The State of Connecticut

Department of Housing (DOH)

Community Development Block Grant Disaster Recovery Program (CDBG-DR)

Owner Occupied Rehabilitation and Rebuilding Program (OORR)

BID PACKAGE

For

Hill Residence

Rehabilitation and Mitigation

888 Ocean Avenue

West Haven, CT 06516

Prepared by:

Capital Studio Architects, LLC.

1379 Main Street, East Hartford, CT 06108

860.289.3262

Project #: 1739

CSA Project # 1347-43

January 08, 2016

EQUAL HOUSING OPPORTUNITY

Project # 1739

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Section 1

ADVERTISEMENT FOR BIDS

Project #1739

The State of Connecticut Department of Housing (DOH) is seeking proposals through a Request for Proposal (RFP) process for the rehabilitation, reconstruction and/or mitigation of residential structures damaged by Superstorm Sandy in compliance with all applicable local, federal, and state statutory requirements with special attention paid to requirements for Community Development Block Grants under the United States Department of Housing and Urban Development ("HUD") Disaster Recovery grant program.

Separated sealed bids for **Project #1739, Hill Residence, Rehabilitation and Mitigation, 888 Ocean Avenue, West Haven, CT** will be received by Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108 until **4:00 o'clock PM on Tuesday, March 01 2016.**

A **Mandatory Walk Through** will be held at the Project Site located at **888 Ocean Avenue, West Haven, CT at 10:00 AM on Tuesday, February 16, 2016.**

The Information to Bidders, Form of Bid, Form of Contract, Plans, Specifications, Form of Bid Bond and Performance and Payment Bond and other contract documents may be examined on the Department of Housing Hurricane Sandy Recover website at www.ct.gov/doh/ and click on the "Hurricane Sandy" link, and at the office Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108.

Copies of plans may be downloaded directly from the Department of Housing website under bid notices or obtained, when requested in advance, at the office of Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108 upon payment of $50.00 for each set.

DOH reserves the right to waive any informalities or to reject any or all bids.

Each bidder must deposit with his bid, security in the amount, form and subject to the conditions provided in the Information to Bidders.

Attention to bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wages rates to be paid under the contract (if applicable), Section 3, Segregated Facilities, Section 109 and E. O. 11246.

No bidder may withdraw his bid within 180 calendar days after the actual date of the bid opening thereof.

INFORMATION FOR BIDDERS

Receipt and Opening of Bids:

The State of Connecticut Department of Housing (herein called the "DOH"), invites bids on the form attached. Bids will be received by DOH at the office of David Holmes, Project Manager at Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108, until **4:00 o'clock PM on Tuesday, March 01, 2016.**

The envelopes containing the bids must be sealed, addressed to David Holmes, Project Manager at Capital Studio Architects, LLC. and designated as bid for **Project #1739, Hill Residence, Rehabilitation and Mitigation, 888 Ocean Avenue, West Haven, CT**

DOH may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement there considered. NO bidder may withdraw a bid within 180 days after the actual date of the opening thereof.

Mandatory Walk Through: All bidders must attend a mandatory walk through of the property designated above. The date and time of the walk through is set for **10:00 AM on Tuesday, February 16, 2016.**

Preparation of Bids:

Each bid must be submitted on the prescribed form and accompanied by Certification by Bidder Regarding Equal Employment Opportunity, Form HUD-950.1, and Certification of Bidder Regarding Section 3 and Segregated Facilities. All blank spaces for bid process must be filled in, in ink or typewritten, in both words and figures, and the foregoing Certifications must be fully completed and executed when submitted.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his/her address, and the name of the project for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in the bid form.

Subcontracts: The bidder is specifically advised that any person, for, or other party to whom it is proposed to award a subcontract under this contract:

1. Must be acceptable to the DOH after verification by the State of the current eligibility status; and,
2. Must submit Form HUD-950.2, Certification by Proposed Subcontractor Regarding Equal Employment Opportunity and Certification of Proposed Subcontractor Regarding Section 3 and Segregated Facilities. Approval of the proposed subcontractor award cannot be given by the DOH unless and until the proposed subcontractor has submitted the Certifications and/or other evidence showing that it has fully complied with any reporting requirements to which it is or was subject. Although the bidder is not required to attach such Certifications by proposed subcontractors to his/her bid, the bidder is here advised of this requirement so that appropriate action can be taken to prevent subsequent delay in subcontract awards.

Method of Bidding: DOH invites the following bid(s):

Qualifications of Bidder: The DOH may make such investigations as he/she deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the DOH all such information and date for this purpose as the DOH may request. The DOH reserves the right to reject any bid if the evidence submitted by, or

investigation of, such bidder fails to satisfy the DOH that such bidder is property qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted. The State's set Contractor Prequalifications are available at the Department of Housing's Hurricane Sandy Recovers website www.ct.gov/doh/ and click on the "Hurricane Sandy" link.

Bid Security: Each bid must be accompanied by an irrevocable letter of credit from the bank, certified check, or bank cashier's check in the amount not less than five percent (5%) of the bid. Bid bonds may be accepted as bid security. Such checks will be returned to all except the three lowest bidders within three days after the opening of bids, and the remaining cash, or checks will be returned promptly after DOH and the accepted bidder have executed the contract, or opening of bids, upon demand or the bidder at any time thereafter, so long as he/she has been notified of the acceptance of his/her bid.

Conditions of Work: Each bidder must inform him/herself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to carry out the provision of his/her contract. Insofar as possible the contractor, in carrying out the work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

Addenda and Interpretations: No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally.

Every request for such interpretation should be in writing addressed to: David Holmes, Project Manager at Capital Studio Architects, LLC. located at 1379 Main Street, East Hartford, CT 06108 and, to be given consideration, must be received at least three days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instruction will be in the form of written addenda to the specifications which, if issued, will be forwarded by electronic mail and posted on DOH's Hurricane Sandy website to all prospective bidders (at the respective email addresses furnished for such purposes), not later than two days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.

Security for Faithful Performance: Simultaneously with his/her delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract, as specified in the General Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the DOH.

Performance and Payment Bonds: A performance and payment bond will be required of the successful bidder (contractor) for 100 percent of the contract price on contracts over $100,000.

Contract Progress Schedule: Each bid shall be accompanied by a Contract Progress Schedule. Such Schedule shall list the bidder's timetable for completion of the contract.

Power of Attorney: Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

Notice of Special Conditions: Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

1. Inspection and testing of materials
2. Insurance requirements
3. Wage rates (if applicable)
4. State allowances

Laws and Regulations: The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

Method of Award-Lowest Qualified Bidder: If at the time this contract is to be awarded, the lowest base bid submitted by a responsible bidder does not exceed the amount of funds then estimated by the DOH as available to finance the contract; the contract will be awarded on the base bid only. If such bid exceeds such amount, the DOH may reject all bids or may award the contract on the base bid combined with such deductible alternatives applied in numerical order in which they are listed in the Form of Bids, as produces a net amount which is within the available funds.

If the homeowner wishes to select a prequalified bidding contractor other than the lowest and most responsible bidder, said owner is responsible for paying the difference between the lowest bidder and their chosen bidder from their own financing.

Obligation of Bidder: At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect to his/her bid.

Safety Standards and Accident Prevention: With respect to all work performed under this contract, the contractor shall:

1. Comply with the safety standards provision of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1518 as published in the "Federal Register," Volume 36, No 75, Saturday, April 17, 1971.
2. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) who may be injured on the job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.

BID FORM

The undersigned, being familiarized with the local conditions affecting the cost of the work and with the Drawings, Specifications, Invitation to Bidders, Instructions to Bidders, General Conditions, Bid Form, Form of Contract and Performance and Payment Bond for **Project No. 1739** and Addenda No. _____ and _____ thereto, as prepared by Capital Studio Architects, LLC. East Hartford, Connecticut, and on file in the office of DOH, hereby proposes to furnish all permits, labor, materials, tools, equipment and related items required for the rehabilitation and reconstruction including general construction, site improvements, plumbing, heating, electrical and finish items for said **Project #1739, Hill Residence Rebuilding and Mitigation, 888 Ocean Avenue, West Haven, State of Connecticut**, all in accordance with the Drawings and Specifications, for the sum of:
_____Dollars ($_____).

Section #	***Scope of Work***	***Subcontractor***	***Labor Cost***	***Material***	***Total***
TOTAL COST					

ALTERNATE PROPOSALS AND UNIT PRICES

The undersigned bidder further proposes and agrees that should any or all of the following Alternates be accepted and included in the Contract, the amount of the Base Bid, as heretofore stated, shall be adjusted by the amount stated for each Alternate, or Unit Price. All materials and workmanship shall be in strict accordance with the Drawings and Specifications and shall be in-place prices.

Alternates

No. 1 _____ **$** Add / Deduct (circle one)

Unit Price		Unit Measure
No. 1	_____	**$/ sf**
No. 2	_____	**$/ lf**
No. 3	_____	**$/ lf**
No. 4	_____	**$/ lf**
No. 5	_____	**$/ lf**
No. 6	_____	**$/ sf**
No. 7	_____	**$/ sf**

The undersigned agrees to commence the work on a date to be specified in the contract and to complete such work within **180** consecutive calendar days.

The undersigned agrees that if within the period of one hundred eighty (180) days after the opening of bids, or when extended to the next work day immediately following said period, notice of the acceptance of this bid shall be mailed, or delivered to him/her at the business address given below, or at any time thereafter before this bid is withdrawn, will within fifteen (15) days thereafter deliver to the DOH, where directed, a contract properly executed in such number of counterparts as may be required by said DOH, on the forms annexed, with such changes therein as shall have been made by DOH, prior to the time named for delivery of this proposal, together with an executed Completion Assurance Agreement with a Letter of Credit in a form satisfactory to the DOH and a letter indicating those Small/Minority Business Enterprises that will perform work and/or provide materials, equipment or services as part of the contract.

In submitting this bid, it is understood that the right is reserved by the abovementioned DOH to reject any and all bids; and it is agreed that this bid may not be withdrawn for a period of one hundred eighty (180) days from the date of bid opening or until the next work day immediately following said period if such period ends on a weekend or a State holiday. It is the intent of DOH to award and sign a contract within (90) days of the Notice to Award a contract. For contracts not signed within said ninety day period, Contractors shall be allowed to increase their bids by a rate of 3% annum, prorated on a monthly basis until the date of contract award and signing.

Security in the sum of _____ Dollars ($_____)

in the form of _____is submitted herewith in accordance with the Specifications.

The undersigned bidder agrees to comply with the Section 3 plan included herein and all Federal requirements pertaining to conditions of employment to be observed and minimum wage rates to be paid under the contract, Segregated Facilities, Section 109 and Executive Order 11246.

Attached hereto is an affidavit, in proof that the undersigned has not entered into any collusion with any person in respect to this proposal, or any other proposal, or the submitting of proposals for the above Project. Also attached is a statement of contractor's qualifications, Certification of Bidder Regarding Equal Employment Opportunity, and Segregated Facilities.

Acknowledgement of Bidder

I, THE UNDERSIGNED AS AN AUTHORIZED OFFICER OF:

_____ _____
(Company Name) (Date)

_____ _____
(Address) (Telephone)

_____ _____
(City/State/Zip) (Fax No.)

_____
(FEIN)

I HEREBY SUBMIT THE FOLLOWING PRICES FOR THE PROJECT IDENTIFIED ABOVE: (Indicate in words and numerals)
BASE BID PRICE: Cost_____
AMOUNT IN WORDS:_____
_____

_____ _____
(Signature) (Date)

_____ _____
(Printed Name) (Title/Position)

(Email address) _____

(Bank Letterhead)

BID SECURITY

IRREVOCABLE LETTER OF CREDIT

Dear _____:

We hereby authorize you to draw on us to the aggregate amount of $_____ (five percent of the amount of the bid) in the event _____ withdraws its bid within the bid holding period, or upon being awarded a contract, fails to provide adequate performance and payment security as required by the Contract documents.

Such drafts must be accompanied by the following document:

A written certification by you that the proceeds of any draft drawn on this Letter of Credit will be used solely to indemnify the DOH against loss or damage suffered by it resulting from any act or omission described in the above paragraph.

We warrant to you that all drafts drawn in compliance with the terms of this Letter of Credit will be unconditionally and duly honored upon delivery of the documentation specified and presented to this office.

This Letter of Credit is irrevocable and shall be in full force and effect until notification in writing is received from you that a contract for Project_____ has been awarded and executed, whereupon this Letter of Credit shall automatically be canceled.

This Letter of Credit shall not be modified or amended except upon the written agreement of this Bank and the DOH.

Sincerely yours,

President

FORM OF NON-COLLUSIVE AFFIDAVIT
AFFIDAVIT

State of _____)

County of _____)

_____, being first duly sworn, deposes and says:

That he/she is,_____ the party making the foregoing proposal for bid, that such proposal or bid is genuine and not collusive or sham; that said bidder has not colluded, conspired, connived or agreed, directly or indirectly, with any bidder or person, to put in a sham bid or to refrain from bidding, and has not, in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant or of any other bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other bidder, or to secure any advantage against DOH or any person interested in the proposed contract, and that all statements in said proposal for bid are true.

Project No._____

Location _____

_____

Signature

_____

Name and Title

_____

Date

(Signature should be notarized.)

BIDDER'S CERTIFICATION OF ELIGIBILITY

By the submission of this bid, the bidder certifies that to the best of its knowledge and belief, neither it, nor any person or firm which has an interest in the bidder's firm, nor any of the bidder's subcontractors, is ineligible to:

(1) Be awarded contracts by any agency of the United States Government or HUD; or,

(2) Participate in HUD programs pursuant to 24 CFR part 24.

_____

(Name of Bidder)

_____

(Address)

BY:_____

Title: _____

NOTE: This certification is a material representation of fact upon which reliance is placed when making award. If it is later determined that the bidder knowingly rendered an erroneous certification, the contract may be terminated for default, and the bidder may be debarred or suspended from participation in HUD programs and other Federal programs.

CERTIFICATION OF GENERAL BIDDERS ON CDBG-DR CONSTRUCTION PROJECTS

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he/she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies that neither he/she nor any firm, corporation, partnership or association in which he/she has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6 (b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5), or pursuant to Section 3 (a) of the Davis-Bacon Act, as amended (40 USC 276a). The undersigned further certifies that said undersigned is not presently debarred from doing public construction work in the State of Connecticut.

Date: _____

_____

Name of General Bidder

By _____

Signature

_____

Print name and title

_____

Business Address

_____

Street Address City and State

OSHA-10 OSHA-10

CERTIFICATION OF SUB- BIDDERS (IF ANY) ON CDBG-DR CONSTRUCTION PROJECTS

I. CERTIFICATION REGARDING HEALTH AND SAFETY

The undersigned hereby certifies that he/she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least ten hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee

II. CERTIFICATION REGARDING NON-COLLUSION AND DEBARMENT

The undersigned further certifies under penalties of perjury that this subbid is in all responses bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies that neither he/she nor any firm, corporation, partnership or association in which he/she has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6 (b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5), or pursuant to Section 3 (a) of the Davis-Bacon Act, as amended (40 USC 276a). The undersigned further certifies that said undersigned is not presently debarred from doing public construction work in the State of Connecticut.

Date _____

_____

Name of Sub-bidder

By _____

Signature

_____

Print Name and Title

_____

Business Name

_____

Street Address, City and State

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,
_____ _____as Principal,
and _____Surety, are hereby held and firmly bound unto
_____ as DOH in the penal sum of
_____ , for the payment of which, well and truly be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Signed this _____ day of _____, 2015.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted to
_____ a certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing, for the _____

_____

NOW, THEREFORE,

1. If said Bid shall be rejected, or in the alternate,
2. If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with the Bid) and shall furnish a bond for this faithful performance of said contract, and for the payment of all person performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid,

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any or all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time which the DOH may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____ (L.S)
Principal

_____
Surety

SEAL By: _____

PERFORMANCE AND PAYMENT BOND

(For contracts over $100,000)

KNOW ALL MEN BY THESE PRESENTS: THAT we, _____, as PRINCIPAL, and_____ , as SURETY, are held firmly bound unto_____ hereinafter called the DOH, in the penal sum of _____ ($_____), for the payment of which sum we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally.
WHEREAS, Principal has entered into a certain Contract with DOH, dated _____, a copy of which is hereto attached and made a part hereof.

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall in all respects fully perform the Contract and all duly authorized modifications thereof, during its original term and any extensions thereof that may be granted and during any guaranty period for which the Contract provides, and if the Principal shall fully satisfy all claims arising out of the prosecution of the work under the Contract and shall fully indemnify DOH for all expenses which it may incur by reason of such claims, including its attorney's fees and court costs, and if the Principal shall make full payment to all persons supplying labor, services, materials, or equipment in the prosecution of the work under the Contract, in default of which such persons shall have a direct right of action hereupon; and if the Principal shall pay or cause to be paid all sales and use taxes payable as a result of the performance of the Contract as well as payment of gasoline and special motor fuel taxes in the performance of the Contract and all motor vehicle fees required for commercial motor vehicles used in connection with the performance of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect. No modification of the Contract or extension of the term thereof, nor any forbearance on the part of DOH shall in any way release the Principal or the Surety from liability hereunder. Notice to the Surety of any such modification, extension, or forbearance is hereby waived.

