrysotile			90	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 008B

COC Description: Roof Flashing - Roof #4

LAB SAMPLE ID
69916

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

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Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 008C

COC Description: Roof Flashing - Roof #4

LAB SAMPLE ID
89917

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
Not Analyzed		

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 009A

COC Description: Roof Material - Roof #5

LAB SAMPLE ID
69918

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 009B

COC Description: Roof Material - Roof #5

LAB SAMPLE ID
69919

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 009C

COC Description: Roof Material - Roof #5

LAB SAMPLE ID
69920

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

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Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 010A

COC Description: Roof Flashing - Roof #5

LAB SAMPLE ID

69921

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 010B

COC Description: Roof Flashing - Roof #5

LAB SAMPLE ID

69922

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 010C

COC Description: Roof Flashing - Roof #5

LAB SAMPLE ID

69923

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 011A

COC Description: Roof Material - Roof #7

LAB SAMPLE ID

69924

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Healed
Texture: Firm

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Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 011B

COC Description: Roof Material - Roof #7

LAB SAMPLE ID

69925

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 011C

COC Description: Roof Material - Roof #7

LAB SAMPLE ID

69926

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 012A

COC Description: Roof Material - Roof #8

LAB SAMPLE ID

69927

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	10 Glass	90 Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 012B

COC Description: Roof Material - Roof #8

LAB SAMPLE ID

69928

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	10 Glass	90 Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

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Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 012C

COC Description: Roof Material - Roof #8

LAB SAMPLE ID
69929

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	5 Cellulose	95

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 013A

COC Description: Roof Flashing - Roof #8

LAB SAMPLE ID
69930

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	5 Cellulose	95

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 013B

COC Description: Roof Flashing - Roof #8

LAB SAMPLE ID
69931

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	5 Cellulose	95

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 013C

COC Description: Roof Flashing - Roof #8

LAB SAMPLE ID
69932

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	5 Cellulose	95

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 014A

COC Description: Mechanical Flashing - Roof #8

LAB SAMPLE ID

69933

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Cellulose	95	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 014B

COC Description: Mechanical Flashing - Roof #8

LAB SAMPLE ID

69934

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Cellulose	95	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 014C

COC Description: Mechanical Flashing - Roof #8

LAB SAMPLE ID

69935

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Cellulose	95	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 015A

COC Description: Roof Material - Roof #9

LAB SAMPLE ID

69936

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	10	Glass	90	Binder

Color: Black
Other Color: Tan
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

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Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 015B

COC Description: Roof Material - Roof #9

LAB SAMPLE ID
69937

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	10 Glass	90 Binder

Color: Black
Other Color: Grey
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 015C

COC Description: Roof Material - Roof #9

LAB SAMPLE ID
69938

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	10 Glass	90 Binder

Color: Black
Other Color: Grey
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 016A

COC Description: Roof Flashing - Roof #9

LAB SAMPLE ID
69939

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	5 Cellulose	95

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 016B

COC Description: Roof Flashing - Roof #9

LAB SAMPLE ID
69940

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	5 Cellulose	95

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 016C

COC Description: Roof Flashing - Roof #9

LAB SAMPLE ID

69941

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Cellulose	95	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 017A

COC Description: Mechanical Flashing - Roof #9

LAB SAMPLE ID

69942

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 017B

COC Description: Mechanical Flashing - Roof #9

LAB SAMPLE ID

69943

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 017C

COC Description: Mechanical Flashing - Roof #9

LAB SAMPLE ID

69944

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 018A

COC Description: Roof Material - Roof #10

LAB SAMPLE ID

69945

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 018B

COC Description: Roof Material - Roof #10

LAB SAMPLE ID

69946

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 018C

COC Description: Roof Material - Roof #10

LAB SAMPLE ID

69947

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 019A

COC Description: Roof Flashing - Roof #10

LAB SAMPLE ID

69948

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 019B

COC Description: Roof Flashing - Roof #10

LAB SAMPLE ID
69949

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 019C

COC Description: Roof Flashing - Roof #10

LAB SAMPLE ID
69950

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 020A

COC Description: Roof Material - Roof #11

LAB SAMPLE ID
69951

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Healed
Texture: Firm

Sample Number: 020B

COC Description: Roof Material - Roof #11

LAB SAMPLE ID
69952

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Healed
Texture: Firm

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Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 020C

COC Description: Roof Material - Roof #11

LAB SAMPLE ID
69953

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 021A

COC Description: Roof Flashing - Roof #11

LAB SAMPLE ID
69954

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
10	Chrysotile			90	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 021B

COC Description: Roof Flashing - Roof #11

LAB SAMPLE ID
69955

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 021C

COC Description: Roof Flashing - Roof #11

LAB SAMPLE ID
69956

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based on the sample matrix. Quantification at <1% by volume is possible with this method. Analyst specific measurements of uncertainty at lower concentrations are available upon request. Analysis indicates all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Asghar Keyvanfar

Analyst

NVLAP

NVLAP Lab Code 200885-0

Approved For Release

Page 15 of 20

CERTIFICATE OF ANALYSIS

12015

To: **Mr Danny Episcopo**

Monday, February 04, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9888

QTY

Received Ashley Mote 1/30/2013 78

Logged Ashley Mote 1/31/2013 78

Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 022A

COC Description: Roof Material - Roof #12

LAB SAMPLE ID
69957

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 022B

COC Description: Roof Material - Roof #12

LAB SAMPLE ID
69958

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 022C

COC Description: Roof Material - Roof #12

LAB SAMPLE ID
69959

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 023A

COC Description: Roof Shingle - Roof #12

LAB SAMPLE ID
69960

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	10	Glass	90	Binder

Color: Purple
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

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Analysis Method: EPA 600/R-93/116

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Page 16 of 20

CERTIFICATE OF ANALYSIS

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19720-

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Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 023B

COC Description: Roof Shingle - Roof #12

LAB SAMPLE ID

69961

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	10	Glass	90	Binder

Color: Purple
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 023C

COC Description: Roof Shingle - Roof #12

LAB SAMPLE ID

69962

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	10	Glass	90	Binder

Color: Purple
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 024A

COC Description: Roof Felt Paper - Roof #12

LAB SAMPLE ID

69963

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	30	Cellulose	70	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 024B

COC Description: Roof Felt Paper - Roof #12

LAB SAMPLE ID

69964

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	30	Cellulose	70	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Page 17 of 20

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19720-

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Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 024C

COC Description: Roof Felt Paper - Roof #12

LAB SAMPLE ID

69965

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	30	Cellulose	70	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 025A

COC Description: Roof Material - Roof #12

LAB SAMPLE ID

69966

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
2	Chrysotile	10	Cellulose	88	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 025B

COC Description: Roof Material - Roof #12

LAB SAMPLE ID

69967

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 025C

COC Description: Roof Material - Roof #12

LAB SAMPLE ID

69968

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

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Asghar Keyvanfar

Analyst



NVLAP Lab Code 200885-0

Approved For Release

Page 18 of 20

CERTIFICATE OF ANALYSIS

12015

To: **Mr Danny Episcopo**

Monday, February 04, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9888

QTY

Received Ashley Mote 1/30/2013 78

Logged Ashley Mote 1/31/2013 78

Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 026A

COC Description: Roof Material - Roof #12

LAB SAMPLE ID

89969

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
5	Chrysotile	5	Cellulose	90	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 026B

COC Description: Roof Material - Roof #12

LAB SAMPLE ID

89970

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 026C

COC Description: Roof Material - Roof #12

LAB SAMPLE ID

89971

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 001A

COC Description: Roof Material - Roof #1

LAB SAMPLE ID

89972

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	20	Cellulose	80	

Color: Black
Other Color: Grey
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Asghar Keyvanfar

Analyst

NVLAP

NVLAP Lab Code 200885-0

Approved For Release

Page 19 of 20

CERTIFICATE OF ANALYSIS

12015

To: **Mr Danny Episcopo**

Monday, February 04, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway

New Castle, DE

19720-

Lab Project Number: 9888

QTY

Received Ashley Mote 1/30/2013 78

Logged Ashley Mote 1/31/2013 78

Analyzed Asghar Keyvanfar 2/1/2013 66

Re: DHSS - EPBH - 1912 Building - Asbestos Roof

Sample Number: 001B

COC Description: Roof Material - Roof #1

LAB SAMPLE ID

69973

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	20	Cellulose	80	

Color: Black
Other Color: Grey
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 001C

COC Description: Roof Material - Roof #1

LAB SAMPLE ID

69974

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	20	Cellulose	80	

Color: Black
Other Color: Grey
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Asghar Keyvanfar

Analyst

NVLAP[®]

NVLAP Lab Code 200885-0

Approved For Release

Page 20 of 20

PLM CHAIN OF CUSTODY

Analytical Laboratory Name: Harvard Env. Inc.

REPORT TO: Organization:		Invoice/Results To:		PROJECT NO: <u>12015</u>	
Address:		Address:		PROJECT NAME: <u>DHSS-EPBH</u>	
City:	State:	Zip Code:	City:	State:	Zip Code:
ATTN: <u>Mike Sanders</u>		ATTN:		<u>1912 BIDE,</u>	
PHONE:		FAX:		<u>Wilm, DE</u>	
Collected By: <u>J. Nogata</u>		Date: <u>1/30/13</u> Time: <u>1310</u>		Turn Around Time (Circle One) Same Day <u>24 Hours</u> 48 Hours 72 Hours 4 Days 1 Week 2 Weeks 3 Hr Rush 6 Hr Rush OTHER _____	
Relinquished By: <u>J. Nogata</u>		Date: <u>1/30/13</u> Time: <u>1430</u>			
Received By: <u>GLM</u>		Date: <u>1/30</u> Time: <u>1337</u>			
Received In Lab: <u>A. Kugel</u>		Date: <u>2-1-13</u> Time: _____			
REMARKS					

SAMPLE ID	SYS CODE	9888 Lab ID# (Lab Use Only)	DESCRIPTIONS	LOCATION	No Layered Analysis	ABC Positive Stop	If Negative Analyze TEM	Results (Lab Use Only)	OTHER INSTRUCTIONS
001-A	RM	69972	Roof material	Roof #1		✓		MAJ	
↓ B	↓	69973	↓	↓		✓		MAJ	
↓ C	↓	69974	↓	↓		✓		MAJ	
002-A	RF	69997	Roof flashing	Roof #1		✓		10 % CHRY	
↓ B	↓	69998	↓	↓		✓		—	
↓ C	↓	69999	↓	↓		✓		—	
003-A	RM	69900	Roof material	Roof #2		✓		MAJ	
↓ B	↓	69901	↓	↓		✓		MAJ	
↓ C	↓	69902	↓	↓		✓		MAJ	
004-A	MF	69903	mechanical flashing	Roof #2		✓		MAJ	
↓ B	↓	69904	↓	↓		✓		MAJ	
↓ C	↓	69905	↓	↓		✓		MAJ	
005-A	RF	69906	Roof flashing	Roof #2		✓		10 % CHRY	
↓ B	↓	69907	↓	↓		✓		—	
↓ C	↓	69908	↓	↓		✓		—	

Release Results Via: Fax ☐ Email ☐ Verbal ☐ To: _____ Date: _____ Time: _____ Signature: _____