IN WITNESS WHEREOF, the aforesaid Principal and Surety have executed this instrument and affixed their seals hereto, this _____ day of _____.

_____ _____

Principal Surety

_____ _____

Name and Title

(Signatures must be notarized.)

(Power-of-Attorney for person signing for Surety Company must be attached to bond.)

The rate of premium on this bond is $_____ per thousand.

The total amount of premium charge is $_____.

(The above is to be filled in by Surety Company.)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the

_____ Secretary of the corporation

named as Principal in the foregoing bond; that _____, who signed the bond on behalf of the Principal, was then _____ of said corporation; that I know his/her signature thereto is genuine; and that said bond was fully signed, sealed, and attested for and in behalf of said corporation by authority of its governing body.

SUBCONTRACTOR IDENTIFICATION

(Provide additional forms for more subcontractors, as needed.)

This form is a part of your bid package and must be submitted along with the itemized and formal bid forms at the time of the bid opening. Failure to submit a completed document could result in the disqualification of your bid.

Name of Subcontractor: _____

Address: _____
Trade: _____
Hourly Wage: _$_____ Full Contract Price: _$_____
Federal Tax# or SSN #: _____
Male Owned Business _____ Female Owned Business_____
Is he/she of Hispanic or Latino ethnicity? Yes_____ No_____
Race: (Please check one)
____White ____American Indian/Alaskan Native
____Black/African American ____Hasidic Jew
____Asian/Pacific American

Name of Subcontractor: _____
Address: _____
Trade: _____
Hourly Wage: _$_____ Full Contract Price: _$_____
Federal Tax# or SSN #: _____
Male Owned Business _____ Female Owned Business_____
Is he/she of Hispanic or Latino ethnicity? Yes_____ No_____
Race: (Please check one)
____White ____American Indian/Alaskan Native
____Black/African American ____Hasidic Jew
____Asian/Pacific American

Name of Subcontractor: _____
Address: _____
Trade: _____
Hourly Wage: _$_____ Full Contract Price: _$_____
Federal Tax# or SSN #: _____
Male Owned Business _____ Female Owned Business_____
Is he/she of Hispanic or Latino ethnicity? Yes_____ No_____
Race: (Please check one)
____White ____American Indian/Alaskan Native
____Black/African American ____Hasidic Jew
____Asian/Pacific American

_____ _____
Contractor's Signature Date

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F R 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION OF BIDDER

Name and address of Bidder (include zip code)

_____

_____

_____

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
   ( ) YES ( ) NO

2. Compliance reports were required to be filed in connection with such contract or subcontract.
   ( ) YES ( ) NO

3. Bidder has filed all compliance reports due under applicable instructions, including SF.100.
   ( ) YES ( ) NO ( ) NOT REQUIRED

4. Have you ever seen or are you being considered for sanction due to violation of Executive Order 11246, as amended?
   ( ) YES ( ) NO

5. No segregated facilities will be maintained.

NAME AND TITLE OF SIGNER (Please type.)

_____

_____ _____

SIGNATURE DATE

CERTIFICATION OF BIDDERS REGARDING SECTION 3 AND SEGREGATED FACILITIES

Project Name:

Project No:

Name of Prime Contractor:

The undersigned hereby certifies that:

1. Section 3 provisions are included in the Contract
2. A written Section 3 plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds $100,000.00)
3. No segregated facilities will be maintained.

_____

Name and Title of Signer (Print or Type)

_____ _____

Signature Date

CONTRACTOR

Section 3 Plan Format

_____ agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and business within the _____.

A. To ascertain from the DOH the exact boundaries of the Section 3 covered project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plans.
B. To attempt to recruit from within the city the necessary number of lower income residents through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within or serving the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U. S. Employment Service.
C. To maintain a list of all lower income residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if a vacancy exists.
D. To insert this Section 3 plan in all bid documents, and to require all bidders on subcontracts to submit a Section 3 Affirmative Action Plan including utilization goals and the specific steps planned to accomplish these goals.
E. To insure that contracts which are typically let on a negotiated rather than a bid basis in areas other than Section 3 covered project areas, are also let on a negotiated basis, wherever feasible, when let in a Section 3 covered project area.
F. To formally contact unions, subcontractors and trade associations to secure their cooperation for this program.
G. To insure that all appropriated project area business concerns are notified or pending subcontractural opportunities
H. To maintain records, including copies of correspondence, memoranda, etc., that document all above affirmative action steps have been taken.
I. To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of the Section 3 plan.
J. To list on Table A, information related to subcontracts to be awarded.
K. To list on Table B, all projected workforce needs for all phases of this project by occupation, trade, skill level and number of positions.

As officers and representatives of _____

We, the undersigned, have read and fully agree to this Affirmative Action Plan, and become a party to the full implementation of this program.

_____	_____	_____
Signature	Title	Date

Loans, grants, contracts and subsidies for less than $100,000.00 will be exempt.

Table A

Proposed Subcontracts Breakdown

For Period Covering _____, 20____ Through _____, 20____
(Duration of CDBG-DR OORR Assisted Project)

Column 1	*Column 2*	*Column3*	*Column 4*	*Column 5*
Type of Contract (Business of Profession)	Total Number of Contracts	Total Approximate Dollar Amount	Estimated Number of Contracts to Project Area Businesses*	Estimated Dollar Amount to Project Area Businesses*

*The Project Area is defined as the Town/City boundaries in which the assisted project resides.

_____
Company

_____ _____
Project Name/Residence Project Number

_____ _____
EEO Officer or Designee's Signature Date

Table B

Estimated Project Workforce Breakdown

Column 1	*Column 2*	*Column 3*	*Column 4*	*Column 5*
Job Category	Total Estimated Population	No. Positions Currently Occupied by Permanent Employees	No. Positions Not Currently Occupied	No. Positions to be filled with LIPAR*
Officers/Supervisors				
Professionals				
Technicians				
Housing Sales/Rental Management				
Office Clerical				
Service Workers				
Others				
TRADE:				
Journeymen				
Helpers				
Apprentices				
Maximum No. of Trainees				
Others				
TRADE:				
Journeymen				
Helpers				
Apprentices				
Maximum No. of Trainees				
Others				
TRADE:				
Journeymen				
Helpers				
Apprentices				
Maximum No. of Trainees				
Others				
Total				

**Lower Income Project Area Residents. Individuals residing within the project area whose family income does not exceed 80% of the area median income in the SMSA.*

_____

Company

Green Building Standards Checklist

HUD CPD Green Building Retrofit Checklist

The CPD Green Retrofit Checklist promotes energy efficiency and green building practices for residential retrofit projects. Grantees must follow the checklist in its entirety and apply all measures within the Checklist to the extent applicable to the particular building type being retrofitted. The phrase "when replacing" in the Checklist refers to the mandatory replacement with specified green improvements, products, and fixtures only when replacing those systems during the normal course of the retrofit.

WATER AND ENERGY CONSERVATION MEASURES

N/A **Water-Conserving Fixtures**

Install or retrofit water conserving fixtures in any unit and common facility, use the following specifications: Toilets-- 1.28 gpf; Urinals-- 0.5 gpf; Showerheads-- 2.0 gpm; Kitchen faucets-- 2.0 gpm; and Bathroom faucets-- 1.5gpm. [gpf = gallons per flush; gpm = gallons per minute]

N/A **ENERGY STAR Appliances**

Install ENERGY STAR-labeled clothes washers, dishwashers, and refrigerators, if these appliance categories are provided in units or common areas.

X **Air Sealing: Building Envelope**

Seal all accessible gaps and penetrations in the building envelope. If applicable, use low VOC caulk or foam.

N/A **Insulation: Attic** (if applicable to building type)

For attics with closed floor cavities directly above the conditioned space, blow in insulation per manufacturer's specifications to a minimum density of 3.5 Lbs. per cubic foot (CF). For attics with open floor cavities directly above the conditioned space, install insulation to meet or exceed IECC levels.

X **Insulation: Flooring** (if applicable to building type)

Install ≥ R-19 insulation in contact with the subfloor in buildings with floor systems over vented crawl spaces. Install a 6-mil vapor barrier in contact with 100% of the floor of the crawl space (the ground), overlapping seams and piers at least 6 inches.

N/A **Duct Sealing** (if applicable to building type)

In buildings with ducted forced-air heating and cooling systems, seal all penetrations of the air distribution system to reduce leakage in order to meet or exceed ENERGY STAR for Homes' duct leakage standard.

N/A **Air Barrier System**

Ensure continuous unbroken air barrier surrounding all conditioned space and dwelling units. Align insulation completely and continuously with the air barrier.

N/A **Radiant Barriers: Roofing**

When replacing or making a substantial repair to the roof, use radiant barrier sheathing or other radiant barrier material; if economically feasible, also use cool roofing materials.

X **Windows**

When replacing windows, install geographically appropriate ENERGY STAR rated windows.

N/A **Sizing of Heating and Cooling Equipment**

When replacing, size heating and cooling equipment in accordance with the Air Conditioning Contractors of America (ACCA) Manuals, Parts J and S, or 2012 ASHRAE Handbook--HVAC Systems and Equipment or most recent edition.

N/A **Domestic Hot Water Systems**

When replacing domestic water heating system(s), ensure the system(s) meet or exceed the efficiency requirements of ENERGY STAR for Homes' Reference Design. Insulate pipes by at least R-4.

X **Efficient Lighting: Interior Units**

Follow the guidance appropriate for the project type: install the ENERGY STAR Advanced Lighting Package (ALP); ***OR*** follow the ENERGY STAR MFHR program guidelines, which require that 80% of installed lighting fixtures within units must be ENERGY STAR-qualified or have ENERGY STAR-qualified lamps installed; ***OR*** when replacing, new fixtures and ceiling fans must meet or exceed ENERGY STAR efficiency levels.

N/A **Efficient Lighting: Common Areas and Emergency Lighting** (if applicable to building type)

Follow the guidance appropriate for the project type: use ENERGY STAR-labeled fixtures or any equivalent high-performance lighting fixtures and bulbs in all common areas; ***OR*** when replacing, new common space and emergency lighting fixtures must meet or exceed ENERGY STAR efficiency levels. For emergency lighting, if installing new or replacing, all exist signs shall meet or exceed LED efficiency levels and conform to local building codes.

X **Efficient Lighting: Exterior**

Follow the guidance appropriate for the project type: install ENERGY STAR-qualified fixtures or LEDs with a minimum efficacy of 45 lumens/watt; ***OR*** follow the ENERGY STAR MFHR program guidelines, which require that 80% of outdoor lighting fixtures must be ENERGY STAR-qualified or have ENERGY STAR-qualified lamps installed; ***OR*** when replacing, install ENERGY STAR compact fluorescents or LEDs with a minimum efficacy of 45 lumens/watt.

INDOOR AIR QUALITY

N/A **Air Ventilation: Single Family and Multifamily** (three stories or fewer)

Install an in-unit ventilation system capable of providing adequate fresh air per ASHRAE 62.2 requirements.

N/A **Air Ventilation: Multifamily** (four stories or more)

Install apartment ventilation systems that satisfy ASHRAE 62.2 for all dwelling units and common area ventilation systems that satisfy ASHRAE 62.1 requirements. If economically feasible, consider heat/energy recovery for 100% of corridor air supply.

N/A **Composite Wood Products that Emit Low/No Formaldehyde**

Composite wood products must be certified compliant with California 93120. If using a composite wood product that does not comply with California 93120, all exposed edges and sides must be sealed with low-VOC sealants.

X **Environmentally Preferable Flooring**

When replacing flooring, use environmentally preferable flooring, including the FloorScore certification. Any carpet products used must meet the Carpet and Rug Institute's Green Label or Green Label Plus certification for carpet, pad, and carpet adhesives.

X **Low/No VOC Paints and Primers**

All interior paints and primers must be less than or equal to the following VOC levels: Flats--50 g/L; Non-flats--50 g/L; Floor--100 g/L. [g/L = grams per liter; levels are based on a combination of the Master Painters Institute (MPI) and GreenSeal standards.]

X **Low/No VOC Adhesives and Sealants**

All adhesives must comply with Rule 1168 of the South Coast Air Quality Management District. All caulks and sealants must comply with regulation 8, rule 51, of the Bay Area Air Quality Management District.

N/A **Clothes Dryer Exhaust**

Vent clothes dryers directly to the outdoors using rigid-type duct work.

X **Mold Inspection and Remediation**

Inspect the interior and exterior of the building for evidence of moisture problems. Document the extent and location of the problems, and implement the proposed repairs according to the Moisture section of the EPA Healthy Indoor Environment Protocols for Home Energy Upgrades.

N/A **Combustion Equipment**

When installing new space and water-heating equipment, specify power-vented or direct vent combustion equipment.

N/A **Mold Prevention: Water Heaters**

Provide adequate drainage for water heaters that includes drains or catch pans with drains piped to the exterior of the dwelling.

N/A **Mold Prevention: Surfaces**

When replacing or repairing bathrooms, kitchens, and laundry rooms, use materials that have durable, cleanable surfaces.

N/A **Mold Prevention: Tub and Shower Enclosures**

When replacing or repairing tub and/or shower enclosures, use non-paper-faced backing materials such as cement board, fiber cement board, or equivalent in bathrooms.

N/A **Integrated Pest Management**

Seal all wall, floor, and joint penetrations with low-VOC caulking or other appropriate sealing methods to prevent pest entry. [If applicable, provide training to multifamily buildings staff.]

X **Lead-Safe Work Practices**

For properties built before 1978, if the project will involve disturbing painted surfaces or cleaning up lead contaminated dust or soil, use certified renovation or lead abatement contractors and workers using lead-safe work practices and clearance examinations consistent with the more stringent of EPA's Renovation, Repair, and Painting Rule and HUD's Lead Safe Housing Rule.

X **Radon Testing and Mitigation** (if applicable based on building location)

For buildings in EPA Radon Zone 1 or 2, test for radon using the current edition of American Association of Radon Scientists and Technologists (AARST)'s Protocols for Radon Measurement in Homes Standard for Single-Family Housing or Duplexes, or AARST's Protocol for Conducting Radon and Radon Decay Product Measurements in Multifamily Buildings. To install radon mitigation systems in buildings with radon level of 4 pCi/L or more, use ASTM E 2121 for single-family housing or duplexes, or AARST's Radon Mitigation Standards for Multifamily Buildings. For new construction, use AARST's Reducing Radon in New Construction of 1 & 2 Family Dwellings and Townhouses, or ASTM E 1465.

Section 2

Section 2
General Conditions

1. The purpose of this HUD and DOH sponsored 0% interest loan Owner Occupied Rehabilitation and Rebuilding program is to make good faith efforts to assist qualified property owners in making repairs to their property damaged by Superstorm Sandy. Eligible repairs include code, health and safety compliance modifications, including but not limited to building envelope and energy efficiency upgrades (See Green Building Standards).

2. In the event that the homeowner is dissatisfied with the work performed although the work has been completed to industry standards, approved by the local municipality's code enforcement officials and approved by the DOH or its agent, the homeowner's approval will be overridden, full payment will be issued to the contractor and the project will be officially closed.

3. The owner is responsible for removal or relocation from the respective work areas the following, including but not necessarily limited to: personal belongings, window treatments, small furniture, fixtures, area carpets, interior and exterior plants. The contractor will be responsible for covering and protecting large furniture unable to be removed from the respective work areas.

4. The Contractor, unless otherwise specified, shall provide all labor, materials, tools, equipment, and related items required for the erection and completion of all work indicated in this project manual and as may be inferred, implied or otherwise necessary for the proper execution of the work.

5. The Contractor shall pay all necessary taxes, fees, and permits necessary to complete all of his work as detailed on the attached scope of work.

6. The premises herein shall be occupied during the course of the construction work.

7. All rehabilitation, alterations, repairs, or extensions shall be in compliance with all applicable codes of the Municipality, HUD requirements or compliance with the latest edition of the International Building Code, which ever applies and is the more strict. All electrical, heating, and plumbing work shall comply with the rules and regulations of the National, State and Local Codes. Before commencing work, contractors and/or subcontractors shall obtain all necessary permits.

8. The Contractor certifies that he has familiarized himself with the requirements of the specifications and plans and understands the extent and character of the work to be done, and inspected the premises and given his full attention to any and all areas with which he might become specifically involved. He must familiarize himself with all conditions relating to and affecting his work and bid.

9. The selected Contractor must, prior to contract signing, supply the DOH and the Owner with the original certificates of insurance in accordance with the following insurance requirements:

   A. Contractor shall procure and maintain for the duration of the Agreement the following types of insurance, in amounts no less than the stated limits, against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder:

      1) Workers' Compensation Insurance: The Contractor shall maintain full and complete Workers' Compensation Insurance for all of its employees and those of its subcontractors engaged in work on the premises, in accordance with the local and state laws governing the same, in the minimum amounts of $100,000 each accident, $500,000 disease – Policy limit, $100,000 disease – each employee.

      2) General Liability Insurance: The Contractor shall furnish evidence of a comprehensive general liability insurance coverage with a combined single limit for bodily injury, death, and property damage in the amount of $1,000,000 per occurrence, naming the Owner and the State as additional insured. This shall cover the use of all equipment, hoists and vehicles on the Premises not covered by any automobile liability policy. If the Contractor has a "claims-made" policy, then the following additional requirements apply: (a) the policy must provide a retroactive date which must be on or before the execution date of this Agreement and (b) the extended reporting period may not be less than five (5) years following the Construction Completion Date.

      3) Automobile Liability: The Contractor shall furnish evidence of Automobile Liability insurance with minimum limits of $1,000,000 per occurrence, combined single limit for bodily injury and property damage liability. This shall include owned vehicles, non-owned vehicles and employee non-ownership.

      4) Cargo Insurance: The Contractor shall furnish evidence of all-risk cargo insurance, with a minimum limit of $_____ per occurrence when the project involves raising a structure above the Base Flood Elevation.

      5) Builders Risk: The Contractor shall maintain Builder's Risk (fire and extended coverage) insurance providing coverage for the entire work at the project site, including all work in place, all materials stored at the building site, foundations and building equipment. Coverage shall be on a completed value form basis in an amount equal to the projected value of the project. The Contractor agrees to endorse the State of Connecticut and the Owner as Loss Payees.

B. Additional Insurance Provisions

1) Each of the Owner and the State of Connecticut Department of Housing, and their successors and assigns, as their interests may appear, shall be named as an Additional Insured on the Commercial General Liability policy.

2) Described insurance shall be primary coverage and Applicant and Applicant's insurer shall have no right of subrogation recovery or subrogation against the State of Connecticut.

3) Applicant shall assume any and all deductibles in the described insurance policies.

4) Without limiting Applicant's obligation to procure and maintain insurance for the duration identified in (A) above, each insurance policy shall not be suspended, voided, cancelled or reduced except after thirty (30) days prior written notice by certified mail has been given to the State of Connecticut, with the exception that a ten (10) day prior written notice by certified mail for non-payment of premium is acceptable.

5) Each policy shall be issued by an Insurance Company licensed to do business by Connecticut Department of Insurance and having a minimum Best Rating of A- or equivalent or as otherwise approved by the State.

10. DOH and its agents must be notified prior to start of work of any subcontractor to be paid for work on the job who is different from the subcontractor identified in original bid proposal.

11. Working times for the project shall be Monday through Friday 8 am to 5 pm (EST). Contractors must request permission from owner and be in compliance with local municipal ordinances prior to working longer hours or weekends.

12. All materials shall be new and of acceptable quality. The Contractor shall submit proof of purchase of warrantee items at closeout. The property Owner shall select all colors, models, etc. as per scope of work. All materials and work must be applied in accordance with the applicable manufacturer's latest instructions and specifications, and in accordance with Federal prohibitions against the use of lead paint.

13. All manufacturers' warranties are to be extended to the property Owner free and clear of all liens. Unless otherwise specified, all labor, material, and workmanship provided by the Contractor shall be guaranteed by the Contractor, including that of subcontractors, for a one (1) year period from the date of the Final Payment. This guarantee shall be in addition to and not in limitation of, in lieu of, or modify and other guarantee that is due the property Owner from any manufacturer.

14. The Contractor shall repair or replace all work, materials and equipment which are found to be defective during construction and the guarantee period. Repair shall include all damage to surrounding work caused by the failure and/or necessary for the repair or replacement of the defect. All repairs and replacements shall be performed at no additional expense to the Owner and shall be completed promptly after the Contractor receives notice of the defect.

15. The Contractor shall take all necessary measures and precautions to protect the surroundings from damage occurring due to performance of the work. All areas and surfaces of the existing building which are affected by the execution of the new work (removals, demolition, repairs etc.) shall be patched and restored to either match the existing adjacent conditions or to match the new work, whichever is applicable. If such damage occurs it will be repaired by the Contractor at no cost to the Owner. Contractor shall provide all temporary shoring, bracing and other construction (interior and exterior) required to perform the work of this contract.

16. The Contractor shall dispose of all debris and remove all material resulting from his work in accordance with local and State law. The Contractor shall police and maintain a clean and safe job site daily. He shall reinstall accessories taken down and clean up all scrap around the project and remove fingerprints. All on-site maintenance relating to the performance of the work shall be the responsibility of the Contractor until the Certificate of Completion is issued. The project shall be maintained in a habitable and safe condition daily if the project is to remain occupied.

17. Materials and products not otherwise specified in these documents shall be to match building standards and existing conditions, provided such items are in compliance with all applicable codes. Such codes set the minimum standards to be achieved.

18. All work shall be neat and accurate and done in a manner in accordance with customary trade practices**, The Contractor, at a minimum, shall leave the premises broom clean and orderly after each working day and shall keep the premises free from accumulation of materials and rubbish by disposing of such debris in an onsite disposal container (provided by the contractor) or removed by vehicle in accordance with all applicable state and local regulations.** At the completion of the project the Contractor shall remove all excess materials from the site. Any surplus material agreed to be left for the owner shall be stored neatly by the contractor in a location directed by the owner free from weather, spoilage or pilferage.

19. The Contractor shall coordinate any work which interfaces with other Contractors or with the operations of the Owner. The Contractor shall take all necessary precautions to prevent fire, bodily injury, damage to property and any other calamities that may arise which pose a threat to life, limb property.

20. The Contractor shall not make any changes to the scope of work unless a change order is processed and fully executed by the DOH.

21. The Owner may cancel this contract within three days of signing and not be liable to the Contractor or DOH. Should the Owner opt to cancel they must sign and send a Notice of Cancellation to DOH, otherwise DOH shall issue a Notice to Proceed authorizing the contractor to commence with the proposed improvements.

22. The Contractor shall commence work under this contract within 15 work days of the date of the notice to proceed and complete work within **60** calendar days of the notice to proceed.

23. If the Contractor is delayed at any time in the progress of the work by any act or neglect of the Owner or by any employee of the Owner, or by any separate Contractor employed by the Owner, or by changes ordered in the work or by labor disputes, fire, unusual delay in delivery of materials, transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties, or any cause beyond the Contractor's control, or by delay authorized by the Owner pending arbitration, or by any other cause which justifies the delay, the contract time may be extended by Change Order for such reasonable time as may be agreed upon by all parties. It shall be the responsibility of the Contractor to request and document in writing such extensions within three (3) work days.

24. In the event that the Contractor does not commence or pursue the work as hereinafter stated, then DOH shall have the right to terminate this agreement and to hire a successor Contractor to perform the work. Any such termination shall be by certified mail to the address noted in this agreement, and shall be effective as of the date of mailing. Payments by the DOH/Owner in the event of termination shall be as follows:

25. The successor Contractor shall first be paid and then the terminated Contractor. Payments to the terminated Contractor shall be limited both as to those funds remaining after payment to the successor Contractor but shall not exceed the value of the work actually performed by the terminated Contractor. Further, should the total cost for work performed under this contract exceed the amount stated in this agreement due to the Contractor's termination, then the Owner shall have a cause of action against the terminated Contractor for any such additional cost.

26. If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner his obligations under this Contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this Contract, DOH shall, thereupon, have the right to terminate this Contract by giving written notice to the Contractor of such termination and specifying the effective date of such termination. In such event, all unfinished work required by the Contractor under this Contract shall, at the option of the DOH, be completed or not.

27. Payments

1) DOH/Homeowner shall pay the Contractor the price as provided in this contract.

2) DOH shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. DOH may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.

3) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to DOH. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.

4) The Contractor shall submit, on AIA forms provided by DOH, periodic estimates showing the value of the work performed during each period based upon the approved breakdown of the contract price. Such estimates shall be submitted not later than 14 days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.

5) Along with each request for progress payments and the required estimates, the Contractor shall furnish lien waivers and labor releases as good and sufficient evidence that the premises are free from all liens, damages, and anything chargeable to said contractor.

6) Except as otherwise provided in State law, DOH shall retain five (5) percent of the amount of progress payments until completion and acceptance of all work under the contract; except, that if upon completion of 50 percent of the work, the Contracting Officer, after consulting with the Architect, determines that the Contractor's performance and progress are satisfactory, DOH may make the remaining payments in full for the work subsequently completed. If the Contracting Officer subsequently determines that the Contractor's performance and progress are unsatisfactory, DOH shall reinstate the five (5) percent retainage until such time as the Contracting Officer determines that performance and progress are satisfactory. Retainage will be released 90 days after project completion.

7) The Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration when computing progress payments. Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that (1) it has acquired title to such material; (2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer; (3) the material is insured to cover its full value; and (4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of DOH's/Homeowner's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the Homeowner.

8) All material and work covered by progress payments made shall, at the time of payment become the sole property of the Homeowner, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of DOH/Homeowner to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of DOH in the course of their employment, the Contractor shall restore such damaged work without cost to DOH/Homeowner and to seek redress for its damage only from those who directly caused it.

9) DOH shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against DOH/Homeowner arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.

10) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.

11) DOH shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of DOH to withhold moneys from the Contractor shall in nowise impair the obligations of any surety or sureties under any bonds furnished under this contract.

28. Disputes

1) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
2) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.
3) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision.
4) A claim by the Homeowner against the Contractor shall be subject to a written decision by the Contracting Officer.
5) The Contracting Officer shall, within calendar 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.
6) The Contracting Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in DOH in accordance with DOH's policy and procedures, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within (30 unless otherwise indicated) calendar days after receipt of the Contracting Officer's decision.
7) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

29. The Contractor will not discriminate against any employee or applicant for employment because of race, color, creed, religion, sex, sexual preference, national origin, or mental or physical disability during the performance of this agreement. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship, without regard to their race, color, creed, religion, sex, sexual preference, national origin or mental or physical disability. This provision will be inserted in all subcontracts, if any, for work covered by this agreement.

30. Equal Employment Opportunity (EEO) Clause

During the performance of this contract, the Contractor agrees as follows:

1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and the employees are treated during employment without regard to their race, color, religion, sex 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 setting forth the provisions of 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, color, religion, sex or national origin.

3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.

5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by the rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

7) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

31. In the event of the Contractor's noncompliance with this equal opportunity clause or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further contracts in accordance with procedures authorized in Presidential Executive Order 11246, or by rule, regulations, or order of the Secretary of Labor or as provided by law.

32. The following applies to all contracts of $10,000,000.00 or more: SECTION 402 VETERANS OF THE VIETNAM ERA. AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VEITNAM ERA. The Contractor will not discriminate against any employee or applicant for employment because he or she is a disabled veteran of the Vietnam era in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based upon their disability or veteran status in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship.

33. No officer, employee or member of the Governing Body of the Municipality shall have any financial interest, direct or indirect, in this contract or the proceeds of this loan.

34. DOH retains the right to reject any or all bids or any part of any bid in part or in whole if deemed to be in the best interest of the project.

35. Substitutions of materials from that specified are only allowed on an approved/equal basis. The Contractor must submit written documentation of the substitute item or material for approval by the Owner and Program prior to making such substitution. Any items or material substituted by the Contractor without prior written approval of the Owner and Program will at the Contractor's expense be replaced if it is determined not to be equal to the item or material specified. Any surrounding, adjoining, or dependent items affected by replacement of the unequal substituted material shall also be replaced, reworked, and reinstalled at no cost to the Owner.

36. Bids shall contain prices for general categories of work and/or items as specified on the provided bid sheets. In the case of a mathematical error by the Contractor, the correct sum of the individual line items in the cost summary shall be the Contractor's bid.

37. All bids shall remain in effect for thirty (30) calendar days.

38. The Owner will supply all necessary power required by the Contractor at no additional cost to complete his work. Power shall be limited to the use of existing outlets and shall not exceed the existing capacity of the system. Power required over the capacity of the existing electrical system shall be the responsibility of the Contractor. Heating during construction shall be supplied by the Owner.

39. If any unseen or unknown asbestos related conditions arise during the work the Contractor shall stop all work immediately and notify the DOH of such.

40. OTHER PROVISIONS – LEAD BASED PAINT

For properties built before 1978, if the project will involve disturbing painted surfaces or cleaning up lead contaminated dust or soil, use certified renovation or lead abatement contractors and workers using lead-safe work practices and clearance examinations consistent with the more stringent of EPA's Renovation, Repair, and Painting Rule and HUD's Lead Safe Housing Rule. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35 and EPA's Repair Renovation, and Painting Rule at 40 CFR.80 Subpart E.

Any and all rehabilitation work under this Agreement will comply with the requirements of the Federal Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4831) which prohibits the use of lead-based paint in residential structures constructed or rehabilitated with Federal Assistance in any form.

The construction or rehabilitation of residential structures with assistance provided under this contract is subject to the final regulations "Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally owned Residential Property and Housing Receiving Federal Assistance." The regulation is at 24 CFR part 35. It implements sections 1012 and 1013 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, Title X, of the Housing and Community Development Act of 1992. Sections 1012 and 1013 amend the Lead-Based Paint Poisoning Prevention Act of 1971.

Beginning April 22, 2010, the Contractor is required to have a certificate from a 6 hour EPA/HUD RRP lead remediation course.

41. The Contractor shall comply with the provisions of the immigration Reform and Control Act of 1986 effective and enforceable as of June 6, 1987 which Act makes unlawful the hiring for employment or subcontracting individuals failing to provide documentation of legal eligibility to work in the United States. The Contractor shall hold DOH, its agents and the Homeowner harmless for the failure to comply with the provisions of said Act.

Section 3

SECTION 00900 - SPECIAL CONDITIONS

1. SPECIAL CONDITIONS DEFINITIONS

A. Where the Specifications refer to the DOH this shall be construed to mean the Connecticut Department of Housing, 505 Hudson Street, Hartford, CT 06106. Its designated agent shall be referred to as the "Contracting Officer" in these specifications.

B. Where the Specifications refer to Property Owner, this shall be construed to mean the property owner or homeowner living in the residence where the work will be performed.

2. BIDDING REQUIREMENTS

A. Contractor shall contact the DOH regarding site visit questions. Contact should be by the telephone to:

Mark Gorka, Grants and Contracts Specialist
CDBG-Disaster Recovery Program
Connecticut Department of Housing
505 Hudson Street
Hartford, CT 06106
(860) 270-8251

B. Architectural questions on specifications and drawings are to be addressed to:

Mr. David Holmes, or Mr. Jason Pitts
Capital Studio Architects, LLC
1379 Main Street
East Hartford, CT 06108
Tel: (860) 289-3262
Fax: (860) 289-3163
Email: dholmes@capitalstudio.net, or jpitts@capitalstudio.net

3. SALES TAX

A. The DOH is **NOT** exempt from Connecticut Sales Tax. Other fees accessed by the State of Connecticut may be passed through to the contractor.

4. INSURANCE

A. No insurance shall be terminated by the Contractor without ten (10) days notice to the DOH.

B. All insurance companies shall be licensed and registered in the State of Connecticut.

5. INTERPRETATIONS OF DRAWINGS

A. Any questions or disagreements arising as to the true intent of this specification or the drawings, or the kind and quality of work required thereby, shall be decided by the Architect, whose interpretations thereof shall be final, conclusive, and binding on all parties.

B. In the case of disagreement between drawings and specifications, or within either document itself, the better quality, greater quantity, or more costly work shall be included in the contract price, and the matter referred to the Architect's attention for decision and/or adjustment.

C. If the disagreement between the drawings and specification cannot be resolved through either A. or B. above, the specifications shall take precedence over the drawings.

6. VISITING THE SITE

A. Before submitting his final proposal, the Contractor shall examine the site of the proposed work to determine the existing conditions that may affect his work, as he will be held responsible for any assumptions made by him in regard thereto.

7. CONTRACTOR'S PROPOSAL

A. The Contractor's proposal and bid must cover all items on the drawings and in the specifications exactly as drawn and specified.

B. Proposals and bids that do not conform to drawings and specifications will not be accepted.

8. SUBSTITUTIONS

A. Substitutions of equipment or materials other than those shown on the Drawings or in the Specifications will only be entertained during the submittal process after contract award. Substitutions will only be entertained during the bid period if specified material or equipment is either unavailable, or unworkable for the proposed use. Determinations regarding product equality shall be made solely by the Architect, who’s decision shall be final.

9. SUB-CONTRACTORS

A. All sub-contractors shall be subject to approval of the DOH and listed on the Form of Bid.

B. When requested by the DOH, the prospective contractors should submit a list with names, addresses, and telephone numbers of similar type projects previously completed.

10. LAWS, ORDINANCES, PERMITS AND FEES

A. The Contractor shall give all necessary notices, obtain all permits and pay for governmental taxes, fees, and other costs in connection with his work; file all necessary plans, prepare all documents and obtain all necessary plans, prepare all documents and obtain all necessary approvals of the Governmental departments having jurisdiction; obtain all required Certificates of Inspection for his work and deliver to the Architect before request for acceptance and final payment for the work. The DOH is **not** exempt from paying Building Permit Fees to local towns and cities where the work of this contract will be performed. The Contractor shall include costs for any and all State of Connecticut Department of Environmental Protection Permits in addition to all Local Permits.

11. APPROVALS

A. The materials, workmanship, design and arrangement of all work installed under the contract shall be subject to the approval of the Architect. If material or equipment is installed before it is approved, the contractor shall be liable for the removal and replacement, at no extra charge to the owner, if, in the opinion of the Architect, the material or equipment does not meet the intent of the drawings and specifications.

B. The words "approved equal" shall be understood to apply only to those items of equipment and material approved in advance by the Architect.