JAN 30 PM 3:37

PLM CHAIN OF CUSTODY

#12015 1/20/13

SAMPLE ID	SYS CODE	Lab ID#	DESCRIPTIONS	LOCATION	No Layered Analysis	ABC Positive Stop	If Negative PLM Analyze TEM	OTHER INSTRUCTIONS		
								1.	2.	3.
006-A	RM	69909	Roof material	Roof #3				MAN		
↓ B	↓	69910	↓	↓		✓		ND		
↓ C	✓	69911	↓	↓		✓		ND		
007-A	RM	69912	Roof material	Roof #4				ND		
↓ B	↓	69913	↓	↓		✓		ND		
↓ C	↓	69914	↓	↓		✓		ND		
008-A	RF	69915	Roof flashing	Roof #4				10% CLAP		
↓ B	↓	69916	↓	↓		✓		-		
↓ C	↓	69917	↓	↓		✓		-		
009-A	RM	69918	Roof material	Roof #5				ND		
↓ B	↓	69919	↓	↓		✓		ND		
↓ C	↓	69920	↓	↓		✓		ND		
010-A	RF	69921	Roof flashing	Roof #5				ND		
↓ B	↓	69922	↓	↓		✓		ND		
↓ C	↓	69923	↓	↓		✓		ND		

PLM CHAIN OF CUSTODY

#12015 1/30/13

SAMPLE ID	SYS CODE	Lab ID#	DESCRIPTIONS	LOCATION	No Layered Analysis	ABC Positive Stop	If Negative PLM Analyze TEM	OTHER INSTRUCTIONS		
								1.	2.	3.
011-A	Bm	U9924	Roof Material	Roof #7		✓		MAP		
B		U9925	↓	↓		✓		MAP		
↓ C	↓	U9926	↓	↓		✓		MAP		
012-A	Bm	U9927	Roof Material	Roof #8		✓		MAP		
B		U9928	↓	↓		✓		MAP		
↓ C	↓	U9929	↓	↓		✓		MAP		
013-A	RF	U9930	Roof flashing	Roof #8		✓		MAP		
B		U9931	↓	↓		✓		MAP		
↓ C	↓	U9932	↓	↓		✓		MAP		
014-A	MF	U9933	mechanical flashing	Roof #8		✓		MAP		
B		U9934	↓	↓		✓		MAP		
↓ C	↓	U9935	↓	↓		✓		MAP		
015-A	Bm	U9936	Roof Material	Roof #9		✓		MAP		
B		U9937	↓	↓		✓		MAP		
↓ C	↓	U9938	↓	↓		✓		MAP		

PLM CHAIN OF CUSTODY

#2015 1/30/13

SAMPLE ID	SYS CODE	Lab ID#	DESCRIPTIONS	LOCATION	No Layered Analysis	ABC Positive Stop	If Negative PLM Analyze Item	OTHER INSTRUCTIONS
								1. _____ 2. _____ 3. _____
021-A	BF	69954	Roof flashing	Roof #11		✓		10% CHOP
B		69955	↓	↓		✓		-
✓ C	✓	69956	↓	↓		✓		-
022-A	Bm	69957	Roof material	Roof #12		✓		NAD
B		69958	↓	↓		✓		NAD
✓ C	✓	69959	↓	↓		✓		NAD
023-A	BS	69960	Roof shingle	Roof #12		✓		NAD
B		69961	↓	↓		✓		NAD
✓ C	✓	69962	↓	↓		✓		NAD
024-A	RFP	69963	Roof felt paper	Roof #12		✓		NAD
B		69964	↓	↓		✓		NAD
✓ C	✓	69965	↓	↓		✓		NAD
025-A	Bm	69966	Roof material	Roof #12		✓		2% CHOP
B		69967	↓	↓		✓		-
✓ C	✓	69968	↓	↓		✓		-

Issued: 5/21/09

Page 6 of 6

File ID: FS-001

Revision No. 3

12015 1/30/13

[illegible]

**Emily P. Bissell Hospital
Main Building
Asbestos Roof Inspections**
Wilmington, DE

FINAL REPORT – 4/26/13
Harvard Project # 12016

Prepared For:

Daniel Episcopo
*State of Delaware Division of Facilities Management
1901 N. Dupont Highway
New Castle, DE 19720*

Prepared By:

Harvard Environmental, Inc.
*760 Pulaski Highway
Bear Delaware 19701
302-326-2333*

Written By: Michael Sanders
Operations Manager
Harvard Environmental, Inc.

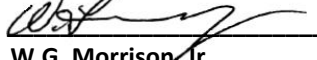
Released By: 
W.G. Morrison, Jr.
President
Harvard Environmental, Inc.

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Introductions & Executive Summary	3
Certifications & Accreditations	Appendix A
Homogeneous Characterizations Report	Appendix B
Schematic Diagrams/Sample Locations & Material Inventory Report	Appendix C
Laboratory Analysis	Appendix D

Introductions & Executive Summary

Harvard Environmental, Inc. herein presents data associated with inspections performed at the Main Building of the Emily P. Bissell Hospital located at 3000 Newport Gap Pike in Wilmington, DE 19808. This inspection was performed to provide compliance with 40 CFR Part 61, "Asbestos NESHAP. These Environmental Protection Agency, (EPA), regulations require inspections to be performed by certified asbestos building inspectors prior to renovations and/or demolition of facilities. This effort was performed at the request of State of Delaware Health & Social Services and Division of Facilities Management.

This project was performed in order to identify asbestos containing roofing materials that may impacted during future roofing repair projects to the Main Building. Harvard Environmental Inc. assessed the impacted building materials which would be considered suspect asbestos containing. A listing of locations, systems and/or materials which were not assessed may be found under "Non Assessed Conditions" found further in this report.

Harvard requested drawings of the existing facility layouts/designs to assist in documenting field assessments and to provide insight as to the location of suspect materials which may be associated with the facility. Floor plans of the facility were not available.

The last day of visitation to the site was performed on 1/29/13. Conditions described within this document are accurate as of the date of last visitation. Mr. Jeffrey Hogate was the responsible Harvard Environmental, Inc. employee which led the field efforts associated with the work.

Representative sampling of suspect asbestos building materials was performed on impacted building materials. The sampling effort was conducted in accordance with EPA regulations and industry accepted standards.

Asbestos analysis was completed utilizing Polarized Light Microscopy, (PLM). PLM utilizes an optical microscope equipped with a polarizing lens through which trained microscopist can identify asbestos fibers according to their crystalline structure. This method of analysis is recognized throughout the industry as standard practice. Prior to determining the type of fiber, the sample was placed under a "Stereo Microscope" at approximately 150X magnification for purposes of visual estimation. Various fiber types were pulled from the sample and oils applied to determine refractive indices under the polarized light microscope.

This recognized method of analysis has a detection limit of 1% by volume. Percentages of asbestos < 1% are reported as "trace" and are not considered asbestos containing materials under EPA regulations.

In order to best document the assessment, Harvard Environmental, Inc. assessed the layout and design of locations requiring assessment and assigned each geographic area a unique alpha/numeric "grid" identifier. These identifiers are specific locations of the assessment and are the basis for orientation of the data.

Based on the information provided to Harvard Environmental, Inc., coupled with field inspections and laboratory analysis of samples collected, asbestos was present on four (4) roof sections.

Provided is a summary listing of materials assessed under this inspection. The detailed inspection data is provided as appendices further in the report.

Summary Of Materials Assessed

ID	Material Description	Analytical Results	Quantity
001	Roof Material (EPDM Seam Caulk)	No Asbestos Detected	576 SF
002	Roof Material (Modified Mop Down)	No Asbestos Detected	864 SF
003	Roof Material (EPDM Seam Caulk)	No Asbestos Detected	2,132 SF
004	Roof Material (EPDM Seam Tape)	No Asbestos Detected	3,825 SF
005	Roof Flashing	5% Chrysotile Asbestos	20 SF
006	Roof Material (EPDM Seam Caulk)	No Asbestos Detected	6,063 SF
007	Shingle Boards (Carei Tread) Green	No Asbestos Detected	192 SF
008	Shingle Boards (Carei Tread) Black	3% Chrysotile Asbestos	192 SF
009	Roof Flashing (Around Fan Units)	5% Chrysotile Asbestos	88 SF
010	Roof Material (EPDM Seam Tape)	No Asbestos Detected	300 SF
011	Roof Material	No Asbestos Detected	888 SF
012	Roof Material (Built up-F/G Felt)	No Asbestos Detected	2,295 SF
013	Roof Flashing	No Asbestos Detected	102 SF
014	Mechanical Flashing	No Asbestos Detected	20 SF
015	Roof Material (Built up F/G Felt)	No Asbestos Detected	2,600 SF
016	Roof Flashing	5% Chrysotile Asbestos	130 SF
017	Roof Material (Built up F/G Felt)	No Asbestos Detected	648 SF
018	Roof Flashing	10% Chrysotile Asbestos	10 SF
019	Roof Material (Built up)	No Asbestos Detected	132 SF

Non Assessed Conditions

Systems and/or materials provided on the list below were not assessed under this inspection and therefore should not be disturbed. In the event disturbance is required to accomplish the project objectives additional investigations will be required.

- This inspection was limited to the roof areas and materials identified within the appendices of this report.

Recommendations

Based on the findings of the inspection, Harvard Environmental, Inc. is providing the following recommendations.

- If over the course of project execution, materials of questionable content are discovered, or should the Scope of Work expand beyond the parameters communicated to Harvard Environmental, Inc., additional inspections will be required in order to maintain compliance with Federal and State regulations.
- Abatement of all asbestos containing building materials must be performed prior to any demolition or renovations of those areas containing the materials. Harvard Environmental, Inc. can further assist your needs for compliance with state regulations regarding asbestos abatement projects.

This report is intended to provide "basic data" only. It is assumed that individuals reading and interpreting the sample locations and results, methods of analysis and hazards associated with the materials, are knowledgeable in all areas of discussion. Should any questions arise regarding the content of the information presented, contact should be exclusively to Harvard Environmental, Inc., Bear, Delaware, 1-302-326-2333. This document should be archived by the Owner for historical reference.

Certifications And Accreditations

Appendix A

LICENSE NO. 1993108790 STATE OF DELAWARE
POST CONSPICUOUSLY DIVISION OF REVENUE VALID
01/01/11 - 12/31/13
NOT TRANSFERABLE

DLN: 11 50117 84 BUSINESS CODE 099 LICENSED PROFESSIONAL AND/OR PRSL SRVCS-UNCLASSIFIED
GROUP CODE 007 ACTIVITY PROFESSIONAL AND/OR PERSONAL SERVICES

DATE ISSUED: 01/10/11
LICENSE FEE: \$ 225.00 **VALIDATED**

MAILING ADDRESS BUSINESS LICENSE BUSINESS LOCATION
#BWNKHPS
#18MO X3V0 1LM0 8IB0#
HARVARD ENVIRONMENTAL INC
760 PULASKI HWY
BEAR DE 19701-5200

HARVARD ENVIRONMENTAL INC
760 PULASKI HWY
BEAR DE 19701-5200

IS HEREBY LICENSED TO PRACTICE, CONDUCT OR ENGAGE IN THE OCCUPATION
OR BUSINESS ACTIVITY INDICATED ABOVE IN ACCORDANCE WITH THE LICENSE
APPLICATION DULY FILED PURSUANT TO TITLE 30, DEL. CODE

PATRICK T. CARTER
DIRECTOR OF REVENUE

STATE OF DELAWARE
THIS CERTIFIES THAT
Harvard Environmental, Incorporated
Has satisfactorily completed the requirements prescribed by the Office of Management & Budget as a
Asbestos Abatement Professional Service Firm this
Twelfth Day of February Two Thousand Thirteen
This certification is valid for one (1) year to perform asbestos services within the State of Delaware.
This certification shall be proof that the above named Contractor has met the minimum requirements
established by the State of Delaware for temporary certification. It is not intended as an overall
endorsement of the Contractor's ability to provide services of varying size and shape. It does not endorse
the methods and types of respiratory protection used by the Contractor.