C. Equipment and materials that do not conform to the specifications or the previous paragraph will not be approved.

12. NON-SEGREGATED FACILITIES

A. By signing the bid, the bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, or under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The bidder agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this Contract. As used in this certification, the term "segregated facilities" mean any waiting room, work areas, restrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom or otherwise. He further agrees that (except where he has obtained identical certification from proposed sub-contractors for specific time periods) he will obtain identical certification from proposed sub-contractors prior to the award of sub-contracts exceeding $10,000.00, which are not exempt from the provisions of the Equal Opportunity Clause; that he will retain such certifications in his files; that he will forward a notice to his proposed sub-contractors as provided in the Instruction to Bidders
.

13. JOB MEETINGS

A. The contractor and others concerned with the project whose presence is necessary as determined by the DOH and/or the Architect shall attend job meetings when requested for the purpose of discussing and expediting the prosecution of the work.

B. The schedule for meetings will be established by the DOH and/or the Architect.

C. The proceedings of these meetings will be recorded by the DOH and/or the Architect; the contractor will be furnished a copy for his use and distribution as required.

14. DRAWINGS

A. Drawings are generally schematic and may differ to some degree from field conditions. Specifically, certain drawings may be opposite hand from actual conditions and/or requirements. All dimensions are ±. The contractor shall ascertain for himself the actual field conditions and shall be fully responsible for the indicated, specified and required work as designated and/or implied.

15. SCHEDULE OF THE WORK

A. The standard working hours shall be from 8:00 a.m., until 4:30 p.m., Monday through Friday. The Contractor shall confirm working hours with the Owner prior to starting the work. Holidays shall include those observed by the DOH and the State of Connecticut.

B. The contractor shall at all times, maintain the fire integrity of the structures and shall maintain, free and clear all exitways.

C. The Contractor is required to submit to the Architect, for approval, prior to commencement of the work, a Project Schedule which identifies the time frame and sequence of construction. The Contractor is to provide an updated Project Schedule with each Application for Payment.

D. The Contractor must provide the DOH 48 hours' notice prior to the start of work so they may provide proper notice to the Property Owner.

16. OCCUPANTS' CONTINUED USE OF THE PREMISES

A. In general, the project area is occupied and will remain occupied during the course of the work. All work shall be carried out in such a manner so as to cause minimal interference with the use of the property by the occupants. The occupants are responsible for moving all items to the center of the room (or out of the room) within the areas where the work is to be performed. They are also responsible for moving the items back at the completion of the work.

B. In some cases, the nature of the work requires the occupants to leave the premises for the duration of such work. Generally, this applies to work associated with environmental remediation. The individual technical specification sections that follow specifically address occupancy (or vacating) the premises when this is required. The Contractor shall be responsible for coordinating the specific work requiring vacating the premises with DOH and the occupants. Once a schedule to leave and return to the premises has been established, it is imperative that the Contractor adhere to the schedule.

C. Lifted Structures: For projects requiring lifting (and moving) the structure, the basement, crawl space, attached garage and any other areas affected by the lift shall be emptied by the occupants prior to the start of the Contract of all non-permanent items.

17. MATERIALS AND EQUIPMENT

A. New materials and equipment installed into existing work shall be compatible with the existing work.

B. The contractor shall advise the Architect before ordering and/or installing any materials and equipment if he disputes those items and/or methods specified, otherwise he shall take full responsibility for their performance and suitability.

18. STORAGE OF MATERIALS

A. Storage space for materials and equipment is limited, Property Owner must approve in advance the locations of stored materials and/or dumpster(s).

B. Equipment and materials stored on the project site is the full responsibility of the contractor.

19. TEMPORARY FACILITIES

A. The contractor shall provide and maintain an adequate office at the project site at his discretion. If provided, it shall be located as directed by the DOH. It shall be kept clean, have adequate light and ventilation.

B. The contractor shall provide and maintain telephone service for his own use. No telephone service is available at the sites.

20. TEMPORARY SERVICE

A. The Contractor may connect to water available at the project without payment to the Property Owner.

B. The Contractor may connect to the existing electrical service without payment to the Property Owner.

C. Fixtures, or other modifications, shall be the responsibility of the contractor.

21. SANITARY FACILITIES

A. Sanitary facilities are not available at the project site. The Contractor shall provide temporary facilities at the site for his workers, at his own expense. Coordinate final locations with the Property Owner.

22. DEMOLITION

A. This work includes the furnishing of all labor, materials, equipment and services necessary for, and reasonable incidental to, completion of all Demolition, as required for the installation of the work, whether or not listed below.

B. The Contractor shall confirm with Property Owner if a dumpster shall be permitted to remain on site for the purpose of disposal of demolished materials and debris. Final location of the dumpster to be coordinated with the Property Owner.

23. SALVAGABLE MATERIALS

A. NO SALVAGABLE MATERIALS.

24. SHOP DRAWINGS AND SUBMITTALS

A. Prior to delivery of materials and equipment to the project site, submit five (5) copies of Shop Drawings or Submittals of each item for approval by the Architect.

B. Submittals shall consist of manufacturer's scale drawings, cuts or catalogs, including descriptive literature and complete characteristics of equipment showing dimensions, capacity, code compliance, motor and drive and testing, all as required for this project.

C. Architect may designate submittal of physical samples for approval on items where actual color, texture or other characteristics might not be adequately described by drawing or written material.

25. PROTECTION OF WORK AND PROPERTY

A. The contractor shall be responsible for the maintenance and protection of all equipment, materials and tools, supplied by him and stored or installed on the job site, from loss or damage of all causes, until final acceptance by the DOH.

B. The contractor shall be responsible for the protection of any finished work of other trades or

existing buildings and tenant's property and damage or defacement by his operation and must remedy any such injury at his own expense.

C. It shall be the Contractor's responsibility to protect all parts of the existing site, all trees, roads, streets, sidewalks, driveways, plantings, landscaping, lawns and curbs against damage caused by trucks, etc., driving over them. If they are damaged, the Contractor without cost to the Owner shall replace them.

D. The residence is owner occupied. The Contractor shall take the necessary precautions to protect work areas and debris from potential dangers. Clear paths of egress must be maintained from the building at all times.

26. ACCESSIBILITY

A. The Contractor shall install all work so that all parts required and readily accessible for inspection, operation, maintenance and repair. Minor deviations from the drawings may be made to accomplish this, but changes of magnitude shall not be made without prior written approval from the Architect.

27. SCAFFOLDING, RIGGING, HOISTING

A. The Contractor shall provide all scaffolding, rigging, hoisting and services necessary for erection and delivery into the premises for all equipment and materials furnished, and remove same from premises when no longer required.

B. The Contractor shall coordinate in advance with the Owner the methods and locations for lifting of materials to the roof. The Contractor cannot assume that any existing site fixture can be temporarily removed or relocated during this construction process, this can only be discussed with the Owner after bids have been awarded.

28. GUARANTEE PERIOD

A. Refer to specific Sections of this project manual for warranty and guarantee periods.

29. FINAL PAYMENT REQUIREMENTS

A. Final Payment will not be approved until all items as outlined in Section 01700 have been completed.

B. All guarantees and warranties for new materials shall commence at date of written Final Acceptance of the Work, by the DOH, or its designated agent.

C. Upon completion of the project, the roofing manufacturer shall provide installation and material inspection warranties and certification of the roof system.

30. CLEAN UP

A. Project shall be cleaned daily or as required to keep project area free from rubbish and debris. Burning of rubbish shall not be allowed. All debris shall be removed from the site and deposited legally off-site.

B. Final clean up shall include all debris, stains, and other defacement caused by the work.

31. LIQUIDATED DAMAGES

A. In case of failure on the part of the contractor to complete the work within the time fixed in the Contract, or any extension thereof, the Contractor shall pay to the DOH as fixed, agreed and liquidated damages the sum of $250.00 for each calendar day of delay.

32. HAZARDOUS MATERIALS

A. A hazardous material report has been completed by Eagle Environmental; this report is available within these Specifications, please refer to this report for handling, removal and disposal of all hazardous materials. It is the intention that this project's Scope of Work be completed in coordination with any hazardous materials encountered and be done within the quantities allowed, as specified by state and local authorities regulating abatement of these materials. If the Contractor suspects that certain building materials may contain hazardous materials, he shall notify the Architect in writing and the Architect will have the suspect materials tested.

33. CHANGE ORDERS

A. For all change orders, the general contractor shall be allowed 10% for overhead, above the direct costs and 5% for profit, above the direct costs to be calculated at 15% total above direct costs, for work performed by the general contractor.

B. For all change orders, the sub-contractors shall be allowed 10% for overhead, above the direct costs and 5% for profit, above the direct costs to be calculated at 15% total above direct costs, for work performed by the sub-contractor.

C. For all change orders, the general contractor shall be allowed 5% for overhead, above the direct costs and 2-1/2% for profit, above the direct costs to be calculated at 7-1/2% total above direct costs, for work performed by the sub-contractor.

34. BUILDER'S RISK INSURANCE

A. Item 36B of HUD General Conditions, Form 5370-A refers to Builder's Risk Insurance. It has been determined that the Builder's Risk Insurance is <u>not</u> required on Construction Contracts that do not exceed $100,000.00 in value.

35. OSHA REGULATIONS

A. The contractor shall comply with all applicable State and Federal OSHA regulations.

B. The contractor shall submit to the owner, a copy of the OSHA ten (10) hour construction safety and health card for each employee.

C. The contractor shall maintain any and all required OSHA materials, on site, at all times.

36. CONTRACT PERIOD

A. The Contract period will be one hundred eighty (180) consecutive calendar days from day of "Notice to Proceed" until day of "Substantial Completion".

37. GENERAL CONDITIONS

A. In the event a conflict between the Special Conditions and the General Conditions located in Section 2 of these Specifications occurs, the General Conditions shall take precedence.

END OF SECTION 00900

SECTION 01200 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 SUMMARY OF THE WORK

A. The scope of this contract, part of the Community Development Block Grant Disaster Recovery for the Owner Occupied Recovery and Rehabilitation Program for the Connecticut Department of Housing, is known as **Project No. 1739, located at 888 Ocean Avenue, West Haven, CT 06516**.

B. Verbal Summary of the Work: Without force and effect on the requirements of the Contract Documents, the Base Bid work includes, but is not limited to the following:

1. Selective demolition, including existing foundation after house lift.
2. Lifting of existing house framing.
3. New concrete foundation.
4. New wood-framed addition.
5. New pressure treated wood deck and stairs.
6. Modifications to existing mechanical, electrical, and plumbing systems to accommodate house lift.
7. Asbestos Abatement, Lead Based Paint and Microbial Remediation.

C. Refer to Section 02080, 02090 and 02092 for Scope of Work, quantities and products required to accommodate the remediation of Hazardous Materials.

1.3 EXISTING CONDITIONS

A. This project includes work which is affected by existing conditions. Existing conditions which may affect the Work may be discovered during the progress of the Work. Make adjustments in the work as required accommodating existing conditions. Where products are to be installed in existing construction, perform cutting, removal of old products (if applicable), installation of new products, rebuilding of adjacent construction, and other operations as required.

1. The Architect will issue prompt instructions when unanticipated conditions are encountered.

2. If unanticipated conditions are such as to impose a hardship on the Contractor as interpreted by the Architect, such as faulty structure which must be rebuilt, the Architect shall issue the appropriate change orders for approval by the DOH.

3. Make adjustments in the Work, other than those described in two above, without additional compensation.

B. The Drawings do not attempt to show every item of existing work to be demolished and every item of repair required to existing surfaces. Perform work required to remove existing materials which are not to be saved and to restore existing surfaces to like-new condition.

1. If possible, repairs shall be indistinguishable from adjacent sound surfaces. Where it is impossible to achieve repairs which are indistinguishable from adjacent sound surfaces, notify the Architect, and proceed according to the Architect's instructions.

1.4 - USE OF PREMISES

A. The following are in addition to requirements of the General and Special Conditions governing the Contractor's use of the premises.

1. Assume full responsibility for protection and storage of products stored on the premises.

2. The Contractor shall have use of the premises between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday. It is during these hours that all work must take place. Additional hours must be approved in advance by the Owner.

3. The Contractor shall not have use of the premises on holidays which the DOH is closed.

4. The Contractor will have access to specific project site in accordance with the approved project schedule.

5. Work on the building will not be allowed without providing the occupants 48 hours prior notice.

1.5 - REFERENCE STANDARDS

A. Unless date is listed, reference to standard specifications shall mean latest edition of such specification legally adopted and published at the date the Contract is executed.

B. Reference to technical society or organization is made in the project manual according to the following abbreviations:

A.A.M.A.	American Architectural Manufacturers Association
A.C.I.	American Concrete Institute
A.I.A.	American Institute of Architects
A.I.E.E.	American Institute of Electrical Engineers
A.I.S.C.	American Institute of Steel Construction
A.I.T.C.	American Institute of Timber Construction
A.F.P.A	American Forest & Paper Association
A.N.S.I.	American National Standards Institute
A.P.A.	American Plywood Association
A.R.M.A.	Asphalt Roofing Manufacturer's Association
A.S.H.R.A.E.	American Society of Heating, Refrigeration, and Air Conditioning Engineers
A.S.M.E.	American Society of Mechanical Engineers
A.S.T.M.	American Society of Testing Materials
A.W.I.	American Woodwork Institute
A.W.P.I.	American Wood Preservers Institute
A.W.S.	American Welding Society
C.P.S.C.	Consumer Products Safety Commission
C.S.I.	Construction Specification Institute
D.O.H.	Department of Housing
Form 816	Connecticut State Department of Transportation Standard Specifications for Roads, Bridges, and Incidental Construction

F.M.	Factory Mutual
F.S.	Federal Specification
H.U.D.	U.S. Department of Housing and Urban Development
I.C.C.	International Code Council
I.E.S.	Illuminating Engineers Society
I.S.D.S.I.	Insulated Steel Door Systems Institute
N.A.A.M.M.	National Association of Architectural Metal Manufacturers
N.B.F.U.	National Board of Fire Underwriters
N.B.S.	National Bureau of Standards
N.E.C.	National Electric Code
N.E.M.A.	National Electrical Manufacturers Association
N.F.P.A.	National Fire Protection Association
O.S.H.A.	Occupational Safety and Health Administration
S.D.I.	Steel Deck Institute
S.I.G.M.A.	Sealed Insulating Glass Manufacturer's Association
S.J.I.	Steel Joist Institute
S.M.A.C.N.A.	Sheetmetal and Air Conditioning Contractors National Association, Inc.
S.S.P.C.	Steel Structures Painting Council
TCNA	Tile Council of North America
U.L.	Underwriters Laboratories, Inc.
W.W.P.A.	Western Wood Products Association

1.6 – FINAL PAYMENT REQUIREMENTS

A. Final Payment will not be approved until all items as outlined in Section 01700 have been completed.

B. All guarantees and warranties for new materials shall commence at date of written Final Acceptance of the Work, by the DOH, or its designated agent.

C. Upon completion of the project, the roofing manufacturer shall provide installation and material inspection warranties and certification of the roof system.

1.7 - GENERAL INFORMATION

A. The DOH is a governmental agency, but **is** responsible for paying sales tax under this program. The Contractor shall assume that materials purchased for the use on this project shall be taxed.

1.8 - SCHEDULE

A. Refer to Form of Contract for completion date.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 01200

SECTION 01210 - ALLOWANCES

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification sections, apply to work specified in this section.

1.2 - WORK INCLUDED

A. This Section includes administrative and procedural requirements governing the following:

1. Lump-sum allowances.

B. See Division 1 Section "Unit Prices" for procedures for using unit prices.

1.3 - SELECTION AND PURCHASE

A. Coordinate first paragraph below with Division 1 Section "Submittal Procedures." Indicate critical dates on both Contractor's Construction Schedule and Submittals Schedule.

B. At the earliest practical date after award of the Contract, advise Architect and Owner of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

C. At Architect's request, obtain proposals for each allowance based on Owner’s input. Include recommendations that are relevant to performing the Work.

D. Purchase products and systems selected by Owner from the designated supplier.

1.4 – SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders. Approved proposals will be the basis for Change Orders to the Contract. Unused allowance sums shall return to DOH in the form of a credit change order. Costs for materials in excess of the allowances stipulated in the Contract Documents shall be borne by the property owner.

B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

D. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Sliding Glass Exterior Patio Entry Door: Furnish one (1) energy star rated insulating glass sliding door unit complete with lockable entry hardware and screen door panel. (Installation shall be included in the Base Bid).

1. Lump-Sum Allowance: $1000.00.

B. Light Fixtures: Furnish all light fixtures (material only) as selected by the Owner. Costs associated with wiring and fixture installation shall be included in the Base Bid.

1. Lump-Sum Allowance: $300.00.

END OF SECTION 01210

SECTION 01230 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 WORK INCLUDED

A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

2. Unless otherwise noted, alternate prices will be adds to the base contract.

1.4 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule (if any) contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Bid Alternate #1: Elevate building finished floor level to 500 year flood elevation only (elev. 14.80'), as shown on the Drawings. Reference sheets A-2.0, A-3.0, & A-4.3.

END OF SECTION 01230

SECTION 01270 - UNIT PRICES

PART 1 - GENERAL

1.1 – RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 – WORK INCLUDED

A. This Section includes administrative and procedural requirements for Unit Prices.
B. Refer to other specification sections for specific requirements for this work.
C. Enter Unit Price amounts on the enclosed Bid Form.

1.3 – DEFINITIONS

A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 – PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes**,** overhead, and profit.