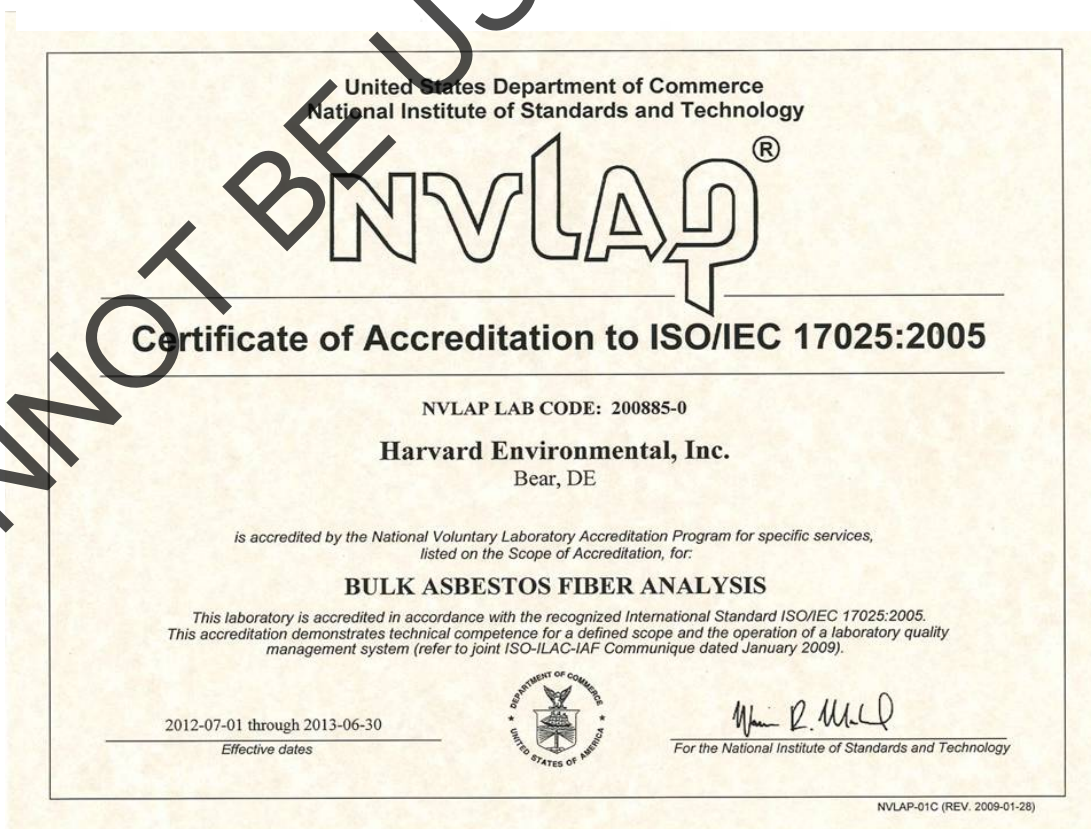
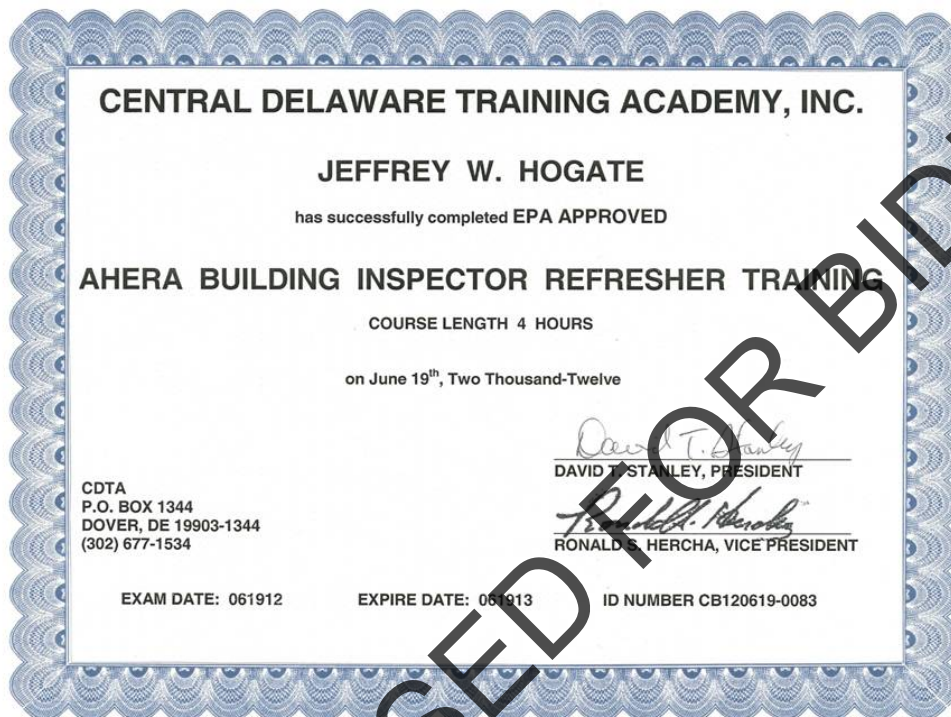
Contractor's Address: 760 Pulaski Highway
Bear, DE 19701

Expiration Date: February 12, 2014

Certification Number: PS-054

Director
Division of Facilities Management

Certifications And Accreditations



Homogeneous Characterizations Report

Appendix B

CANNOT BE USED FOR BIDDING

Homogeneous Systems Report

Homogeneous System 001	<div><div></div><div>576</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 001A	RM 001B	RM 001C		
	Collection Point Grid	R-1	R-1	R-1		
Description Roof Material (EPDM Seam Caulk)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 002	<div><div></div><div>864</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 002B	RM 002B	RM 002C		
	Collection Point Grid	R-2	R-2	R-2		
Description Roof Material (Modified Mop Down)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 003	<div><div></div><div>2132</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 003A	RM 003B	RM 003C		
	Collection Point Grid	R-3	R-3	R-3		
Description Roof Material (EPDM Seam Caulk)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		

Notes:

1. "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
2. "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 004	<div><div></div>3825 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 004A	RM 004B	RM 004C		
	Collection Point Grid	R-4	R-4	R-4		
Description Roof Material (EPDM Seam Tape)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 005	<div><div></div>20 SF</div>	<input checked="" type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results 5% Chrysotile Asbestos	Sample Identification	RF 005A	RF 005B	RF 005C		
	Collection Point Grid	R-4	R-4	R-4		
Description Roof Flashing - Roof #4	Analytical Results	5% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed		
Homogeneous System 006	<div><div></div>6063 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 006A	RM 006B	RM 006C		
	Collection Point Grid	R-8	R-8	R-8		
Description Roof Material (EPDM Seam Caulk)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		

Notes:

1. "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
2. "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 007	192 SF	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 007A	RM 007B	RM 007C		
	Collection Point Grid	R-8	R-8	R-8		
Description Shingle Boards (Carei Tread) Green	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 008	192 SF	<input checked="" type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results 3% Chrysotile Asbestos	Sample Identification	RM 008A	RM 008B	RM 008C		
	Collection Point Grid	R-8	R-8	R-8		
Description Shingle Boards (Carei Tread) Black	Analytical Results	No Asbestos Detected	3% Chrysotile Asbestos	Sample Not Analyzed		
Homogeneous System 009	88 SF	<input checked="" type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results 5% Chrysotile Asbestos	Sample Identification	RF 009A	RF 009B	RF 009C		
	Collection Point Grid	R-8	R-8	R-8		
Description Roof Flashing (Around Fan Units)	Analytical Results	5% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed		

Notes:

- "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.
- "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 010	<div><div></div>300 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 010A	RM 010B	RM 010C		
	Collection Point Grid	R-9	R-9	R-9		
Description Roof Material (EPDM Seam Tape)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 011	<div><div></div>888 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 011A	RM 011B	RM 011C		
	Collection Point Grid	R-7	R-7	R-7		
Description Roof Material	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 012	<div><div></div>2295 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 012A	RM 012B	RM 012C		
	Collection Point Grid	R-15	R-15	R-15		
Description Roof Material (Built up-F/G Felt)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 013	<div><div></div>102 SF</div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RF 013A	RF 013B	RF 013C		
	Collection Point Grid	R-15	R-15	R-15		
Description Roof Flashing	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		

Notes:

1. "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.

2. "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 014	<div><div></div><div>20</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	MF 014A	MF 014B	MF 014C		
	Collection Point Grid	R-15	R-15	R-15		
Description Mechanical Flashing	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 015	<div><div></div><div>2600</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 015A	RM 015B	RM 015C		
	Collection Point Grid	R-16	R-16	R-16		
Description Roof Material (Built up F/G Felt)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		
Homogeneous System 016	<div><div></div><div>130</div><div>SF</div></div>	<input checked="" type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results 5% Chrysotile Asbestos	Sample Identification	RF 016A	RF 016B	RF 016C		
	Collection Point Grid	R-16	R-16	R-16		
Description Roof Flashing	Analytical Results	5% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed		
Homogeneous System 017	<div><div></div><div>648</div><div>SF</div></div>	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PACM	<input checked="" type="checkbox"/> Non-Asbestos	<input type="checkbox"/> Friable	<input checked="" type="checkbox"/> Non-Friable
Analytical Results No Asbestos Detected	Sample Identification	RM 017A	RM 017B	RM 017C		
	Collection Point Grid	R-17	R-17	R-17		
Description Roof Material (Built up F/G Felt)	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		

Notes:

1. "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.

2. "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Homogeneous Systems Report

Homogeneous System 018	10 SF		<input checked="" type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results 10% Chrysotile	Sample Identification	RF 018A	RF 018B	RF 018C
Description Roof Flashing	Collection Point Grid	R-17	R-17	R-17
	Analytical Results	10% Chrysotile Asbestos	Sample Not Analyzed	Sample Not Analyzed

Homogeneous System 019	132 SF		<input type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input checked="" type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input checked="" type="checkbox"/> Non-Friable	
Analytical Results No Asbestos Detected	Sample Identification	RM 019A	RM 019B	RM 019C
Description Roof Material (Built up)	Collection Point Grid	R-17	R-17	R-17
	Analytical Results	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

Homogeneous System NAS			<input type="checkbox"/> Asbestos <input type="checkbox"/> PACM <input checked="" type="checkbox"/> Non-Asbestos <input type="checkbox"/> Friable <input type="checkbox"/> Non-Friable	
Analytical Results No Asbestos Detected	Sample Identification			
Description No Asbestos Suspected in the Roofing Materials	Collection Point Grid			
	Analytical Results			

Notes:

1. "Total Materials" reflects the quantity of materials evaluated under this assessment. This value may not represent a complete inventory of all materials associated with a system, grid or building. Reference should be made to the descriptions provided in the "Executive Summary", to qualify the value indicated in this field. If no value is provided in this field, quantification of the material was not performed.