B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

A. Refer to drawings for details and locations for Unit Price work.

3.1 – LIST OF UNIT PRICES

A. Unit Price No. 1 – Up to 3/4“ Plywood Roof Sheathing (match existing)

1. Condition –Existing roof sheathing is a combination of 3/4" plywood and plank boards. Contractor shall verify in field, the thickness of all deteriorated sheathing that shall be removed and replaced.
2. Description – Install new 3/4” CDX plywood sheathing for the following:
   a. Rotted roof sheathing being replaced.
   b. Infill plywood at existing ridge vent cut-outs where deteriorated.
   c. Existing openings for roof mounted attic vents being removed.
3. Unit of measure – Per square foot.

B. Unit Price No. 2 – Wood Fascia

1. Condition – Areas where the existing wood fascia is deteriorated, provide new wood fascia to match existing and prime and paint, two finish coats.
2. Unit of measure – Per linear foot.

C. Unit Price No. 3 – Wood Trim

1. Condition – Areas where the existing wood trim is deteriorated, provide new wood trim to match existing and prime and paint, two finish coats.
2. Unit of measure – Per linear foot.

D. Unit Price No. 4 – Wood Soffit

1. Condition – Areas where the existing wood soffit is deteriorated, provide new wood soffit to match existing and prime and paint, two finish coats.
2. Unit of measure – Per linear foot.

E. Unit Price No. 5 – Up to 2x10 Wood Framing (match existing)

1. Condition – Areas where the existing wood framing is deteriorated, provide new wood roof framing to match existing.
2. Unit of measure – Per linear foot.

F. Unit Price No. 6 – Remove Existing Flooring Underlayment

1. Condition – Remove existing flooring underlayment that is unsuitable to receive new resilient flooring. Thickness up to ½”.
2. Unit of measure – Per square foot.

G. Unit Price No. 7 – New Flooring Underlayment

1. Condition – Furnish and install new ¼” thick APA rated flooring underlayment as specified in specification section 06100.
2. Unit of measure – Per square foot.

END OF SECTION 01270

SECTION 01300 - DEMOLITION

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification sections, apply to work specified in this section.

1.2 – RELATED WORK SPECIFIED ELSEWHERE

A. Environmental Remediation is specified in Division 2.

1.3 - GENERAL REQUIREMENTS

A. "Demolition" denotes razing and removal of portions of existing structures, Installations and obstructions shown on Drawings or specified to be removed from the site, and includes taking possession of and removing from the site, all material, equipment and debris resulting from demolition work except as otherwise specified herein.

B. Conform to all requirements of local authorities having jurisdiction including the following:

1. Obtain and pay (if required) for all permits and licenses.

2. Provide and maintain fire protection devices.

3. Install and maintain barricades for protection of public and adjacent property (as required).

4. Keep public and private ways free of dirt and debris at all times.

5. All material shall be disposed of legally off the site.

C. Upon completion remove all tools, equipment, temporary structures (if any) and installations and rubbish of every sort. Leave work areas in an orderly condition and the surrounding area in a broom-clean condition.

D. It is the responsibility of the General Contractor to coordinate the demolition work with the general construction process and the work of other trades. The demolition work must be phased accordingly.

E. Provide any temporary weather protection which may be required as a result of demolition work.

1.4 - EXISTING PUBLIC SPACES

A. Before start of demolition, notify and arrange for appropriate utility companies to discontinue services and to remove meters and other regulating devices, not the property of the Owner, as required.

B. Cap and/or plug disconnected service lines as required by utility company concerned.

C. Protect existing services indicated to remain on the site. Replace and/or repair services damaged as a result of demolition work, at no expense to the Owner.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 - SCOPE

A. Portions of structures, installations and obstructions to be demolished are as shown on the Contract Drawings and, in general but not necessarily limited to, those items as listed below:

1. Removal of existing foundation after house lift.
2. Removal of existing front porch.
3. Removal of portions of existing exterior walls.
4. Removal of existing roof covering.
5. Removal of existing doors and windows.
6. Removal of related interior materials as needed in relation to other work.

B. Demolition work shall not be limited to the above listing. The removal, relocation, or replacement of any item(s) by a trade as may be required (1) to complete the indicated scope of work or (2) to accomplish the intended result may require demolition work not specifically listed or shown on the Drawings. All such requirements shall be considered part of this work.

C. Demolition work involves the removal of hazardous wastes. Refer to the appropriate environmental remediation specifications for additional requirements.

1. Asbestos Abatement is specified in Section 02080.

2. Lead based Paint Abatement is specified in Section 02090.

3. Water and Mold Remediation is specified in Section 02092.

3.2 - PROTECTION

A. Protect all walls, floors, ceilings and other existing items not to be removed. Portions damaged as a result of the work shall be replaced and repaired in compliance with the regulations of authorities having jurisdiction and without cost to the Owner.

B. Do not close or obstruct means of egress in connection with the work. Materials and debris shall not be placed or stored in egress paths. Conduct operations so as to interfere as little as possible with normal activities.

END OF SECTION 01300

SECTION 01400 - SUBMITTALS

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Special Conditions and Division 1 Specification sections apply to work specified in this section.

1.2 - RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Substitutions and product options are indicated in Item 8 of Section 00900, Special Conditions.

B. Materials and methods requiring submittals are listed, where applicable, within each Respective section of this specification.

1.3 - IDENTIFICATION

A. Identify each submittal with the following information:

1. Date and revision date(s).

2. Project title.

3. The names of: Architect, Contractor, Subcontractor, supplier, manufacturer or separate detailer when pertinent.

4. Identification of products, materials and finishes.

5. Relation to adjacent structure or material.

6. Field dimensions, clearly identified as such.

7. The specification section number, and applicable standards, such as ASTM or FS number.

8. Quantities.

9. Blank spaces, 4" x 4 1/2" each, for the Architect's stamp, and Consultant's stamp where applicable.

10. Identification of deviations from Contract Documents.

11. Contractor's stamp, initials or signed, certifying to review of submittal, the verification of the field measurements and quantities, and compliance with Contract Documents.

B. Accompany the submittals with a transmittal letter containing:

1. Date.

2. Project Title and number.

3. Contractor's name and address.

4. The number and name of each item submitted.

5. Notification of deviations from Contract Documents.

1.4 - SHOP DRAWINGS

A. Provide the following information, where applicable, on all shop drawings:

1. All necessary dimensions. Dimension work illustrated by shop drawings to fit actual field conditions.

2. Sufficient detailing to show appearance, method of assembly or fabrication, and the method of installation or erection.

3. Identification of details by reference to sheet and detail number shown on Contract Drawings.

1.5 - PRODUCT DATA

A. Manufacturer's standard schematic drawings which are:

1. Modified to delete any information which is not applicable to the Project.

2. Supplemented to provide any additional information applicable to Project.

B. Manufacturer's catalog sheets, brochures, diagrams schedules, performance charts, illustrations and other standard descriptive data.

1. Clearly mark each copy to identify the pertinent materials, products, or models.

2. Show dimensions and clearances required.

3. Show performance characteristics and capacities.

C. Test reports performed by independent testing agencies for manufacturer. On test reports list:

1. System, material or work tested.

2. Test results and witnesses.

3. Description of correction of faults.

1.6 - SAMPLES

A. Samples shall be of sufficient size and quantity to clearly illustrate:

1. Functional characteristics of product or material, with integrally related parts and attachment devices.

2. Full range of color samples.

3. After the review, approved samples may be used in construction of Project, where appropriate.

1.7 - SUBMISSION REQUIREMENTS

A. Submit to the Architect all shop drawings, product data and samples required by the specification sections.

B. Schedule submissions at least 10 working days before dates reviewed submittals will be needed.

C. Submit six black line prints of each shop drawing.

D. Submit six copies each of all product data.

E. Submit two each of required samples unless a greater number is specified or requested by the Architect.

F. Submit samples with delivery charges prepaid. Samples delivered in damaged condition may not be acceptable, and may have to be resubmitted, to Architect's discretion.

G. The Architect may, at his discretion, request submittals in addition to those specified.

H. Facsimile copies are not acceptable for submission and will be returned un-reviewed.

1.8 - RESUBMISSION REQUIREMENTS

A. Shop Drawings:

1. Revise the initial drawings as required and resubmit as specified for initial submission.

2. Indicate on drawings any changes which have been made other than those requested by Architect.

B. Product data and Samples: Submit new data and samples as required for initial submission.

1.9 - ARCHITECT'S DUTIES

A. Architect's responsibilities for processing submittals are defined in other sections of these specifications.

B. Architect is not responsible for verifying quantities, dimensions, field measurements, or co-ordination of work of different trades. Architect's review of submittals shall not be construed to include or imply any such verification.

1.10 - CONTRACTOR'S DUTIES

A. In addition to requirements of other Division 1 Specification sections.

1. Contractor shall be responsible for obtaining and distributing prints of shop drawings after, as well as before final approval, to all parties, including, but not limited to the Owner, subcontractors and suppliers.

2. Prints of approved shop drawings shall be made from sepia transparencies which carry the Architect's and Consultant's stamp of approval.

3. Begin no work which requires shop drawings and product data unless the approved and stamp shop drawings and product data are on file at the job site.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION 01400

SECTION 01500 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Special Conditions and Division 1 Specification sections apply to work specified in this section.

1.2 - DESCRIPTION

A. Definition: "Cutting and Patching" is hereby defined to include, but not necessarily limited to the cutting and patching of nominally completed and previously existing work, in order to accommodate the coordination of work, or the installation of other work, or to uncover other work for access or inspection, or to obtain samples for testing, or for similar purposes; and is defined to exclude integral cutting and patching during manufacturing, fabricating, erecting and installing process for individual units of work.

B. Demolition is recognized as an example of a related, but separate category of work, which may or may not also require cutting and patching as defined in this Section. Refer to Section 01300.

1.3 - QUALITY ASSURANCE

A. Requirements for Structural Work:

1. General: Do not cut and patch structural work in a manner resulting in a reduction of bearing capacity or load/deflection ratio.

2. Call for a structural inspection, and/or obtain the Owner's approval prior to cutting and patching any of the following:

a. Bearing Walls.

b. Structural decking and floor systems.

c. Exterior wall construction - including storefronts.

d. Pressurized piping, vessels and equipment.

B. Visual requirements: Do not cut and patch work which is exposed on the exterior or exposed in occupied spaces of the building in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of cutting and patching work, both as judged solely by the Owner. Remove and replace work judged by the Owner as having been cut and patched in a visually unsatisfactory manner.

1.4 - SUBMITTALS

A. Requests for Owner's Consent:

1. Prior to cutting and patching of structural elements, submit written request to the Owner for permission to proceed with cutting.

2. Should conditions of the Work, or schedule indicate a required change of materials or methods for cutting and patching, so notify the Owner and secure his written permission and the required Change Order prior to proceeding.

B. Notices to the Owner:

1. Prior to cutting and patching performed pursuant to the Owner's instructions, submit cost estimate to the Owner. Secure the Owner's approval of cost estimates and type of reimbursement before proceeding with cutting and patching.

2. Submit written notice to the Owner designating the time the work will be uncovered, to provide for the Owner's observation.

C. Approval by the Owner to proceed with proposed cutting and patching does not waive the right to later require complete removal and replacement of work found to be cut and patched in an unsatisfactory manner.

PART 2 - PRODUCTS

2.1 - MATERIALS

A. For replacement of items removed, use identical materials to those being removed, or materials complying with the various Sections of these Specifications or the drawings, as appropriate. The end result of the cutting and patching operation shall result in equal or better work than the work being cut and patched, in terms of performance characteristics and including visual effects where applicable.

2.2 - PAYMENT FOR COSTS

A. Perform cutting and patching needed to comply with the Contract Documents at no additional cost to the Owner. The Owner will reimburse the Contractor for cutting and patching performed pursuant to written Change Orders, after claim for such reimbursement is submitted by the Contractor, and approved in advance by the Owner.

PART 3 - EXECUTION

3.1 - INSPECTION

A. Inspection:

1. Inspect existing conditions, including elements subject to movement or damage during cutting and patching.

2. After uncovering the work, inspect conditions affecting installation of new work.

B. Discrepancies:

1. If uncovered conditions are not as anticipated, immediately notify the Owner and secure needed directions.

2. Do not proceed until unsatisfactory conditions are corrected.

3.2 - PREPARATION

A. Provide adequate temporary support including, but not necessarily limited to shoring and bracing to maintain structural integrity of the Work. Do not endanger other work.

B. Provide adequate protection of other work during cutting and patching, to prevent damage. Provide protection of the Work from adverse weather exposure.

3.3 - CUTTING AND PATCHING

A. Perform cutting and patching as required under pertinent other Sections of these Specifications.

B. Employ skilled tradesmen to perform all cutting and patching. Proceed with cutting and patching at the earliest feasible time, in each instance, and perform the work promptly.

C. Patch with seams which are durable and as invisible as possible. Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.

D. Select systems that adequately resist racking and provide acceptable deflection under live and dead loads. Reinforce to prevent cracking. Inspect and test patched areas to demonstrate integrity of work.

E. In all cases of repair and renovation, restore exposed finishes of patched areas and where necessary, extend finished restoration onto retained work adjoining, in a manner which eliminates evidence of patching.

F. Where re-painting areas due to cutting and patching as part of this work, paint the entire wall, to the nearest corner, in colors to match the existing, unless otherwise directed by the Owner.

G. Where cutting and patching of ceilings is required, cut ceiling back as little as is required, and later infill to the point at which the existing ceiling is cut back. Refer to typical details on the drawings for additional information.

H. Where floor finishes are to be cut back, cut back to nearest logical point, or as indicated on the drawings. Install new flooring, as indicated on the drawings, utilizing the necessary transitions, reducers, termination bars, etc.

I. Consult with the architect as necessary to insure compliance with the intention of cutting and patching work relative to floors and ceilings.

END OF SECTION 01500

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Special Conditions and Division 1 Specification sections apply to work specified in this section.

1.2 - GENERAL

A. The following requirements supplement those of other sections of these Specifications.

1.3 - CLEANING

A. Hazard Control:

1. Store all volatile wastes in covered non-flammable containers.

2. Prevent accumulation of wastes which create hazardous conditions.

3. Provide adequate ventilation during use of volatile or noxious substances.

B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in the storm or sanitary drains. Dispose of them legally off the site.

2. Do not dispose of wastes in streams or waterways.

3. Dispose of demolition and waste materials, debris and rubbish legally off the site.

C. During construction, in addition to cleaning required other sections of these Specifications, perform the following:

1. Keep building, grounds, and public properties free from accumulations of waste materials and rubbish.

2. Provide on-site containers for the collection of all waste materials, all debris and rubbish. Dispose of waste materials, debris and rubbish at reasonable intervals, legally off the site.

3. Clean interior building areas where construction occurred. after demolition work is complete and when ready to receive finish painting and continue cleaning on an as-needed basis until building is ready for substantial completion or occupancy.

4. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

D. At substantial completion, in addition to leaving the work "broom clean", the following must be completed:

1. Remove dust, dirt, stains identifications stickers, fingerprints, paint droppings and other soil from finished surfaces.

2. Clean and polish hardware, specialties, and equipment.

3. Vacuum clean all sills until all debris is removed. Use a brush if necessary to free up stationary particles. Lubricate all tracks if necessary for smooth, easy opening and closing operations.

4. Clean under and behind all concealed areas.

5. If surfaces cannot be put in clean condition by cleaning, repaint them as required until they are at an acceptable level of quality.

6. Clean site and clean up any debris of dirt off site, which resulted from work under this contract, and dispose of legally off the site.

7. Maintain cleaning until Substantial Completion Certificate, approved by the Architect, is delivered to the Owner or the project is occupied by the Owner. Turn over the work fully clean and fit for occupancy.

8. When workmen call back for "punchlist" or guarantee work, clean up afterwards.

1.4 - SUBSTANTIAL COMPLETION

A. Submit written certification to Architect that Project, or a designated portion of Project, is substantially complete. Submit list of major items to be completed or corrected.

B. The Architect shall prepare and submit a list of the items to be completed or corrected as determined by the inspection.

C. Should the Architect consider that the Work is substantially complete:

1. The Architect shall prepare and submit a list of items to be completed or corrected as determined by the inspection.

2. Architect will prepare and issue a Certificate of Substantial Completion, complete with signatures of Owner and Contractor, accompanied by the list of items to be completed or corrected.

3. Perform final cleaning as specified above.

4. Complete work listed for completion or correction, within designated time.

5. Obtain Certificate of Occupancy, if required.

D. Should Architect consider that the Work is not substantially complete:

1. He/she shall immediately notify the Contractor, in writing, stating reasons.

2. Contractor shall complete the Work, and send second written notice to the Architect, certifying that the Project, or a designated portion of the Project, is substantially complete.

3. Architect will re-inspect the work.

1.5 - FINAL INSPECTION

A. Contractor shall submit written certification, as required above, that:

1. Contract documents have been reviewed.

2. Project has been inspected for compliance with Contract Documents.

3. Work has been completed in accordance with Contract Documents.

4. Equipment and systems have been tested in presence of Owner's representative and are operational.

5. Project is completed, and ready for final inspection.

B. Architect will make final inspection within three days after receipt of certification.

C. If Architect considers that Work is finally complete in accordance with requirements of the Contract Documents, he/she shall request Contractor to make Project Closeout Submittals.