2. "PACM" - Presumed Asbestos Containing Material - Sampling Not Performed.

Schematic Diagrams/Sample Locations & Material Inventory Report

Appendix C

CANNOT BE USED FOR BIDDING

Grid Descriptions

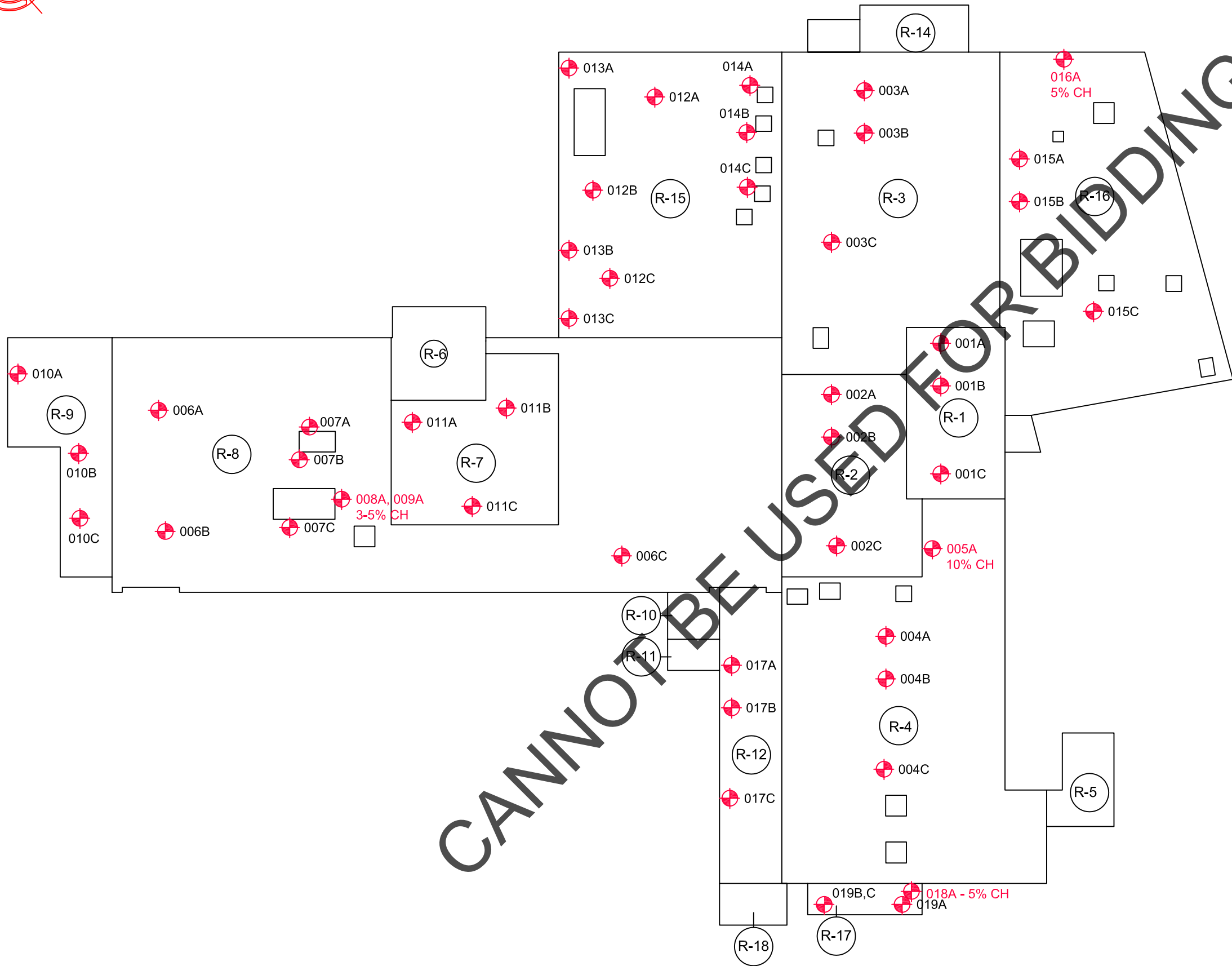
R-1	Roof	18x32-EPDM over lightweight concrete-new
R-10	Roof	8x10-EPDM-no seam-1 sheet-not sampled
R-11	Roof	6x10-EPDM-no seam-1 sheet-not sampled
R-12	Roof	12x54-built up-F/G felt-2" Perlite-1" ISO-concrete deck
R-13	Roof	8x13-EPDM-new roof per PRS-no seam-not sampled
R-14	Roof	VOID-part of 1912 Bldg. roof
R-15	Roof	51x45-built up-F/G felt-lightweight fill-concrete deck
R-16	Roof	40x65-built up-F/G felt-lightweight-concrete fill deck
R-17	Roof	6x22--built up o/concrete deck
R-2	Roof	24x36-modified roof-metal deck-2" ISO-1" Perlite-2 ply + cap mop down
R-3	Roof	41x52--EPDM-1" ISO o/(DENSDECK)
R-4	Roof	75x51-EPDM-(Seam Tape) over 4 1/2" ISO-(DENSDECK) stone covered
R-5	Roof	12x17-EPDM-Seam tape over 4 1/2" ISO-(DENSDECK) stone covered-not sampled
R-6	Roof	17x17-no samples-New EPDM roof per PRS
R-7	Roof	25x32-modified mop down-concrete deck-7" ISO-1" Perlite-3 Ply w/cap
R-8	Roof	129x47-EPDM-concrete deck-lightweight fabric-stone covered-6x16x2 (carei board)
R-9	Roof	20x46-EPDM-vapor retarder poly-1 1/2" ISO-metal deck

Materials Inventory Report

Grid	System	Homogeneous	Material	Description	Quantity		Analytical Results
R-1	Roof						
	RM	001	Misc. Material	Roof Material (EPDM Seam Caulk	576	SF	No Asbestos Detected
R-10	Roof						
	NAS	NAS		No Asbestos Suspected in the Roofing Materials			No Asbestos Detected
R-11	Roof						
	NAS	NAS		No Asbestos Suspected in the Roofing Materials			No Asbestos Detected
R-12	Roof						
	RM	017	Misc. Material	Roof Material (Built up F/G Felt)	648	SF	No Asbestos Detected
R-13	Roof						
	NAS	NAS		No Asbestos Suspected in the Roofing Materials			No Asbestos Detected
R-14	Roof						
	NAS	NAS		No Asbestos Suspected in the Roofing Materials			No Asbestos Detected
R-15	Roof						
	RM	012	Misc. Material	Roof Material (Built up-F/G Felt)	2295	SF	No Asbestos Detected
	RF	013	Misc. Material	Roof Flashing	102	SF	No Asbestos Detected
	MF	014	Misc. Material	Mechanical Flashing	20	SF	No Asbestos Detected
R-16	Roof						
	RM	015	Misc. Material	Roof Material (Built up F/G Felt)	2600	SF	No Asbestos Detected
	RF	016	Misc. Material	Roof Flashing	130	SF	5% Chrysotile Asbestos
R-17	Roof						
	RF	018	Misc. Material	Roof Flashing	10	SF	10% Chrysotile
	ROP	019	Misc. Material	Roof Material (Built up)	132	SF	No Asbestos Detected

Materials Inventory Report

Grid	System	Homogeneous	Material	Description	Quantity	Analytical Results
R-2	Roof					
	RM	002	Misc. Material	Roof Material (Modified Mop Down)	864 SF	No Asbestos Detected
R-3	Roof					
	RM	003	Misc. Material	Roof Material (EPDM Seam Caulk)	2132 SF	No Asbestos Detected
R-4	Roof					
	RM	004	Misc. Material	Roof Material (EPDM Seam Tape)	3825 SF	No Asbestos Detected
	RF	005	Misc. Material	Roof Flashing - Roof #4	20 SF	5% Chrysotile Asbestos
R-5	Roof					
	NAS	NAS		No Asbestos Suspected in the Roofing Materials		No Asbestos Detected
R-6	Roof					
	NAS	NAS		No Asbestos Suspected in the Roofing Materials		No Asbestos Detected
R-7	Roof					
	RM	011	Misc. Material	Roof Material	888 SF	No Asbestos Detected
R-8	Roof					
	RM	006	Misc. Material	Roof Material (EPDM Seam Caulk)	6063 SF	No Asbestos Detected
	RM	007	Misc. Material	Shingle Boards (Carei Tread) Green	192 SF	No Asbestos Detected
	RM	008	Misc. Material	Shingle Boards (Carei Tread) Black	192 SF	3% Chrysotile Asbestos
	RF	009	Misc. Material	Roof Flashing (Around Fan Units)	88 SF	5% Chrysotile Asbestos
R-9	Roof					
	RM	010	Misc. Material	Roof Material (EPDM Seam Tape)	300 SF	No Asbestos Detected

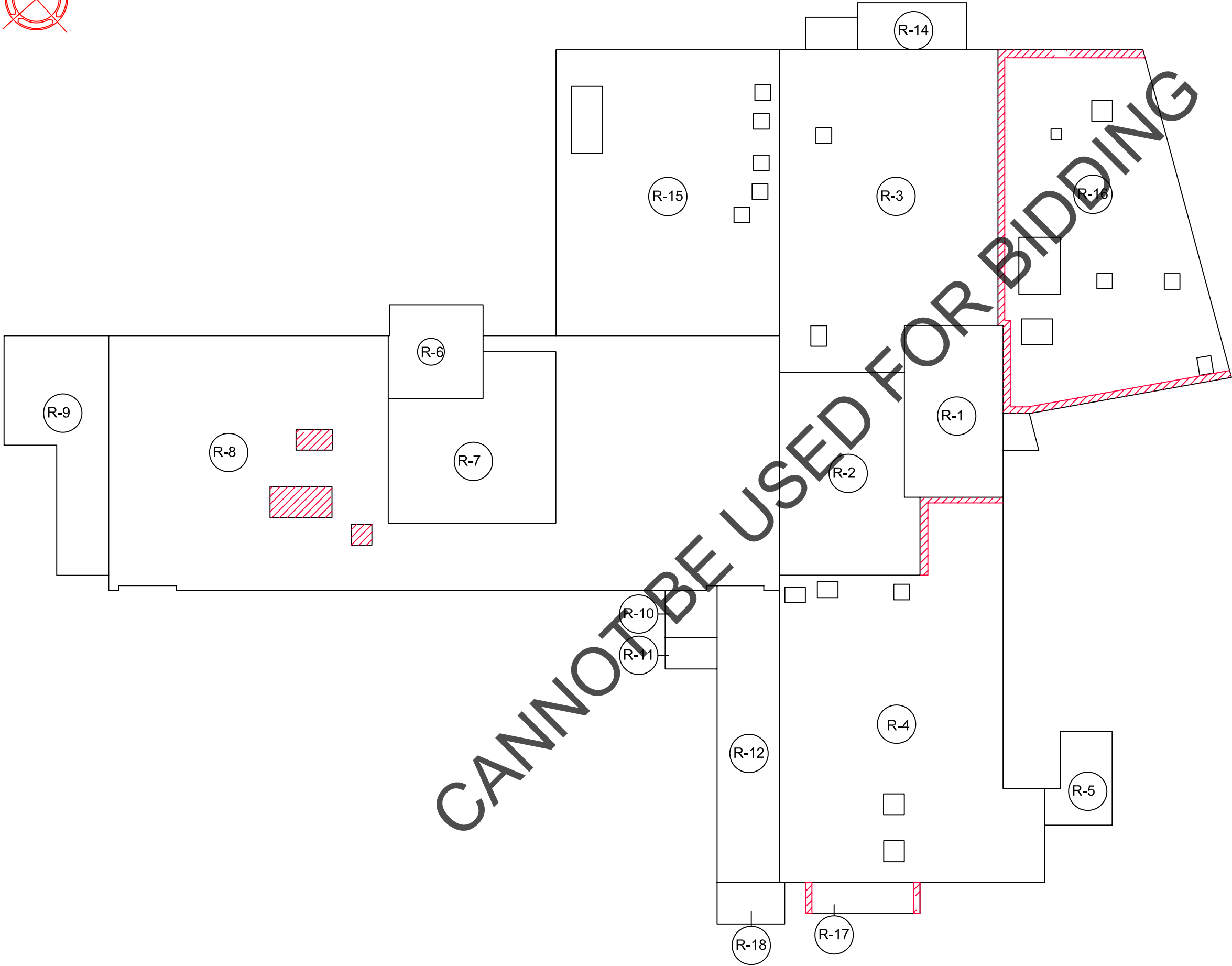


General Notes:

1. Presentation of information is based on best available information. Drawing schematics were provided to Harvard Environmental by the State of Delaware.
2. Project #12016 involved asbestos inspections for purposes of identifying asbestos roofing materials located on the Main Building. These Drawings are not to be considered to scale and are intended to be used for orientation purposes only and identifying the locations of roofing sections and bulk samples.

Legend:


- (R-1) Roof Grid ID
- PLM Bulk Sample Location



General Notes:

1. Presentation of information is based on best available information. Drawing schematics were provided to Harvard Environmental by the State of Delaware.
2. Project #12015 involved asbestos inspections for purposes of identifying asbestos roofing materials located on the Main Building. These Drawings are not to be considered to scale and are intended to be used for orientation purposes only and identifying the locations of ACM.

Legend:

- (R-1) Roof Grid ID
-  Asbestos Roof Flashing Tar
440 Total SF

Laboratory Analysis

Appendix D

CANNOT BE USED FOR BIDDING

CERTIFICATE OF ANALYSIS

12016

To: **Mr Danny Episcopo**

Thursday, January 31, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9883

QTY

Received Ashley Mote 1/30/2013 57
Logged Ashley Mote 1/30/2013 57
Analyzed Asghar Keyvanfar 1/30/2013 48

Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 001A

LAB SAMPLE ID
69830

COC Description: Roof Material - Roof #1

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 001B

LAB SAMPLE ID
69831

COC Description: Roof Material - Roof #1

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 001C

LAB SAMPLE ID
69832

COC Description: Roof Material - Roof #1

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 002A

LAB SAMPLE ID
69833

COC Description: Roof Material - Roof #2

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Glass	95	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government. This report shall not be reproduced except in full, without written approval of the laboratory.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based on the sample matrix. Quantification at <1% by volume is possible with this method. Analyst specific measurements of uncertainty at lower concentrations are available upon request. Analysis indicates all distinct separable layers in accordance with EPA 800 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Asghar Keyvanfar

Analyst

NVLAP

NVLAP Lab Code 200885-0

Approved For Release

Page 1 of 15

CERTIFICATE OF ANALYSIS

12016

To: **Mr Danny Episcopo**

Thursday, January 31, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9883

QTY

Received Ashley Mote 1/30/2013 57
Logged Ashley Mote 1/30/2013 57
Analyzed Asghar Keyvanfar 1/30/2013 48

Re: **DHSS - EPBH - Main Building - Asbestos Roof**

Sample Number: 002B

LAB SAMPLE ID

COC Description: Roof Material - Roof #2

69834

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Glass	95	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 002C

LAB SAMPLE ID

COC Description: Roof Material - Roof #2

69835

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Glass	95	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 003A

LAB SAMPLE ID

COC Description: Roof Material - Roof #3

69836

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 003B

LAB SAMPLE ID

COC Description: Roof Material - Roof #3

69838

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based on the sample matrix. Quantification at <1% by volume is possible with this method. Analyst specific measurements of uncertainty at lower concentrations are available upon request. Analysis indicates all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Asghar Keyvanfar

Analyst

NVLAP

NVLAP Lab Code 200885-0

Approved For Release

Page 2 of 15

CERTIFICATE OF ANALYSIS

12016

To: **Mr Danny Episcopo**

Thursday, January 31, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9883

QTY

Recieved Ashley Mote 1/30/2013 57
Logged Ashley Mote 1/30/2013 57
Analyzed Asghar Keyvanfar 1/30/2013 48

Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 003C

COC Description: Roof Material - Roof #3

LAB SAMPLE ID
69839

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 004A

COC Description: Roof Material - Roof #4

LAB SAMPLE ID
69840

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	3 Glass	97 Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Heated
Texture: Firm

Sample Number: 004B

COC Description: Roof Material - Roof #4

LAB SAMPLE ID
69841

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	3 Glass	97 Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Heated
Texture: Firm

Sample Number: 004C

COC Description: Roof Material - Roof #4

LAB SAMPLE ID
69842

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	3 Glass	97 Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Heated
Texture: Firm

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Analysis Method: EPA 600/R-93/116

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Asghar Keyvanfar
Analyst

NVLAP

NVLAP Lab Code 200885-0

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CERTIFICATE OF ANALYSIS

12016

To: **Mr Danny Episcopo**

Thursday, January 31, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway
New Castle, DE
19720-

Lab Project Number: 9883

QTY

Received Ashley Mote 1/30/2013 57
Logged Ashley Mote 1/30/2013 57
Analyzed Asghar Keyvanfar 1/30/2013 48

Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 005A

COC Description: Roof Flashing - Roof #4

LAB SAMPLE ID
69843

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
5	Chrysotile			95	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 005B

COC Description: Roof Flashing - Roof #4

LAB SAMPLE ID
69844

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 005C

COC Description: Roof Flashing - Roof #4

LAB SAMPLE ID
69845

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 006A

COC Description: Roof Material - Roof #8

LAB SAMPLE ID
69846

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	3	Glass	97	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Heated
Texture: Firm

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Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 006B

LAB SAMPLE ID

COC Description: Roof Material - Roof #8

69847

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	3	Glass	97	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Heated
Texture: Firm

Sample Number: 006C

LAB SAMPLE ID

COC Description: Roof Material - Roof #8

69848

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	3	Glass	97	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Heated
Texture: Firm

Sample Number: 007A

LAB SAMPLE ID

COC Description: Roof Material - Roof #8

69849

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	3	Cellulose	95	Binder
		2	Glass		

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 007B

LAB SAMPLE ID

COC Description: Roof Material - Roof #8

69850

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	3	Cellulose	95	Binder
		2	Glass		

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

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Re: **DHSS - EPBH - Main Building - Asbestos Roof**

Sample Number: 007C

COC Description: Roof Material - Roof #8

LAB SAMPLE ID

69851

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	3 Cellulose	95 Binder
	2 Glass	

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 008A

COC Description: Roof Material - Roof #8

LAB SAMPLE ID

69852

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	3 Cellulose	95 Binder
	2 Glass	

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 008B

COC Description: Roof Material - Roof #8

LAB SAMPLE ID

69853

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
3 Chrysotile	2 Glass	95 Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 008C

COC Description: Roof Material - Roof #8

LAB SAMPLE ID

69854

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
Not Analyzed		

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

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Re: **DHSS - EPBH - Main Building - Asbestos Roof**

Sample Number: 009A

COC Description: Roof Flashing - Roof #8

LAB SAMPLE ID
69855

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
5	Chrysotile			95	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 009B

COC Description: Roof Flashing - Roof #8

LAB SAMPLE ID
69856

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 009C

COC Description: Roof Flashing - Roof #8

LAB SAMPLE ID
69857

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	Not Analyzed				

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 7

COC Description: Roof Material - Roof #9

LAB SAMPLE ID
69858

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

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Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 010B

COC Description: Roof Material - Roof #9

LAB SAMPLE ID
69859

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 010C

COC Description: Roof Material - Roof #9

LAB SAMPLE ID
69860

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color
Homogeneity: Homogeneous
Treatment: Heated
Texture: Firm

Sample Number: 011A

COC Description: Roof Material - Roof #7

LAB SAMPLE ID
69861

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	5 Glass	95 Binder

Color: Black
Other Color
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 011B

COC Description: Roof Material - Roof #7

LAB SAMPLE ID
69862

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	5 Glass	95 Binder

Color: Black
Other Color
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

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Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 011C

COC Description: Roof Material - Roof #7

LAB SAMPLE ID
69863

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Glass	95	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 012A

COC Description: Roof Material - Roof #15

LAB SAMPLE ID
69864

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Glass	95	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 012B

COC Description: Roof Material - Roof #15

LAB SAMPLE ID
69865

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Glass	95	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 012C

COC Description: Roof Material - Roof #15

LAB SAMPLE ID
69866

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	5	Glass	95	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

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Re: **DHSS - EPBH - Main Building - Asbestos Roof**

Sample Number: 013A

LAB SAMPLE ID
69867

COC Description: Roof Flashing - Roof #15

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	3	Glass	97	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 013B

LAB SAMPLE ID
69868

COC Description: Roof Flashing - Roof #15

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	3	Glass	97	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 013C

LAB SAMPLE ID
69869

COC Description: Roof Flashing - Roof #15

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected	3	Glass	97	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 014A

LAB SAMPLE ID
69870

COC Description: Mechanical Flashing - Roof #15

%	Asbestos Type	%	Other Fibrous Type	%	Non Fibrous Type
	None Detected			100	

Color: Black
Other Color: Silver
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 014B

COC Description: Mechanical Flashing - Roof #15

LAB SAMPLE ID
69871

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color: Silver
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 014C

COC Description: Mechanical Flashing - Roof #15

LAB SAMPLE ID
69872

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color: Silver
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 015A

COC Description: Roof Material - Roof #16

LAB SAMPLE ID
69873

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 015B

COC Description: Roof Material - Roof #16

LAB SAMPLE ID
69874

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 015C

COC Description: Roof Material - Roof #16

LAB SAMPLE ID
69875

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 016A

COC Description: Roof Flashing - Roof #16

LAB SAMPLE ID
69876

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
5 Chrysotile		95

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 016B

COC Description: Roof Flashing - Roof #16

LAB SAMPLE ID
69877

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
Not Analyzed		

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 016C

COC Description: Roof Flashing - Roof #16

LAB SAMPLE ID
69878

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
Not Analyzed		

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

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Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 017A

LAB SAMPLE ID

COC Description: Roof Material - Roof #12

69879

%	Asbestos Type	%	Other Fibrous Type
	None Detected	10	Glass

%	Non Fibrous Type
90	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 017B

LAB SAMPLE ID

COC Description: Roof Material - Roof #12

69880

%	Asbestos Type	%	Other Fibrous Type
	None Detected	10	Glass

%	Non Fibrous Type
90	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 017C

LAB SAMPLE ID

COC Description: Roof Material - Roof #12

69881

%	Asbestos Type	%	Other Fibrous Type
	None Detected	10	Glass

%	Non Fibrous Type
90	Binder

Color: Black
Other Color:
Homogeneity: Heterogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 018A

LAB SAMPLE ID

COC Description: Roof Flashing - Roof #12

69882

%	Asbestos Type	%	Other Fibrous Type
10	Chrysotile		

%	Non Fibrous Type
90	

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

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QTY

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Logged Ashley Mote 1/30/2013 57

Analyzed Asghar Keyvanfar 1/30/2013 48

Re: DHSS - EPBH - Main Building - Asbestos Roof

Sample Number: 018B

LAB SAMPLE ID
89883

COC Description: Roof Flashing - Roof #17

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
Not Analyzed		

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 018C

LAB SAMPLE ID
69884

COC Description: Roof Flashing - Roof #17

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
Not Analyzed		

Color:
Other Color:
Homogeneity:
Treatment:
Texture:

Sample Number: 019A

LAB SAMPLE ID
69885

COC Description: Roof Material - Roof #17

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected	10 Cellulose	90

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

Sample Number: 019B

LAB SAMPLE ID
69886

COC Description: Roof Material - Roof #17

% Asbestos Type	% Other Fibrous Type	% Non Fibrous Type
None Detected		100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.
This report shall not be reproduced except in full, without written approval of the laboratory.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based on the sample matrix. Quantification at <1% by volume is possible with this method. Analyst specific measurements of uncertainty at lower concentrations are available upon request. Analysis indicates all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Asghar Keyvanfar

Analyst



NVLAP Lab Code 200885-0

Approved For Release

Page 14 of 15

CERTIFICATE OF ANALYSIS

12016

To: **Mr Danny Episcopo**

Thursday, January 31, 2013

DHSS - Div of Facilities Mgmt

1901 North DuPont Highway

New Castle, DE

19720-

Re: DHSS - EPBH - Main Building - Asbestos Roof

Lab Project Number: 9883

QTY

Received Ashley Mote 1/30/2013 57

Logged Ashley Mote 1/30/2013 57

Analyzed Asghar Keyvanfar 1/30/2013 48

Sample Number: 019C

COC Description: Roof Material - Roof #17

LAB SAMPLE ID
69887

% Asbestos Type
None Detected

% Other Fibrous Type

% Non Fibrous Type
100

Color: Black
Other Color:
Homogeneity: Homogeneous
Treatment: Dissolved
Texture: Firm

*This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.
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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based on the sample matrix. Quantification at <1% by volume is possible with this method. Analyst specific measurements of uncertainty at lower concentrations are available upon request. Analysis indicates all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Asghar Keyvanfar

Analyst



NVLAP Lab Code 200885-0

Approved For Release

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PLM CHAIN OF CUSTODY

Issued: 5/21/09

 Page 1 of 4

 File ID: **FS-001**

 Revision No. **3**

 Analytical Laboratory Name: Harvard Env. Inc.

REPORT TO: Organization:			Invoice/Results To:			PROJECT NO: <u>12016</u>		
Address:			Address:			PROJECT NAME: <u>DA35-EPBH-</u>		
City: State: Zip Code:			City: State: Zip Code:			<u>Wilm, DE</u>		
ATTN: <u>Mike Sanders</u>			ATTN:					
PHONE:			FAX:					
Collected By: <u>J. Negato</u> Date: <u>1/29/13</u> Time: <u>1626</u>			REMARKS			Turn Around Time (Circle One) Same Day <u>24 Hours</u> 48 Hours 72 Hours 4 Days 1 Week 2 Weeks 3 Hr Rush 6 Hr Rush OTHER _____		
Relinquished By: <u>J. Negato</u> Date: <u>1/29/13</u> Time: <u>1702</u>								
Received By: <u>WDM</u> Date: <u>1/30</u> Time: <u>830</u>								
Received In Lab: <u>A. Kuro</u> Date: <u>1-30</u> Time: <u>15</u>								

SAMPLE ID	SYS CODE	9883 Lab ID# (Lab Use Only)	DESCRIPTIONS	LOCATION	No Layered Analysis	ABC Positive Stop	If Negative Analyze TEM	Results (Lab Use Only)	OTHER INSTRUCTIONS
001-A	Rm	U9830	Roof material	Roof #1		✓		NB	
B		U9831	↓	↓		✓		MD	
C		U9832	↓	↓		✓		MD	
002-A	Rm	U9833	Roof material	Roof #2		✓		MD	
B		U9834	↓	↓		✓		MD	
C		U9835	↓	↓		✓		MD	
003-A	Rm	U9836	Roof material	Roof #3		✓		MD	
B		U9838	↓	↓		✓		MD	
C		U9839	↓	↓		✓		MD	
004-A	Rm	U9840	Roof material	Roof #4		✓		MD	
B		U9841	↓	↓		✓		MD	
C		U9842	↓	↓		✓		MD	
005-A	RF	U9843	Roof flashing	Roof #4		✓		5% chn	
B		U9844	↓	↓		✓		MD	
C		U9845	↓	↓		✓		MD	

 Release Results Via: Fax ☐ Email ☐ Verbal ☐ To: _____ Date: _____ Time: _____ Signature: _____

JAN 30 AM 8:22

PLM CHAIN OF CUSTODY

#12016
1/29/13

SAMPLE ID	SYS CODE	Lab ID#	DESCRIPTIONS	LOCATION	No Layered Analysis	ABC Positive Stop	If Negative PLM Analyze TEM	OTHER INSTRUCTIONS		
								1.	2.	3.
006-A	RM	698246	Roof material	Roof #8				MO		
↓ B	↓	698247	↓	↓		✓		MO		
↓ C	↓	698248	↓	↓		✓		MO		
007-A	RM	698249	Roof material	Roof #8		✓		MO		
↓ B	↓	698250	↓	↓		✓		MO		
↓ C	↓	698251	↓	↓		✓		MO		
008-A	RM	698512	Roof material	Roof #8		✓		MO		
↓ B	↓	698513	↓	↓		✓		3 1/2 CMW		
↓ C	↓	698514	↓	↓		✓		—		
009-A	RF	698515	Roof flashing	Roof #8		✓		5 1/2 CMW		
↓ B	↓	698516	↓	↓		✓		—		
↓ C	↓	698517	↓	↓		✓		—		
010-A	RM	698518	Roof material	Roof #9		✓		mm		
↓ B	↓	698519	↓	↓		✓		mm		
↓ C	↓	698520	↓	↓		✓		mo		

PLM CHAIN OF CUSTODY

#1216
1/29/13

SAMPLE ID	SYS CODE	Lab ID#	DESCRIPTIONS	LOCATION	No Layered Analysis	ABC Positive Stop	If Negative PLM Analyze TEM	OTHER INSTRUCTIONS		
								1.	2.	3.
011-A	Rm	U98601	Roof material	Roof #7						N/A
B		U98612	↓	↓		✓				N/A
↓ C	↓	U98683	↓	↓		✓				N/A
012-A	Rm	U98684	Roof material	Roof #15		✓				N/A
B		U98645	↓	↓		✓				N/A
↓ C	↓	U98656	↓	↓		✓				N/A
013-A	RF	U98647	Roof flashing	Roof #15		✓				N/A
B		U98678	↓	↓		✓				N/A
↓ C	↓	U98689	↓	↓		✓				N/A
014-A	MF	U98690	mechanical flashing	Roof #15		✓				N/A
B		U98701	↓	↓		✓				N/A
↓ C	↓	U98712	↓	↓		✓				N/A
015-A	Rm	U98713	Roof material	Roof #16		✓				N/A
B		U98714	↓	↓		✓				N/A
↓ C	↓	U98745	↓	↓		✓				N/A

PLM CHAIN OF CUSTODY

#12016
1/29/13

SAMPLE ID	SYS CODE	Lab ID#	DESCRIPTIONS	LOCATION	No Layered Analysis	ABC Positive Stop	If Negative PLM Analyze TEM	OTHER INSTRUCTIONS	
								1.	2.
016-A	BF	698156	Roof flashing	Roof #16				5% CRAS	
B		698167	↓			✓		-	
↓ C	↓	698178	↓	✓		✓		-	
017-A	Bm	698189	Roof material	Roof #12		✓		MAO	
B		6984980	↓			✓		MAO	
↓ C	↓	698801	↓	✓		✓		MAO	
018-A	BF	698840	Roof flashing	Roof #17		✓		10% CRAS	
B		698883	↓			✓		-	
↓ C	↓	698884	↓	✓		✓		-	
019-A	Bm	698845	Roof material	Roof #17		✓		MAO	
B		698854	↓			✓		MAO	
↓ C	↓	698857	↓	✓		✓		MAO	

CANNOT BE USED FOR BIDDING

Section 00 90 20
SUPPLEMENTARY ROOFING CONDITIONS

1.0 Description

The work consists of furnishing and installing all roofing and related items as specified and diagrammed herein.

2.0 Concurrent Operations

Because other activities of the Emily P. Bissell Hospital (Hospital) will be proceeding at the same time as the work covered by these specifications, the contractor shall cooperate with the State of Delaware (State) Project Manager to insure that all contract work progresses in a manner that does not conflict with other activities of the Emily P. Bissell Hospital. Set up areas will be designated at the pre-bid meeting.

3.0 Workmanship

All workmen shall be certified in the particular trade and/or class in which they are employed. All work shall be done according to the specifications covering the class or type of work and shall meet the approval, in the field, of the State Project Manager. **The contractor's representative or job supervisor shall have a complete copy of the specifications on the job site at all times.** Any questions not covered in the method specifications shall be resolved and approved in writing by the State and the State's Technical Representative.

4.0 Number of Crews On-Site

In order that the work may be accomplished in the shortest possible time, the successful bidder, weather permitting, shall be required to have at least one crew of six (6) qualified personnel with its' own responsible foreman, at work on-site at all times. This seven (7) man crew shall remain on-site throughout the duration of the successful bidder's work. At no time shall less than this crew be at work without the express consent of the State Project Manager. The State Project Manager will be advised of changes in supervision.

5.0 Storage of Materials

All materials shall be stored on-site at a place designated by the State Project Manager. No materials shall be removed from the job site by the contractor for any reason, except where specifically authorized, in writing, by the State Project Manager. All materials shall be inventoried as soon as possible after delivery as possible by the State Project Manager and the contractor. Any items lost or stolen as a result of not being secured shall be the responsibility of the contractor to replace. All roofing felts, insulation and other absorbent roof material components must be maintained in dry condition.

ALL WET OR DAMP MATERIALS SHALL BE REMOVED from the job site and replaced with dry materials. Contractor shall be responsible for providing dry storage. **Tarpaulins** will be required for protection of all roof insulation. All plastic shipping wrappings will be removed from insulation prior to storage.

All equipment stored on the ground must be protected by a temporary fence or other approved structure.

6.0 Decks

Situations will develop where deck repair and deck replacement will be required. Contractor will include with all bids, a unit price for deck repair and a unit price for deck replacement.

7.0 Drains

Situations will develop where additional drainage is required. Contractors will include with all bids, a unit price for new installed drain assembly.

8.0 Insulation

Insulation shall have accurate dimensional stability so as to properly conform to the surfaces of the roof, cants, curbs, pipes, etc. Joints between boards shall be tight and insulation shall be held back 1/8 inch from vertical surfaces and sumps. INSULATION SHALL BE PROTECTED FROM THE WEATHER AT ALL TIMES.