D. If Architect considers that Work is not finally complete:

1. He shall notify Contractor, in writing, stating reasons.

2. Contractor shall take immediate steps to remedy the stated deficiencies, and submit a second written notice to Architect certifying the Work is complete.

3. Architect will re-inspect work.

E. Should Architect be required to perform second inspection because of failure of Work to comply with original certifications of Contractor, Owner will compensate Architect for additional services, and deduct amount paid from final payment to Contractor.

1.6 - CLOSEOUT SUBMITTALS

A. Upon completion of the Work, deliver the following to the Owner's Representative, as required by the General Conditions and Specifications.

1. Project Record Documents. (Submit one (1) clean, legible marked up set of prints and other items, if required, as indicated in 1.7 below.)

2. Operation and Maintenance Data.

3. The guarantees, warranties and bonds.

4. Parts and Maintenance Materials.

5. Evidence of Compliance with requirements of governing authorities, including:

a. Certificate of Occupancy, if required.

B. Accompany closeout submittals with transmittal letter, in duplicate, containing:

1. Date

2. Project title and number.

3. Contractor's name and address.

4. Certification that each Project Record Document, as submitted is complete and accurate.

5. Signature of the Contractor, or his authorized representative.

C. Instruct Owner's personnel in operation of all systems and other equipment.

1.7 - PROJECT RECORD DOCUMENTS

A. Drawings, shop drawings, product data, specifications and addenda, marked by Contractor to record all changes made during construction described below, shall be referred to as "Project Record Documents."

B. In addition to changes, record on Project Record Drawings the following as-built conditions:

1. Locations and sizes of conduit runs.

2. Locations and sizes of access panels and doors.

3. Location of all the mechanical and electrical control points.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION 01700

SECTION 020800
ASBESTOS ABATEMENT

PART 1 GENERAL

1.1 GENERAL PROVISIONS

A. The structure located at 888 Ocean Avenue in West Haven, Connecticut is scheduled for renovation. The site building consists of two story wood framed structure. Asbestos abatement work will be performed to accommodate the renovation of the existing building.

B. The work is being performed under the State of Connecticut Department of Housing Community Development Block Grant - Disaster Recovery Program (Program). Asbestos containing material (ACM) testing has identified materials that contain asbestos and will require removal prior to the work. The work covered in this section includes the minimum procedures that shall be employed during abatement of the ACM.

C. Within the basement area and crawlspace, Asbestos-containing (AC) chimney flue cement and residual duct paper insulation was identified on the dirt floor was identified. These areas will require abatement prior to the elevating the building and backfilling the foundation. There is less than 3 SF of paper duct insulation on the dirt floor and 1 square foot of chimney flue cement intact on the chimney.

D. Peter J. Folino of Eagle Environmental, Inc. is the designer of this Specification. Mr. Folino is a State of Connecticut Department of Public Health (CTDPH) Licensed Asbestos Project Designer (License #000195).

1.2 RELATED DOCUMENTS

A. Drawings and General Provisions of the Owner Contractor Agreement and the General Conditions of the contract apply to this Section.

B. Architect's Specifications

C. Environmental Assessment Report Dated September 2, 2015

D. Lead-based paint abatement specification

E. Microbial remediation specification

1.3 DESCRIPTION OF WORK

A. The work includes filing and permitting all necessary applications, notifications, requirements and fees; insurance; necessary design services; providing skilled, licensed and certified labor; materials; and equipment necessary for proper preparation, handling, removal and legal disposal of the specified asbestos-containing materials in accordance with all requirements of applicable Federal, State and local regulations.

B. The Asbestos Abatement Contractor (AAC) is responsible for reviewing the Architect's specifications to determine the extent of asbestos abatement work necessary to support the overall renovation work of the project. Refer to the Environmental Assessment Report for a list of known ACM's that will potentially be impacted by the renovation work.

C. The AAC is responsible for the removal of ACM that will be impacted by the renovation work only. In some instances, ACM may be present but may not be impacted by the renovation work. It is the sole responsibility of the AAC to review the Architects specifications to determine the full extent of asbestos abatement.

D. The AAC shall be responsible for selective demolition and disposal of construction materials impacting the removal of the specified ACM.

E. Under the base bid work, the AAC shall be responsible for removal and disposal of the following estimated quantities of asbestos containing materials.

1. Residual duct paper insulation on dirt floor = < 3SF
2. Flue cement in Basement = 1 SF

F. There is water and power available at the site. The AAC shall verify that the power and water sources are sufficient to support the work. Any additional fees associated with temporary power and water shall be borne by the AAC.

1.4 QUALITY ASSURANCE

A. For regulated ACM, the AAC shall be licensed by the State of Connecticut Department of Public Health to perform asbestos abatement.

B. The Asbestos Abatement Supervisor(s) and Asbestos Abatement Workers shall be accredited in accordance with EPA regulation 40 CFR Part 763, subpart E, Appendix C; and shall be licensed by the State of Connecticut Department of Public Health.

C. For non-regulated exterior ACM, The AAC shall employ a 40 hour trained Asbestos Competent person to oversee the asbestos removal work.

D. Workers removing and handling exterior non-friable asbestos-containing materials shall comply with the OSHA Class II training requirements.

E. Workers removing and handling non-friable asbestos-containing roofing materials shall have a minimum of eight (8) hours asbestos awareness training.

F. Removal of exterior non-friable materials shall not render the material friable during the removal procedure.

1.5 APPLICABLE CODES

A. The AAC shall be solely responsible for conducting this project and supervising all work in a manner that will be in conformance with all federal, state and local regulations and guidelines pertaining to asbestos abatement. Specifically, the AAC shall comply with the requirements of the following:

1. USEPA AHERA Regulation (40 CFR 763 Final Rule and Notice);
2. NESHAP Regulations (40 CFR 61, Subpart M);
3. OSHA Asbestos Regulations (29 CFR 1910.1001 and 1926.1101);
4. Connecticut DEP Regulations (Section 22a-209-8 (I) and Section 22a-220 of the Connecticut General Statutes);
5. Connecticut DPH Standard for Asbestos Abatement Sections 19a-332-1 to 19a-332-16;
6. Licensure and Training Requirements Section 20-440-1 to Section 20-440-9;
7. Connecticut Basic Building Code;
8. Connecticut Fire Safety Code;

9. Local health and safety codes, ordinances or regulations pertaining to asbestos remediation and all national codes and standards including ASTM, ANSI, and Underwriter's Laboratories.

1.6 EXEMPTIONS

A. This project was designed by a licensed State of Connecticut Department of Public Health Asbestos Abatement Designer (Peter J. Folino – license No. 000195). Any deviation from these specifications requires the written approval and authorization from the Owner.

B. The designer must be notified in writing by the Program's Consultant that a change in scope is required to achieve the desired end results for the project. The designer in turn will assess the requested change and will issue a written approval for the change in the scope of work.

1.7 EXAMINATION OF CONTRACT DOCUMENTS AND SITE

A. The AAC shall carefully examine and read and review all aspects of the Contract Documents and visit the site of work to become familiar with the existing site conditions.

B. All work called for in the Contract Documents but not shown on the Contract Drawings in their present form, or visa versa, is required, and shall be performed by the AAC as though it were originally delineated or described.

C. Work not particularly specified in the Contract Documents, but involved in carrying out their intent or in the complete and proper execution of work, is required pursuant to this Contract and shall be performed by the AAC.

D. The apparent silence of the Contract Documents as to any detail, or the apparent omission from the Contract Documents of a detailed description concerning any work to be done and materials to be furnished, shall be interpreted to mean that only the best practice of the industry is to prevail and that only the best materials and workmanship is to be used.

E. Should any conflict occur in or between the Contract Drawings, Specification and/or other elements of the Contract Documents, the AAC shall be deemed to have estimated on the most expensive way of performing the work unless the AAC shall have asked for and obtained a decision in writing from the Owner's Representative before the submission of its bid as to which shall govern.

1.8 INDEMNIFICATION

A. The AAC and its subcontractors shall indemnify and hold harmless the Owner and the Owner's Representative, and their directors, officers, agents, employees and consultants from and against all claims, damages, losses, liabilities and expenses, out of or resulting from the performance of the work specified herein.

1.9 NOTIFICATIONS, POSTINGS AND PERMITS

A. The quantity of asbestos being removed under this project does not meet the minimum quantity requirements for notification. Notification of asbestos abatement to the CT DPH is not required for this project. Hartford, CT 06134-0308

1.10 WORK SITE SAFETY PLAN

A. The AAC shall establish a set of emergency procedures and shall post them in a conspicuous place at the work site. The safety plan should include provisions for the following:

1. Evacuation of injured workers.
2. Emergency and fire exit routes from all work areas.
3. Emergency first aid treatment.
4. Local telephone numbers for emergency services including ambulance, fire, and police.
5. A method to notify workers in the event of a fire or other emergency requiring evacuation of the building.
6. Confined space entry program.
7. 24 hour site security program.

B. The AAC is responsible for training all workers in these procedures.

1.11 ALTERNATE WORK PRACTICES (AWP)

A. Any modification from the standard work practices identified in the State of Connecticut DPH Standard for Asbestos Abatement Section 19a-332a-1 to 19a-332a-16 must be requested in writing to the State DPH.

1.12 REOCCUPANCY CLEARANCE

A. The Program shall be responsible for payment of the sampling and analysis of initial final air clearance samples only. The AAC shall be responsible for payment of all costs associated with the collection and analysis of additional final air clearance samples for areas that failed the initial test.

B. Phase Contrast Microscopy (PCM) air samples will be analyzed on a twenty - four hour turn around. Transmission Electron Microscopy (TEM) air samples will be analyzed on a twenty-four hour turn around time.

1.13 CONTROL OVER REMOVAL WORK

A. All AAC work procedures shall be monitored by the AAC's "competent person" to ensure that areas outside the designated work locations do not become contaminated. The following controls shall be implemented each working day to help ensure this:

1. Prior to work on any given day, the AAC's designated "competent person" shall evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of the building or the employees. This includes a visual survey of the work area and the decontamination enclosure systems.

B. The AAC shall maintain control of and be responsible for access to all work areas to ensure the following requirements:

1. Nonessential personnel are prohibited from entering the area;
2. All authorized personnel entering the work area shall sign the work area entry log;
3. All authorized personnel entering the work area shall read the "worker protection procedures" which are posted at the entry points to the enclosure system, and shall be equipped with properly fitted respirators and protective clothing;
4. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated;
5. Asbestos waste that is taken out of the work area must be properly bagged and labeled in accordance with these specifications. The surface of the bags shall be decontaminated. Asbestos leaving the enclosure system must be transported off site or immediately placed in locked, posted temporary storage on site, and be removed within 24 hours of the project conclusion.
6. Any material, equipment, or supplies that are brought out of the decontamination enclosure

system shall be cleaned and decontaminated by wet cleaning and/or HEPA vacuuming of all surfaces.

1.14 SITE SECURITY

A. The AAC shall be responsible for the security of regulated areas. Post asbestos abatement warning signs at entrances to the work area including the waste loadout and worker decontamination chamber. The AAC shall have an outside supervisor monitoring the entrance of the worker decontamination chamber during abatement work.

B. The AAC shall be responsible for the security of exterior regulated areas. Post asbestos abatement warning signs at ten (10) foot intervals around the exterior work zone. Construct the exterior regulated work area with warning tape secured with stakes.

1.15 CONTRACTOR'S AIR SAMPLING RESPONSIBILITY

A. The AAC shall monitor airborne asbestos concentrations in the workers' breathing zone to establish conditions and work procedures for maintaining compliance with OSHA Regulations 29 CFR 1910.1001 and 1926.1001.

B. The AAC's air sampling professional shall document all air sampling results and provide all air sampling reports as soon as feasible. OSHA air monitoring results shall be posted at a conspicuous location at the job site.

C. All personnel air sampling shall be conducted in accordance with methods described in OSHA standards 29 CFR 1910.1001 and 1926.1101.

1.16 SUBMITTALS

A. The AAC will submit two (2) copies of the following submittals to the Owner's Representative ten (10) calendar days prior to the commencement of removal work:

1. AAC's construction schedule
2. Waste generator label to be used
3. Waste shipment and disposal form to be used with generated information
4. Waste hauling contractor
5. Landfill to be used
6. Training and licenses of each employee who may be on the project site
7. A notarized statement from the AAC that all their employees performing abatement operations at this site comply with the OSHA medical and respiratory protection requirements.
8. The qualifications of the hygiene firm that the AAC proposes to use for this project to analyze contractor employee OSHA monitoring samples and final visual inspections and reoccupancy air sampling
9. Copies of all notifications and permits
10. Copies of the written respirator plan compliant with the most current issue of OSHA 1910.134
11. Copies of all MSDS sheets for materials to be used on site
12. Work Site Safety Plan
13. Negative Exposure Assessment (if applicable)
14. Contractor's State of Connecticut Asbestos Contractor license

B. The AAC will submit two (2) copies of the following submittals to the Owner's Representative no later than thirty (30) calendar days following the completion of removal work at each site:

1. State Notifications and any revisions

2. Work area access logs for each containment area
3. OSHA personnel monitoring results
4. Worker and Supervisor training certificates and State of Connecticut licenses
5. Completed waste shipment records

1.17 DEFINITIONS

A. ABATEMENT - Procedures to control fiber release from asbestos-containing materials; includes removal, encapsulation, and enclosure.

B. AIRLOCK - A system for permitting ingress and egress while assuring air movement to a contaminated area from an uncontaminated area. Two curtained doorways spaced a minimum of six feet apart can form an airlock.

C. AIR MONITORING - The process of measuring the fiber concentration of an area or of a person.

D. AIR SAMPLING PROFESSIONAL – A licensed professional capable of developing air sampling protocols and conducting air monitoring and analysis. This individual should be an industrial hygienist, an environmental scientist, or an engineer with experience in asbestos air monitoring and worker protection equipment and procedures. This individual should have demonstrated proficiency in conducting air sample collection in accordance with 29 CFR 1910.1001 and 1926.1101.

E. ADEQUATELY WETTED - means sufficiently mixed or coated with water, amended or an aqueous solution; or the use of removal encapsulant to prevent dust emissions.

F. AMENDED WATER - Water to which a surfactant has been added.

G. ASBESTOS - The name given to a number of naturally occurring fibrous silicates. This includes the serpentine forms and the amphiboles and includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite, or any of these forms that have been chemically altered.

H. ASBESTOS ABATEMENT - Means the removal, encapsulation, enclosure, renovation, or repair of asbestos-containing materials except activities that are related to the removal or repair of asbestos cement pipe and are performed by employees of a water company as defined in Section 25-32a of the Connecticut General Statutes.

I. ASBESTOS ABATEMENT SITE SUPERVISOR - Means any licensed individual who is employed or engaged by an AAC to supervise an asbestos abatement project.

J. ASBESTOS ABATEMENT WORKER - Means any employee of an AAC who engages in asbestos abatement.

K. ASBESTOS CONSULTANT - Any person who engages in any activity directly involved with asbestos consultation services and who has been issued a certificate by the commissioner and a license by the department.

L. ASBESTOS CONTAINING MATERIAL (ACM) - A material composed of asbestos of any type and in an amount greater than one percent be weight, either alone or mixed with other fibrous or nonfibrous material.

M. ASBESTOS CONTRACTOR - Any person or entity engaged in asbestos abatement whose employees actually perform asbestos abatement work.

N. ASBESTOS CONTROL AREA - An area where asbestos abatement operations are performed which is isolated by physical boundaries to prevent the spread of asbestos dust, fibers, or debris.

O. ASBESTOS FIBERS - Those particles with a length greater than five (5) microns and a length to diameter ratio of 3: 1 or greater.

P. ASBESTOS PERMISSIBLE EXPOSURE LIMIT (PEL) - The maximum airborne concentration of asbestos fibers to which an employee is allowed to be exposed. The current level established by OSHA is 0.1 fibers per cubic centimeter of air as an eight (8) hour time weighted average and 1.0 fibers/cc averaged over a sampling period of 30 minutes as an excursion limit. The AAC is responsible for maintaining work areas in a manner that this standard is not exceeded.

Q. ASBESTOS PROJECT MONITOR - The licensed asbestos consultant who is certified as a project monitor and who functions as an on-site representative of the facility Owner or other persons by over-seeing the activities of the asbestos abatement contractor.

R. AUTHORIZED VISITOR - Any person authorized by the Owner to enter the building.

S. BUILDING OWNER - For this Contract only, the building Owner is William Reilly.

T. CLEAN ROOM - An uncontaminated area or room, which is a part of the workers' decontamination enclosure with provisions for storage of workers' street clothes and protective equipment.

CLEARANCE SAMPLING - Final air sampling performed aggressively after the completion of the abatement project in a regulated area. Five (5) air samples collected by the asbestos abatement project monitor inside the work area, and having a fiber concentration of less than 0.010 fibers/cc of air will denote acceptable clearance sampling by Phase Contrast Microscopy. Five air samples collected by the asbestos abatement project monitor having an average asbestos concentration of less than 70 asbestos structures mm/sq. will denote acceptable clearance sampling for Transmission Electron Microscopy.

U. COMMISSIONER - Means the Commissioner of the Connecticut Department of Health Services or his/her authorized agent.

V. COMPETENT PERSON - A representative of the AAC who is capable of identifying an asbestos hazard and who has the authority to take prompt corrective measures to eliminate the hazard during asbestos removal.

W. CONFINED SPACE - A work zone where access and egress are restricted, a potential for gaseous vapors to accumulate exist, or a potential for low oxygen content exists.

X. DECONTAMINATION ENCLOSURE SYSTEM - A series of connected areas, with curtained doorways between any two adjacent areas, for the decontamination of workers and equipment. A decontamination enclosure system always contains at least one airlock and is adjacent and connected to the regulated area, where possible.

Y. DEPARTMENT - The Department of Public Health.

Z. EPA - Means the U.S. Environmental Protection Agency.

AA. ENCAPSULANT - A liquid material that can be applied to asbestos-containing material that controls the possible release of asbestos fibers from the materials by either creating a membrane over the surface (bridging encapsulant) or penetrating the material and binding its components together (penetrating encapsulant).

BB. ENCAPSULATION - A specified asbestos remediation strategy involving the application of an encapsulant to asbestos containing materials to control the release of asbestos fibers into the air.

CC. EQUIPMENT DECONTAMINATION ENCLOSURE - That portion of a decontamination enclosure system designed for controlling the transfer of materials and equipment, typically consisting of a washroom and a holding area.

DD. EQUIPMENT ROOM - A contaminated area or a room, which is part of the workers' decontamination enclosure with, provisions for storage of contaminated clothing and equipment.

EE. FACILITY - Means any private or public building or structure including but not limited to those used for institutional, residential (including single family homes), commercial or industrial purposes and vessels while ashore or in dry-dock.

FF. FIXED OBJECT - A unit of equipment or furniture in the work areas which cannot be removed from the work area.

GG. FRIABLE ASBESTOS MATERIAL - Any material that contains more than 1% asbestos by weight, that can be crumbled, pulverized or reduced to powder by hand pressure.

HH. GLOVE BAG - An impervious plastic bag-like enclosure affixed around asbestos containing material, with glove-like appendages through which materials and tools may be handled.

II. HAZARDOUS MATERIALS ABATEMENT CONTRACTOR (AAC) - Means the asbestos abatement contractor, lead based paint abatement contractor and or the pigeon guano removal.

JJ. HEPA FILTER - A high efficiency particulate air (HEPA) filter in compliance with ANSI Z9.2-1979.

KK. HEPA VACUUM EQUIPMENT - Vacuum equipment with a HEPA filter system for filtering the effluent air from the unit.

LL. HOLDING AREA - An air-locked chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.

MM. INSPECTOR (ASBESTOS ABATEMENT PROJECT MONITOR)- An individual, retained by the Building Owner, who is a "qualified asbestos abatement project monitor" as defined by the State of Connecticut Department of Public Health, and who will be responsible for monitoring the AAC during the asbestos abatement project.

NN. MOVABLE OBJECT - A unit of equipment or furniture in the work area, which can be removed from the work area.

OO. NEGATIVE AIR FILTRATION EQUIPMENT - A portable local exhaust system equipped with HEPA filtration used to create negative pressure in a regulated area (negative with respect to adjacent unregulated areas) and capable of maintaining a constant, low velocity air flow into regulated areas from adjacent unregulated areas.

PP. OWNER'S REPRESENTATIVE -The Asbestos Consultant for the project.

QQ. NESHAPS - National Emissions Standard for Hazardous Air Pollutants regulations enforced by the EPA.

RR. PLASTICIZE - To cover floors and walls with plastic sheeting as specified herein.

SS. SEPARATION BARRIER - A rigid barrier sealed with two (2) layers of six (6) mil polyethylene sheeting installed between an occupied area and the asbestos abatement work area.

TT. SHOWER ROOM - A room between the clean room and the equipment room in the workers' decontamination enclosure with hot/cold running water and suitably arranged for employee showering during decontamination. The shower room is located in an airlock between the contaminated area and the clean area.

UU. STRIPPING - Removing asbestos materials from any structural member, pipe surface, HVAC, or other equipment.

VV. WASHROOM - A room between the work area and the holding area in the equipment decontamination enclosure with provisions for storage of contaminated clothing and equipment.

WW. WET CLEANING - The process of reducing asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools, which have been dampened by amended water, and by then disposing of these cleaning items as asbestos contaminated waste.

XX. WORK AREA - Designated rooms, spaces, or areas of the project in which asbestos abatement actions are occurring and which may become contaminated as a result of such abatement actions. The work area must be totally self-contained by sealing, plasticizing and equipping the area with a decontamination enclosure system.

YY. WORKER DECONTAMINATION ENCLOSURE SYSTEM - That portion of a decontamination enclosure system designated for controlled passage of workers, other personnel, and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room.

ZZ. WORK STOPPAGE CLEANUP PROCEDURE - A process following the issuance of a written stop work order, whereby the AAC thoroughly cleans and decontaminates the work area, the decontamination enclosure system, and any other areas of the building affected by the removal project, to the satisfaction of the Asbestos Abatement Project Monitor.

AAA. WORK ZONE - The area of the decontamination enclosure system where asbestos is being removed.

PART 2 MATERIALS AND EQUIPMENT

2.1 Materials

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.

B. Damaged or deteriorating materials shall not be used and shall be removed from the premises. Material that becomes contaminated with asbestos shall be decontaminated or disposed of as asbestos waste.

C. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 4 or 6 mil.

D. Polyethylene disposable bags shall be true six (6) mil with preprinted labels.

E. Tape or adhesive spray will be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheets to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

F. Surfactant (wetting agent) - shall consist of fifty (50) percent polyoxyethylene ether and fifty (50) percent polyoxyethylene ester, or equivalent, and shall be mixed with water to provide a concentration of one (1) ounce surfactant to five (5) gallons of water or as directed by manufacturer.

G. Impermeable containers are to be used to receive and retain any asbestos-containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with OSHA Standard 29 CFR 1926-1101.) Containers must be both air and watertight.

H. Labels and signs, as required by OSHA Standard 29 CFR 1926.1001 will be used.

I. Encapsulant shall be bridging or penetrating type which has been found acceptable to Eagle Environmental. Usage shall be in accordance with manufacturer's printed technical data.

J. Disposal labels shall be preprinted on self-adhesive labels with the generator name, abatement site and contractor's name and address. Labels shall not be photocopied and applied with spray adhesive.

2.2 Tools and Equipment

A. Provide suitable tools for asbestos removal, encapsulation and enclosure.

B. The AAC shall have air monitoring equipment of type and quantity to monitor operations and conduct personnel exposure surveillance per OSHA requirements.

C. The AAC shall have available sufficient inventory on site for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.

D. The AAC shall provide temporary electrical power sources such as generators (when required).

E. The AAC shall have available shower stalls and sufficient hose length and a drain system equipped with 5-micron filters.

F. Exhaust air filtration system units shall contain HEPA filter(s) capable of sufficient air exhaust to create negative pressure of 0.02 inches of water within the enclosure with respect to the outside area. Equipment shall be checked for proper operation by smoke tubes or a differential pressure gauge before the start of each shift and at least twice during the shift. Adequate exhaust air shall be provided for a minimum of four (4) air changes per hour within the enclosure. No air movement system or air filtering equipment shall discharge unfiltered air outside.

G. Vacuum units, of suitable size and capacities for project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micrometers in diameter or larger.

H. The AAC will have reserve exhaust air filtration system units in order to maintain negative air filtration in the event that a unit malfunctions during use.

I. The AAC shall have available and use recording manometers to monitor pressure differential between the work area and occupied areas of the building. A minimum negative pressure differential of 0.02 inches of water column shall be maintained.

J. The AAC shall have available spray equipment capable of mixing a wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with asbestos.

K. HEPA filtered local exhaust ventilation shall be utilized during the installation of enclosures and supports where asbestos-containing materials may be disturbed.

PART 3 EXECUTION

3.1 Interior Work Area Preparation - General

A. Provide GFCI devices, temporary power, and temporary lighting installed in compliance with the applicable electrical codes. All temporary installations are to be made by a licensed electrician.

B. Shut down electrical power, including receptacles and light fixtures. Lock and tag out circuits associated with the electrical components in the work area(s). Under no circumstances during the abatement procedures will lighting fixtures be permitted to be operating when the spraying of amended water may contact the fixture.

C. Shut down and/or isolate heating, cooling, and ventilation air systems or zones to prevent contamination and fiber dispersal to other areas of the structure. Lock and tag out circuits associated with heating and cooling units. During the work, vents within the work area shall be sealed with duct tape and polyethylene sheeting.

D. Seal off all openings, including but not limited to windows, corridors, doorways, skylights, ducts, grills, diffuser, and any other penetration of the work areas, with polyethylene sheeting minimum of six (6) mils thick sealed with duct tape. This includes doorways and corridors which will not be used for passage during work areas and occupied areas. Install 5 micron water filtration socks in all floor drains prior to sealing.

E. Pre-clean fixed objects within the work areas, using HEPA vacuum equipment and/or wet cleaning methods as appropriate, and enclose with minimum six (6) mil plastic sheeting sealed with duct tape.

F. Where friable asbestos containing materials are present, establish worker decontamination facility, critical barriers and negative air filtration prior to conducting pre-cleaning activities.

G. Pre-clean movable objects within the work areas, using HEPA vacuum equipment and wet cleaning methods as appropriate.

H. Clean the proposed work areas using HEPA vacuum equipment or wet cleaning methods as appropriate. Do not use methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters.

I. After HEPA vacuum pre-cleaning, conduct work area preparation in accordance with this Specification section.

J. Where fixed walls are not used, one layer of six (6) mil polyethylene sheeting will be applied to a rigid framework of wood, metal, or PVC.

K. Install two layers of four (4) mil polyethylene wall sheeting over all wall surfaces and critical barriers. All overlaps shall be sealed with tape or spray adhesive. Substitute one layer of four (4) mil wall polyethylene sheeting in lieu of two layers of four (4) mil where nonfriable floor tile associated mastic and wall tile adhesive are being removed.

L. Cover all floors in the work area with a double layer of six (6)-mil polyethylene sheeting. Extend the polyethylene flooring a minimum of twelve (12) inches up the walls. Ensure that the wall sheeting overlaps the floor sheeting from the top.

M. Maintain emergency and fire exits from the work area, or establish alternative exits satisfactory to fire officials.

N. Create pressure differential between work areas and occupied areas by the use of acceptable negative air pressure equipment. The AAC shall ensure required negative air pressure is obtained throughout the containment and the total volume of air within the work area is changed every fifteen (15) minutes.

O. Post all approaches to each work area with Asbestos Warning signs. Warning signs shall be of size and type that are easily readable and are visible from all approaches to the work areas.

3.2 Contiguous Personnel Decontamination System

A. The AAC shall establish contiguous to each work area, where feasible, a personnel decontamination system consisting of equipment room, shower room and clean room in series. Access between the contaminated and uncontaminated areas shall be through this decontamination enclosure only. The decontamination system shall be constructed of two layers of six-mil polyethylene sheeting. Pre-fabricated "pop-up" decontamination chambers will not be permitted on this project.

Access between rooms in decontamination system shall be through double flap-curtained openings. Clean room, shower and equipment room within decontamination system shall be completely sealed ensuring that the sole source of air flow through this area originates from uncontaminated areas outside the work area.

B. The shower unit shall be equipped with an adequate supply of warm water. A shower filtration pump containing two 5 micron sock filters or the best available technology shall be installed to filter shower water. Filtered shower water shall be discharged into sanitation drains and shall not be discharged into storm drains or onto floor or ground surfaces.

C. The shower shall contain soap and an adequate supply of drying towels. Provide an adequate number of shower units in accordance with OSHA 29 CFR 1926.1101.

D. The AAC shall provide a heated area within the building or in a remote worker decontamination chamber for workers to dress in after showering.

E. Worker decontamination chambers must be constructed prior to work area preparation if damaged friable ACM is present.

3.3 Exterior work area preparation - general

A. Where exterior non-friable ACM is to be removed outdoors, post asbestos abatement warning signs and erect temporary barricades to create regulated areas. Regulated areas should be kept clear of any persons not fully trained and protected against exposure.

B. Install single six (6) mil drop cloths extending a minimum of ten (10) feet from the exterior wall of the

building or roofs. Extend polyethylene sheeting outward from the base of the structure in order to collect debris when working from higher elevations.

C. Install single six (6) mil critical barriers over any louver, vent or penetration into the building interior within or directly adjacent to the regulated area.

D. Maintain an operable remote worker decontamination system in accordance with Section 3.2 REMOTE PERSONNEL DECONTAMINATION SYSTEM during exterior abatement work.

E. Maintain a work area access control log for each exterior work area.

F. Post asbestos warning signs at 10 foot intervals around the exterior work area. Warning signs must be visible from all approaches to the area.

3.4 Remote Personnel Decontamination System

A. The AAC shall establish a remote personnel decontamination system, where contiguous decontamination systems are not feasible, consisting of equipment room, shower room and clean room in series. Access between the contaminated and uncontaminated areas shall be through a single chamber airlock. The decontamination system shall be constructed of two layers of six-mil polyethylene sheeting. Pre-fabricated "pop-up" decontamination chambers will not be permitted on this project.

B. Access between rooms in decontamination system shall be through double flap-curtained openings. Clean room, shower and equipment room within decontamination system shall be completely sealed between chambers.

C. The shower unit shall be equipped with an adequate supply of warm water. A shower filtration pump containing two 5 micron sock filters or the best available technology shall be installed to filter shower water. Filtered shower water shall be discharged into sanitation drains and shall not be discharged into storm drains or onto floor or ground surfaces.

D. The shower shall contain soap and an adequate supply of drying towels. Provide an adequate number of shower units in accordance with OSHA 29 CFR 1926.1101.

3.5 Spot Repair Procedure (Glove Bag Removal)

A. The AAC shall perform Spot Repair Procedures for materials less than three (3) linear or (3) square feet where identified by the Specification.

B. All glove bag removal operations shall be performed by a minimum of two (2) 32-hour certified asbestos workers or a 40 hour certified competent person and 32-hour asbestos worker.

C. The AAC shall create a regulated work area with asbestos warning tape and warning signs. Access to the regulated area shall be restricted to the certified asbestos trained personnel only.

D. All Spot Repair Procedures shall be performed within an air tight enclosure or glove bag. All glove bags shall be six-mil polyethylene with pre-printed warning labels.

E. Utilize a six mil drop cloth under glove bag removal activities.

F. Seal the glove bag to non- ACM material to make air tight. Smoke test the glove bag and record the results of the smoke test procedure in supervisor log.

G. Utilize an adequate spray equipment for wetting material prior to removal activities.

H. Utilize a HEPA filtered vacuum to evacuate air from glove bag prior to goose necking and sealing with duct tape.

I. Perform all final cleaning activities within the glove bag until no visible residue is present.

3.6 Waste Load Out Systems

A. The AAC shall establish waste load out systems, where feasible, attached to the work areas. Waste load out systems shall consist of a minimum of two (2) chambers that are of suitable size for transporting waste out of the work area. Waste load out systems shall be constructed of two layers of six-mil polyethylene sheeting.

B. Access between rooms in the waste load out system shall be through double flap-curtained openings. The waste load out system shall be used for decontaminating waste containers, bags, bundles, etc. prior to removal from the work area and transporting waste from the work area to the non-work area.

C. Persons working inside the contaminated work area are not permitted to pass from the work area to the non-work area through the waste load out system. Persons inside the contaminated work area shall not be permitted to enter into the clean area of the waste load out system.

D. The waste load out system shall remain sealed at all times except during decontamination of waste containers and transport of waste from the work area to the non-work area.

3.7 Asbestos Removal Procedure – General

A. The AAC shall have a designated "competent person" on the job at all times to ensure establishment of a proper enclosure system and proper work practices throughout the project. At a minimum, the AAC competent person shall perform or supervise the following duties, as applicable:

1. Ensure the integrity of the containment or enclosure.
2. Set up procedures to control entry to and exit from the enclosure.
3. Supervise employee exposure monitoring.
4. Ensure that employees set up, use and remove engineering controls, use work practices and personal protective equipment in compliance with OSHA regulations.
5. Ensure that employees use the worker decontamination facilities and observe decontamination procedures.

B. Abatement work will not commence until all work area preparation is completed in accordance with this technical specification section.

C. Spray asbestos materials with amended water using airless spray equipment or apply approved removal wetting agent to reduce the release of fibers during removal operation.

D. Spraying of amended water shall be adequate enough to allow the ACM to absorb the water. Actual removal of ACM shall not be allowed until all ACM has become adequately wet.

E. Fill disposal containers as removal proceeds, seal filled containers before moving to waste load out system. Wet clean each container thoroughly, double bag, drum or use other approved containerization methods and apply a caution label before moving to holding area. Floor tile waste shall be containerized in rigid lined drums.

F. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris.

G. Solidify all liquid waste prior to containerization for disposal.

H. Sealed disposal containers and all equipment used in the work area shall be included in the cleanup and shall be removed from work areas, via the waste load out system at an appropriate time in the cleaning sequence.

I. At any time during asbestos removal, should the competent person suspect contamination of areas outside the work area(s), they shall cause to stop all abatement work until steps to decontaminate these areas and eliminate causes of such contamination are completed. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections certify decontamination.

J. Upon acceptance of the work area by the Owner's Representative, the AAC shall apply an even coating of bridging encapsulant to all exposed surfaces contained within the work area. Apply encapsulant in accordance with manufacturer's recommendation.