9.0 Compliance

Non-compliance with the terms of this specification and ensuing contract can result in either cancellation of the contract or in complete reworking or replacement of defective areas at the contractor's expense. In the event of cancellation, the State shall not be obligated to compensate the contractor for any work, or any roof installed in a defective manner, or which fails to meet the specification criteria.

Furthermore, DAMAGE CAUSED BY WATER INFILTRATION RESULTING FROM THE FAILURE OF THE CONTRACTOR TO SECURE EACH DAY'S WORK IN A WATERTIGHT MANNER WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. INCLUDED, AS DAMAGES WILL BE ALL LABOR COSTS INCURRED BY THE STATE AS A RESULT OF SUCH WATER INFILTRATION.

The standard of all work shall be to the specification of the State Project Manager. In the event of non-compliance or substandard or defective work, the State Project Manager or the delegated representative may, at his discretion, halt further work until discrepancies are rectified at the contractor's expense. The State Project Manager and the State's Technical Representative shall be the final authority in the interpretation of all specifications contained herein. **The roofing segment of work will not be subcontracted.**

10.0 Protection of Roof Membrane

Roof traffic is to be confined to the actual work area to the greatest extent possible. Where hauling over other areas is necessary, the roof will be protected with plywood. Contractor shall be responsible for repairs and leaks in traffic areas during and after the job.

11.0 Job Conditions

All surfaces to be treated shall be smooth, visually dry, and free from dirt, debris and foreign matter before any treatment is initiated. Weather temperatures will be a minimum of 40 degrees F. and rising during roofing operations, and protective tarpaulins will be available for emergency protection of roof work in progress during periods of changing weather. THE STANDARD OF SURFACE CLEANLINESS SHALL BE TO THE SATISFACTION OF THE STATE PROJECT MANAGER AND/OR STATE'S REPRESENTATIVE.

The Contractor is responsible to pump the existing and/or new roof in order to provide a suitable environment for roofing to proceed. Contractor shall include in his/her base bid all necessary costs associated with pumping of roof.

The contractor shall be responsible for exercising all reasonable precautions to avoid fires being started, and shall provide suitable fire extinguishers located where they can be promptly used when needed. Competent operators shall be in attendance at all times when equipment is in use. Materials and equipment shall be stored neatly in areas designated by the State Project Manager, and dispersed so as to insure a minimum fire hazard.

Loads placed on the roof at any point shall not exceed the safe loading for which the roof was designed.

Tarpaulins will be used to cover sides of building at all loading and chute locations.

12.0 Clean-Up

Roof drains, gutters, scuppers and downspouts, must be kept clean and free from debris and obstructions, and must be functional during the project and at the completion of the project. The job foreman shall be responsible for daily inspection of work area to assure that no floatable trash or materials are left to clog drains. **DRAINAGE MUST BE FREE FLOWING AT ALL TIMES.**

All other accumulating debris shall be removed daily to assure maximum safety and sanitation at all times. At completion of all work, the contractor shall remove excess materials and debris from the site and leave roof surfaces and work site free from accumulations of spoil, debris and other extraneous materials from windows, floors, walls, ladders and other finished surfaces. Any damage to buildings or grounds caused by the contractor shall be rectified at the contractor's expense to the satisfaction of the State Project Manager before final payment is made. Equipment and tools must meet OSHA and the State requirements. Barricades with tags will be installed as required by the State.

13.0 Temporary Electrical Power

The electrical power at the existing building will be available to the contractor. Cost of electricity will be paid for by the State.

14.0 Temporary Water

The water at the existing building will be available to the contractor. Cost of water will be paid for by the State.

15.0 Inspection of Work in Progress and Upon Completion

It shall be the responsibility of the Contractor to arrange an inspection of the job site with the State Project Manager, State's Technical Consultant, and the Materials Manufacturer's Field Representative at the following times:

1. Prior to start of work. Conditions at the time shall be noted. All necessary work permits must be obtained before work begins.
2. PRIOR TO FINAL FINISH TO THE APPLIED ROOF SYSTEM.

16.0 Core Samples

During application or upon completion, the State reserves the right to test materials and extract cores, within reason. Deficiencies will be considered less than the scope of the specification and payment will be withheld until proper corrections have been done.

17.0 Final Inspection

The representative of the contracting firm shall notify the State Project Manager when he is within five (5) working days of completing a particular project. A final inspection team consisting of the State Project Manager, the State's Technical Representative, the Representative of the Contracting Firm, the Contractor's Job Foreman, and Materials Manufacturer's Field Representative, shall inspect the work. **Any defects noted in the work during the course of this final inspection shall be corrected to the satisfaction of the State Project Manager WITHIN 15 DAYS and prior to the removal of the contractor's equipment from the job site.**

18.0 Final Payment

Retainage throughout the contract period will be five (5) percent. Final payment including the 5% retainage will not be approved until all punch list items are addressed and the warranty is delivered to the client and accepted.

19.0 Chemical Clearance

All materials to be used must have the State's chemical clearance before being brought to the job site. OSHA material data sheets must be submitted. All materials will be ASBESTOS FREE.

20.0 Insurance

Contractor shall submit certificates of insurance conforming to the laws of the state and to the satisfaction of the State.

21.0 Progress of Work

The contractor shall notify the State Project Manager, State's Technical Representative, and Material Manufacturer's Field Representative at least FIVE (5) WORKING DAYS IN ADVANCE OF THE DAY HE/SHE INTENDS TO BEGIN WORK.

All bidders shall state in their proposal:

1. IF AWARDED THE JOB, THE DATE THEY EXPECT TO BEGIN WORK.
2. ESTIMATED NUMBER OF WORKING DAYS.

For the purposes of progress payments, the State Project Manager and State's Technical Representative shall have final authority to determine the exact point of completion of any phase of work (i.e., ten percent, twenty percent, etc.).

22.0 Metal Samples

Color samples of all fascia and roofing metal will be submitted to the State for their approval.

23.0 Permits

The contractor shall furnish and pay for all permits, fees, and licenses required for proper execution and completion of this project.

24.0 Standard of Quality

The various materials and products specified in the specification documents by name or description are given to establish a standard of quality and cost for bid purposes. It is not the intent to limit acceptance to any one material or product specified, but rather to name or describe it as an absolute minimum standard that is desired and acceptable. A material or product of lesser quality would not be acceptable. Where proprietary names are used, whether or not followed by the words "or approved equal", they shall be subject to equals only as approved by the State.

25.0 Safety

Contractor must be in compliance with OSHA "Fall Protection" Standard, Subpart M (1926.500) that became effective February 6, 1995.

OSHA approved safety harnesses and warning lines must be utilized at outside edges of buildings.

Eye protection for workers will be required. Hardhats will be required for workers on ground level. Hardhats will also be required on workers when crane is in operation at any building.

All propane tanks are to be stored on the ground.

All torches (if applicable) shall be equipped with dead man's shut off.

A two (2) hour fire watch will be maintained after torch operations have ceased.

Contractor will use hand held laser thermometers to check all areas covered by the day's work.

26.0 Scaffolding, Guardrails, Stairways & Chutes (If required)

Provide and maintain in a safe manner for duration of construction all required scaffolds, guardrails, handrails, stairways, covers for floor, roof and wall openings, and other temporary construction as necessary.

Scaffolding will have and interior stair unit with railings. No admittance into the building will be allowed unless an emergency exists. Fence with gate will surround scaffolding as noted on drawings. When workmen are not present on roof, gate will be locked.

Provide chutes for delivery of removal materials in demolition and removal to the ground level. Throwing or dumping from higher levels will not be permitted. Refer to all standard and specific OSHA and EPA requirements, as applicable to all work performed under this contract.

27.0 Landscaping

Contractor will be responsible to repair all "green areas". New clean topsoil will be used to level ground. Contractor shall apply to the disturbed areas, Agway's WearGreen Hydroseed at the rate of 5 to 7 pounds per 1000 square feet. All repaired landscaped areas must meet the State's satisfaction before final payment is made.

28.0 Toilet Facilities

Contractor must supply his or her own toilet facilities. Entry into the building will be prohibited.

29.0 Time Schedule

Contractor shall submit, with his/her bid, a detailed **critical path** "Time Schedule".

All work under the Prime Contract must follow the starting and completion schedule as set forth in the "Time Schedule".

Start date: June 8, 2015
Working hours: Weekdays - 7:00 A.M. to 3:30 P.M.
Weekends - With prior approval of the State.

Substantial Completion Date: September 18, 2015

Punch List Inspection: September 18, 2015

Final Completion: September 25, 2015

The time schedules, as outlined above, shall be strictly maintained and adhered to and shall be used by the Contractor as a guide in preparing bids and in setting up work and delivery schedules. Revisions to Time Schedule may be required due to weather delays.

Prepare shop drawings and submittals in a timely manner.

All items requiring fabrication shall be released for fabrication and shipment to the job immediately upon approval of required submittal data.

30.0 Guarantee

Upon completing the project, the Contractor shall provide a two (2) year LABOR AND MATERIALS GUARANTEE TO THE STATE AND MANUFACTURER. IN ADDITION, THE PRIMARY ROOFING MANUFACTURER MUST PROVIDE THE FOLLOWING:

1. MODIFIED ROOF REPLACEMENT = 25 YEAR NO DOLLAR LIMIT WARRANTY.
2. METAL EDGE SYSTEM = 215 MPH LIFETIME WIND WARRANTY.
3. ROOF RESTORATION ROOF COATING = 10 YEAR WARRANTY.

Guarantee must cover both the labor and materials for all system components.

Warranty for the roofing and metal edge systems, must come from the manufacturers.

Warranty must be signed by the PARENT COMPANY. Officers of divisions or subsidiaries of a PARENT COMPANY are not acceptable personnel to sign a roofing warranty.

31.0 Drain Testing

A preconstruction and post construction drain inspection will be made by the Contractor and the State Project Manager. Any drains clogged before works begins will be opened by the State. The Contractor will be responsible to open any clogged drains found during work or at the completion of the project.

32.0 Pre-Approved Materials

Roofing Materials:

A. Bissell Hospital Main and 1912 Buildings:

1. Modified Roofing:

- a. Garland
- b. Tremco
- c. Soprema

2. Roof Restoration Coating:

- a. Garland
- b. Tremco
- c. GAF
- d. APOC

33.0 Disclosure of Materials

The materials outlined above are the type of materials that should be used in this project. The bidder must disclose, in his/her proposal, the manufacturer(s) that he/she intends to use on this project. Bidder will not be allowed to change materials after the bid opening date. In addition, if an alternate material is bid, the material must be equal or exceed the specifications within the Material Specifications section of this document. In addition, the bidder must submit, to the State's Project Manager and Consultant, the following information no later than 7 days before the bid opening. (Alternate materials only)

1. A certificate from an accredited testing laboratory comparing the physical and performance attributes of the proposed material with those materials denoted as pre-approved systems or the characteristics noted in the specification documents, including but not limited to the following:
 - a. Cold Process Membrane:
 1. Modified roofing membrane(s) and flashings substantiating Flexibility, Tensile Strength and Tear Strength. Test results must be dated, notarized and be on testing laboratory stationary. Testing for SBS membrane and must follow standard ASTM D 5147 test methods. Testing shall be performed at 73 Degrees. Test at 0 degrees shall not be considered.
2. A list of at least five (5) jobs where the proposed alternate material was used under similar conditions. These jobs shall be located within fifty (50) miles of the project. Each job must be at least five (5) years old, and each must be available for inspection by the State's Representative.
3. Consideration will be given only to those alternate materials and/or systems that have written approval 4 days before the bid opening.
4. Alternate supplier of roofing material must supply the following information to the State and conform to the following criteria:
 - a. Submittal of a quart sample of the coating.

- b. Material Manufacturer must supply the State with a \$2,000,000.00 Product Liability Policy.
- c. The manufacturer must have a current ratio of 2:1 (current assets to current liabilities) and demonstrate such with an **audited** financial statement supported by an affidavit from a third party.
- d. The materials installed for the waterproofing membrane must be manufactured and guaranteed by the material supplier
- e. All products must be in accordance with the Health, Safety And Environmental Control (H, S & E) Regulations. e.g. No asbestos materials, no harmful solvent release materials, etc.
- f. In making a request for substitution, Bidder/Contractor represents:
 - a. He/she has personally investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
 - b. He/she will provide the same guarantee for substitution as for the product and method specified.
 - c. He/she will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
 - d. He/she waives all claims for additional cost related to substitution, which consequently become apparent.
 - e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
 - f. He will reimburse the Owner for all redesign cost by the Consultant/ Architect for accommodation of the substitute.
- 5. The State reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials.

6. Alternate material submissions shall be sent to:

Professional Roof Services, Inc.
9 Fairview Avenue
Middletown, DE 19709
Attention: Mr. Chris Moore
(610) 662-7562

34.0 Final Completion & Inspections:

Except with the consent of the Owner, the Consultant will perform no more than one (1) inspection to determine whether the Work or a designated portion thereof has attained Final Completion in accordance with the Contract Documents. The Owner shall be entitled to deduct from the Contract Sum amount paid to the Consultant for any additional final inspections including costs to process change orders.

The Consultant will perform progress inspections up to the Final Completion Date as found in Section 30.0 "Time Schedule" above. All inspections, with the exception of one (1) final inspection, will be billed to the Owner at a rate of \$375.00 per inspection. The Owner shall be entitled to deduct from the Contract Sum amount paid to the Consultant for any additional inspections.

35.0 Contractor's Responsibility

The contractor is responsible for his or her own measurements and cores. The contractor is required to verify all field conditions. The core locations and related materials are included for convenience and are not intended to be construed as being the same material or construction across the entire roof surface. Negligence of the contractor not to verify all conditions will not be accepted as a justification for adjustment of the contract.

CONSTRUCTION WASTE MANAGEMENT
SECTION 00 90 30

Part 1 – GENERAL:

1.1 SUMMARY:

A. Section includes: Administrative and procedural requirements for construction waste management activities.

1.2 DEFINITIONS:

A. Construction, Demolition, and Land clearing (CDL) Waste: Includes all non-hazardous solid wastes resulting from construction, remodeling, alternations, repair, demolition and land clearing. Includes material that is recycled, reused, salvaged or disposed as garbage.

B. Salvage: Recovery of materials for on-site reuse, sale or donation to a third party.

C. Reuse: Making use of a material without altering its form. Materials can be reused on-site or reused on other projects off-site. Examples include, but are not limited to the following: Crushing or grinding of concrete for use as sub-base materials. Chipping of land clearing debris for use as mulch.

D. Recycling: The process of sorting, cleaning, treating, and reconstituting materials for the purpose of using the material in the manufacture of a new product.

E. Source-Separated CDL Recycling: The process of separating recyclable materials in separate containers as they are generated on the job-site. The separated materials are hauled directly to a recycling facility or transfer station.

F. Co-mingled CDL Recycling: The process of collecting mixed recyclable materials in one container on-site. The container is taken to a material recovery facility where materials are separated for recycling.

G. Approved Recycling Facility: Any of the following:

1. A facility that can legally accept CDL waste materials for the purpose of processing the materials into an altered form for the manufacture of a new product.

2. Material Recovery Facility: A general term used to describe a waste-sorting facility. Mechanical, hand-separation, or a combination of both procedures, are used to recover recyclable materials.

1.3 SUBMITTALS:

A. Contractor shall develop a Waste Management Plan: Submit 3 copies of plan within 14 days of date established for the Notice to Proceed.

B. Contractor shall provide Waste Management Report: Concurrent with each Applications for Payment, submit 3 copies of report.

1.4 PERFORMANCE REQUIREMENTS:

A. General: Divert a minimum of 75% CDL waste, by weight, from the landfill by one, or a combination of the following activities:

1. Salvage
2. Reuse
3. Source-Separated CDL Recycling
4. Co-mingled CDL Recycling

B. CDL waste materials that can be salvaged, reused or recycled include, but are not limited to, the following:

1. Acoustical ceiling tiles
2. Asphalt
3. Asphalt shingles
4. Cardboard packaging
5. Carpet and carpet pad
6. Concrete
7. Drywall
8. Fluorescent lights and ballasts
9. Land clearing debris (vegetation, stumpage, dirt)
10. Metals
11. Paint (through hazardous waste outlets)
12. Wood
13. Plastic film (sheeting, shrink wrap, packaging)
14. Window glass
15. Field office waste, including office paper, aluminum cans, glass, plastic and office cardboard.

1.4 QUALITY ASSURANCE:

A. Waste Management Coordinator Qualifications: Experienced firm, with a record of successful waste management coordination of projects with similar requirements, that employs a LEED Accredited Professional, certified by the USGBC as waste management coordinator.

B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

C. Regulatory Requirements: Conduct construction waste management activities in accordance with hauling and disposal regulations of all authorities having jurisdiction and all other applicable laws and ordinances.

D. Preconstruction Conference: Schedule and conduct meeting at Project site prior to construction activities.

1. Attendees: Inform the following individuals, whose presence is required, of date and time of meeting.

- a. Owner
- b. Architect
- c. Contractor's superintendent
- d. Major subcontractors
- e. Waste Management Coordinator
- f. Other concerned parties.

2. Agenda Items: Review methods and procedures related to waste management including, but not limited to, the following:

- a. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
- b. Review requirements for documenting quantities of each type of waste and its disposition.
- c. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
- d. Review procedures for periodic waste collections and transportation to recycling and disposal facilities.
- e. Review waste management requirements for each trade.

3. Minutes: Record discussion. Distribute meeting minutes to all participants. Note: If there is a Project Architect, they will perform this role.

1.5 WASTE MANAGEMENT PLAN – Contractor shall develop and document the following:

A. Develop a plan to meet the requirements listed in this section at a minimum. Plan shall consist of waste identification, waste reduction plan and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight throughout the plan.

B. Indicate anticipated types and quantities of demolition, site-cleaning and construction waste generated by the project. List all assumptions made for the quantities estimates.

C. List each type of waste and whether it will be salvages, recycled, or disposed of in a landfill. The plan should include the following information:

1. Types of estimated quantities, by weight, of CDL waste expected to be generated during demolition and construction.

2. Proposed methods for CDL waste salvage, reuse, recycling and disposal during demolition including, but not limited to, one or more of the following:

- a. Contracting with a deconstruction specialist to salvage materials generated,
- b. Selective salvage as part of demolition contractor's work,
- c. Reuse of materials on-site or sale or donation to a third party.

3. Proposed methods for salvage, reuse, recycling and disposal during construction including, but not limited to, one or more of the following:

- a. Requiring subcontractors to take their CDL waste to a recycling facility.
- b. Contracting with a recycling hauler to haul recyclable CDL waste to an approved recycling or material recovery facility;
- c. Processing and reusing materials on-site;
- d. Self-hauling to a recycling or material recovery facility.

4. Name of recycling or material recovery facility receiving the CDL wastes.

5. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on project site where materials separation will be located.

D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:

1. Total quantity of waste.
2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
3. Total cost of disposal (with no waste management).
4. Revenue from salvaged materials.
5. Revenue from recycled materials.
6. Savings in hauling and tipping fees by donating materials.
7. Savings in hauling and tipping fees that are avoided.
8. Handling and transportation cost. Including cost of collection containers for each type of waste.
9. Net additional cost or net savings from waste management plan.

Part 2 – PRODUCTS (Not Used)

Part 3 – EXECUTION:

3.1 CONSTRUCTION WASTE MANAGEMENT, GENERAL:

- A. Provide containers for CDL waste that is to be recycled clearly labeled as such with a list of acceptable and unacceptable materials. This list of acceptable materials must be the same as the materials recycled at the receiving materials recovery facility or recycling processor.
- B. The collection containers for recyclable CDL waste must contain no more than 10% non-recyclable material, by volume.
- C. Provide containers for CDL waste that is disposed in a landfill clearly labeled as such.
- D. Use detailed material estimates to reduce risk of unplanned and potentially wasteful cuts.
- E. To the greatest extent possible, include in material purchasing agreements a waste reduction provision requesting that materials and equipment be delivered in packaging made of recyclable material, that they reduce the amount of packaging, that packaging be taken back for reuse or recycling, and to take back all unused product. Insure that subcontractors require the same provisions in their purchase agreements.

F. Conduct regular visual inspections of dumpsters and recycling bins to remove contaminants.

3.2 SOURCE SEPARATION:

A. General: Contractor shall separate recyclable materials from CDL waste to the maximum extent possible.

Separate recyclable materials by type.

1. Provide containers, clearly labeled, by type of separated materials or provide other storage method for managing recyclable materials until they are removed from Project site.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water and to minimize pest attraction. Cover to prevent windblown dust.
3. Stockpile materials away from demolition area. Do not store with drip line of remaining trees.
4. Store components off the ground and protect from weather.

3.3 CO-MINGLED RECYCLING:

A. General: Do not put CDL waste that will be disposed in a landfill into a co-mingled CDL waste recycling container.

3.4 REMOVAL OF CONSTRUCTION WASTE MATERIALS:

- A. Remove CDL waste materials from project site on a regular basis. Do not allow CDL waste to accumulate on-site.
- B. Transport CDL waste materials off Owner's property and legally dispose of them.
- C. Burning of CDL waste is not permitted.

END OF SECTION

WASTE MANAGEMENT PROGRESS REPORT				
MATERIAL CATEGORY	DISPOSED IN MUNICIPAL SOLID WASTE LANDFILL	DIVERTED FROM LANDFILL BY RECYCLING, SALVAGE OR REUSE		
		Recycled	Salvaged	Reused
1. Acoustical Ceiling Tiles				
2. Asphalt				
3. Asphalt Shingles				
4. Cardboard Packaging				
5. Carpet and Carpet Pad				
6. Concrete				
7. Drywall				
8. Fluorescent Lights and Ballasts				
9. Land Clearing Debris (vegetation, stumpage, dirt)				
10. Metals				
11. Paint (through hazardous waste outlets)				
12. Wood				
13. Plastic Film (sheeting, shrink wrap, packaging)				
14. Window Glass				
15. Field Office Waste (office paper, aluminum cans, glass, plastic, coffee cardboard)				
16. Other (insert description)				
17. Other (insert description)				
Total (In Weight)		(TOTAL OF ALL ABOVE VALUES - IN WEIGHT)		
		Percentage of Waste Diverted	(TOTAL WASTE DIVIDED BY TOTAL DIVERTED)	