3.8 Waste Packaging and Removal Procedure

A. The AAC shall strictly adhere to the requirements of this section for ACM waste packaging and transporting waste from the work area enclosure to the disposal dumpster.

B. The AAC shall utilize lined drums for waste packaging of floor tiles.

C. Waste disposal bags and drums shall be affixed with pre-printed OSHA warning labels, DOT labels and NESHAP labels.

D. Each container of ACM waste shall be made adequately wet prior to sealing the container. Bags shall be sealed immediately following additional wetting procedures. Bags of ACM waste shall not be permitted to remain unsealed while in the work area enclosure.

E. Each bag of ACM waste shall be doubled during waste load out procedures. The following waste load out procedure shall be strictly adhered to:

1. Wet wipe inner bag or drum to remove all ACM contamination. Ensure the inner bag is sealed.
2. Transport bag or drum to the equipment room located in the worker decontamination enclosure.
3. One worker, equipped with personal protective equipment, shall be inside the clean room of the worker decontamination enclosure.
4. The worker in the clean room of the decontamination enclosure shall open a six-mil disposal bag and hold it open inside the shower room where the inner bag containing the ACM waste shall be placed.
5. The outer bag shall be sealed with duct tape inside the shower room.
6. The double bagged or drummed waste shall be removed from the decontamination enclosure and waste generator labels shall be immediately affixed to the outer bag or drum.
7. Waste generator labels shall be printed self-adhering labels and shall contain the Owner's name, the site location address, and the AAC's name.
8. The properly labeled waste shall be transported directly to the lined waste container.

9. The waste container shall be double lined with 6-mil polyethylene sheeting.
10. OSHA warning signs shall be secured to the waste container prior to any loading operations.
11. The waste container shall be kept locked at all times other than loading and unloading.

3.9 MINIMUM SPECIFIC REMOVAL PROCEDURE – Friable ACM – Paper Duct Insulation (<3SF)

A. Coordinate the removal of all asbestos containing materials with the General Contractor.

B. The paper duct insulation is lying on the top of the dirt at the entry to the crawl space. Wet the loose piece of insulation and place in asbestos disposal bag.

C. HEPA vacuum the dirt beneath the loose insulation to remove any residual fibers.

D. All ACM shall be placed directly into disposal bags or shall be transferred to the asbestos disposal dumpster. Do not allow waste to accumulate on the ground. The AAC shall ensure that no visible emissions are generated during any portion of the abatement operation.

3.10 MINIMUM SPECIFIC REMOVAL PROCEDURE – CHIMNEY FLUE CEMENT

A. Minimum specific requirements relative to the removal of asbestos-containing chimney flue cement are as follows.

B. Removal of the chimney flue cement shall be performed utilizing the OSHA glove bag method in accordance with 29 CFR 1926.1101.

C. Glove bag removal operations shall be performed by a minimum of two (2) certified asbestos workers.

D. Perform glove bag removal activities in accordance with Section 3.5 of this specification.

E. Refer to Architects Specification for sealing or patching flue openings.

3.11 Disposal of Asbestos And Asbestos Contaminated Waste

A. A. All disposal of asbestos containing and or asbestos contaminated material must be in compliance with requirements of the Office of the Department of Environmental Protection, State of Connecticut Department of Public Health and the USEPA NESHAP regulations.

B. Disposal approvals shall be obtained before commencing asbestos removal.

C. Waste container storage locations shall be pre-approved by the Owner and Owner's Representative.

D. A copy of approved disposal authorization shall be provided to the Owner and Owner's Representative and any required federal, state or local agencies.

E. Copies of all landfill receipts will be retained by the Owner's Representative as part of the project file. The receipts will be signed by the landfill operator on receipt, and the quantity of asbestos debris leaving the job site and arriving at the landfill acknowledged.

F. All asbestos debris shall be transported in covered, sealed vans, boxes or dumpsters, which are physically isolated from the driver by an airtight barrier. All vehicles must be properly licensed to meet United States Department of Transportation (US DOT) requirements.

G. Friable ACM waste shall be placed in double lined enclosed waste containers equipped with a lockable hasp. Waste containers shall be posted with OSHA warning signs during loading and unloading.

H. All liquid waste generated during the work shall be solidified. At no time will liquid wastes be permitted to be stored on site. Liquid waste generated during this project shall be solidified prior to the end of each work shift.

I. Completed waste shipment records signed by the landfill must be returned to the Owner or Owner's Representative no later than 45 days from the time the waste was transported off-site. Completed waste shipment records that are not received by the Owner within 35 days shall require the AAC to begin tracking the waste. The AAC must notify the Owner of intentions on tracking the waste.

J. The AAC must take appropriate actions as outlined in 40 CFR Part 61 NESHAP regulations when completed waste manifests are not forwarded to the Owner or Owner's Representative within 45 days from the time the waste was transported off-site.

3.11 Final Cleaning and Encapsulation

A. A. Upon completion of gross removal of all ACM specified for removal, the AAC shall begin final cleaning of the effected work area. The AAC shall HEPA vacuum and wet wipe all surfaces contained within the work area.

B. All tools or equipment that is not necessary for final cleaning shall be decontaminated or bagged and removed from the work area enclosure.

C. The AAC shall begin final cleaning procedures at the furthest and highest most points from the personnel decontamination facility. The AAC shall ensure that all exposed building components and or surfaces are thoroughly HEPA vacuumed and wet wiped.

D. The AAC shall HEPA vacuum and wet wipe any component specified to remain inside the work area enclosure.

E. The AAC shall thoroughly wet wipe all polyethylene sheeting inside the work area enclosure.

F. Once all surfaces and components within the work area have been thoroughly cleaned, the AAC's Competent Person shall perform a visual inspection of all surfaces and components within the work area enclosure. The AAC's Competent Person shall sign off on the work area stating that all abatement has been completed for this portion of work and that the work area has met final visual inspection requirements as outlined in ASTM E1368.

G. The AAC's Competent Person shall then request a final visual inspection to be performed by the Owner's Representative. The Owner's Representative shall visually inspect all surfaces and components in the work area for residual debris and or dust. Additional cleaning shall be performed at the AAC's expense if the Owner's Representative identifies visual debris and or dust during the visual inspection. Additional cleaning shall be performed until the work area meets the Final Visual Inspection requirements outlined in ASTM E1368.

H. Upon acceptance of the work area by the Owner's Representative, the AAC shall apply an even layer of bridging encapsulant to all surfaces contained within the work area. The Owner's Representative shall verify the completeness of work area encapsulation.

3.12 Reoccupancy Air Clearance Monitoring

A. Re-occupancy air clearance monitoring is not required for this exterior abatement work. A final visual inspection shall be performed by the Program's Asbestos Project Monitor to verify the completeness of work.

B. Areas that do not comply with the final visual inspection criteria shall continue to be cleaned by and at the AAC's expense until the specified criteria (no visible debris or residue) is achieved as evidenced by results of visual inspection

3.13 program's Representative Responsibility

A. The Program has retained the services of Eagle Environmental, Inc to monitor this project. The Program's Representative may collect and analyze air samples to ascertain the integrity of controls, which protect the building from asbestos contamination. Independently, the AAC may monitor air quality within the work area to ascertain the protection of employees and to comply with OSHA regulations.

B. The Program's Representative may collect and analyze air samples during a minimum of three time periods:

1. Pre-Abatement Sampling Period: The Asbestos Abatement Project Monitor shall collect a sufficient number of air samples, inside and outside the proposed work area locations, to establish background air quality conditions. At least one sample will be taken outside of the building.

    a. Pre-Abatement air samples shall be collected for a minimum period of ninety minutes at a minimum flow rate of 12 liters per minute, or as required to obtain a volume of 1,000 liters. Samples shall be analyzed by phase contrast microscopy (PCM) using the NIOSH 7400 protocol.

2. Abatement Period: The Asbestos Abatement Project Monitor shall collect samples on a daily basis during the work period. A sufficient number of background samples shall be taken outside of the work area, at the exhaust of the negative pressure filtration equipment, and outside of the building to evaluate the degree of cleanliness or contamination of the building during asbestos removal. Additional samples may be taken inside the work area and decontamination enclosure system, at the discretion of the Asbestos Abatement Project Monitor.

    a. The Asbestos Abatement Project Monitor shall provide a continual evaluation of the air quality of the building during asbestos abatement, using his/her best professional judgments in respect to the State Department of Public Health guideline of .010 fibers/cc and the background air quality established during the pre-abatement period.

    b. If the Asbestos Abatement Project Monitor determines that the building air quality has become contaminated from the project, he/she shall immediately inform the AAC to cease all removal operations and implement a work stoppage clean up procedure. The AAC shall conduct a thorough cleanup of areas of the building designated by the Asbestos Abatement Project Monitor. No further asbestos abatement work shall take place until the Asbestos Abatement Project Monitor has determined that the building's air has been decontaminated.

c. Abatement air samples shall be collected for a minimum period of ninety minutes at a minimum flow rate of 12 liters per minute, or as required to obtain a volume of 1,000 liters. Samples shall be analyzed by phase contrast microscopy (PCM) using the NIOSH 7400 protocol.

3. Post-Abatement Period: The Asbestos Abatement Project Monitor shall conduct air sampling following the final cleanup phase of the project, once the "no visible residue" criterion as established by Asbestos Abatement Project Monitor has been met. Five (5) samples shall be collected inside containment utilizing aggressive methods to comply with State of Connecticut DPH Standard for Asbestos Abatement sections 19a-332a-12, and 19a-332a-13. Analysis of the samples to determine airborne concentrations of asbestos shall be conducted by Transmission Electron Microscopy (TEM) with a limit of 70 asbestos structures per square millimeter and by Phase Contrast Microscopy (PCM) with a limit of 0.01 fibers per cubic centimeter of air in accordance with the above State of Connecticut DPH Standard for Asbestos Abatement regulations.

C. Inspections may be conducted by the Owner's Representative throughout the progress of the abatement project. Inspections may be conducted in order to document the progress of the abatement work as well as the procedures and practices employed by the AAC. The Asbestos Abatement Project Monitor shall perform the following inspections during the course of abatement activities.

1. Precommencement Inspection: Precommencement inspections may be performed at the time requested by the AAC. The Asbestos Abatement Project Monitor shall be informed 48 hours prior to the time the inspection is needed. During the course of the precommencement inspection, the Asbestos Abatement Project Monitor shall inspect the containment. This shall include, but not be limited to, inspection of barrier integrity, the worker decontamination, facility, negative air filtration equipment ect. If during the course of the precommencement inspection, deficiencies are found, the AAC shall perform the necessary adjustments in order to obtain compliance.

2. Work Area Inspections: Work area inspections may be conducted on a daily basis at the discretion of the Asbestos Abatement Project Monitor. During the course of the work area inspections, the Asbestos Abatement Project Monitor may observe the AAC removal procedures, verify barrier integrity, monitor negative air filtration devices, assess project progress, and inform the AAC of specific remedial activities if deficiencies are noted.

3. Presealant Inspection: Upon the request of the AAC, The Asbestos Abatement Project Monitor shall conduct a presealant inspection. The presealant inspection shall be conducted after completion of the initial final cleaning procedures, but prior to work area encapsulation. The presealant inspection shall verify that all ACM and residual debris have been removed from the work area. If, during the course of the presealant inspection, the Asbestos Abatement Project Monitor identifies residual dust or debris, the AAC shall comply with the request of the Asbestos Abatement Project Monitor, in order to render the area is free of visible residue.

4. Final Visual Inspection: Following receipt of acceptable reoccupancy air monitoring results and concurrent with removal of the work area containment, the Asbestos Abatement Project Monitor shall conduct a final visual inspection. If residual dust or debris is identified during the course of the final inspection, the AAC shall comply with the request of the Asbestos Abatement Project Monitor, in order to render the area free of visible residue.

CAPITAL STUDIO ARCHITECTS

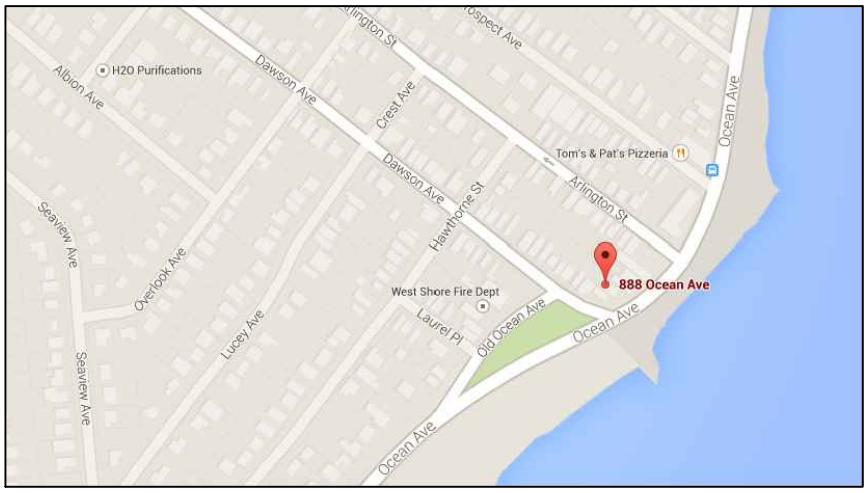
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

EAGLE PROJECT NUMBER: 14-028.12T28

INDEX OF DRAWINGS

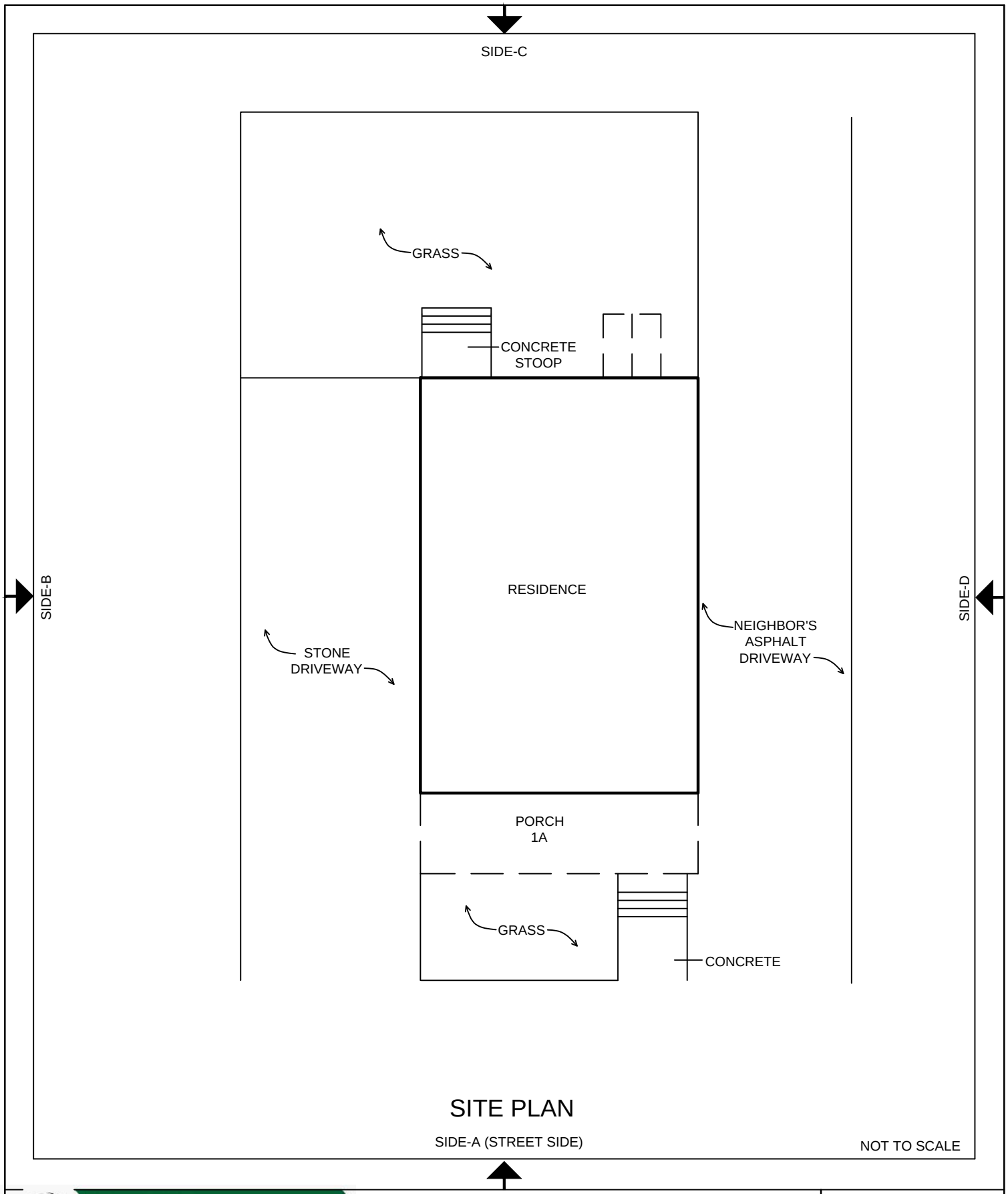
SP-1 SITE PLAN
FP-1 BASEMENT PLAN
FP-2 FIRST FLOOR PLAN
FP-3 SECOND FLOOR PLAN

LOCATION MAP



AUGUST 25, 2015

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257



SITE PLAN

NOT TO SCALE

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.

SP-1

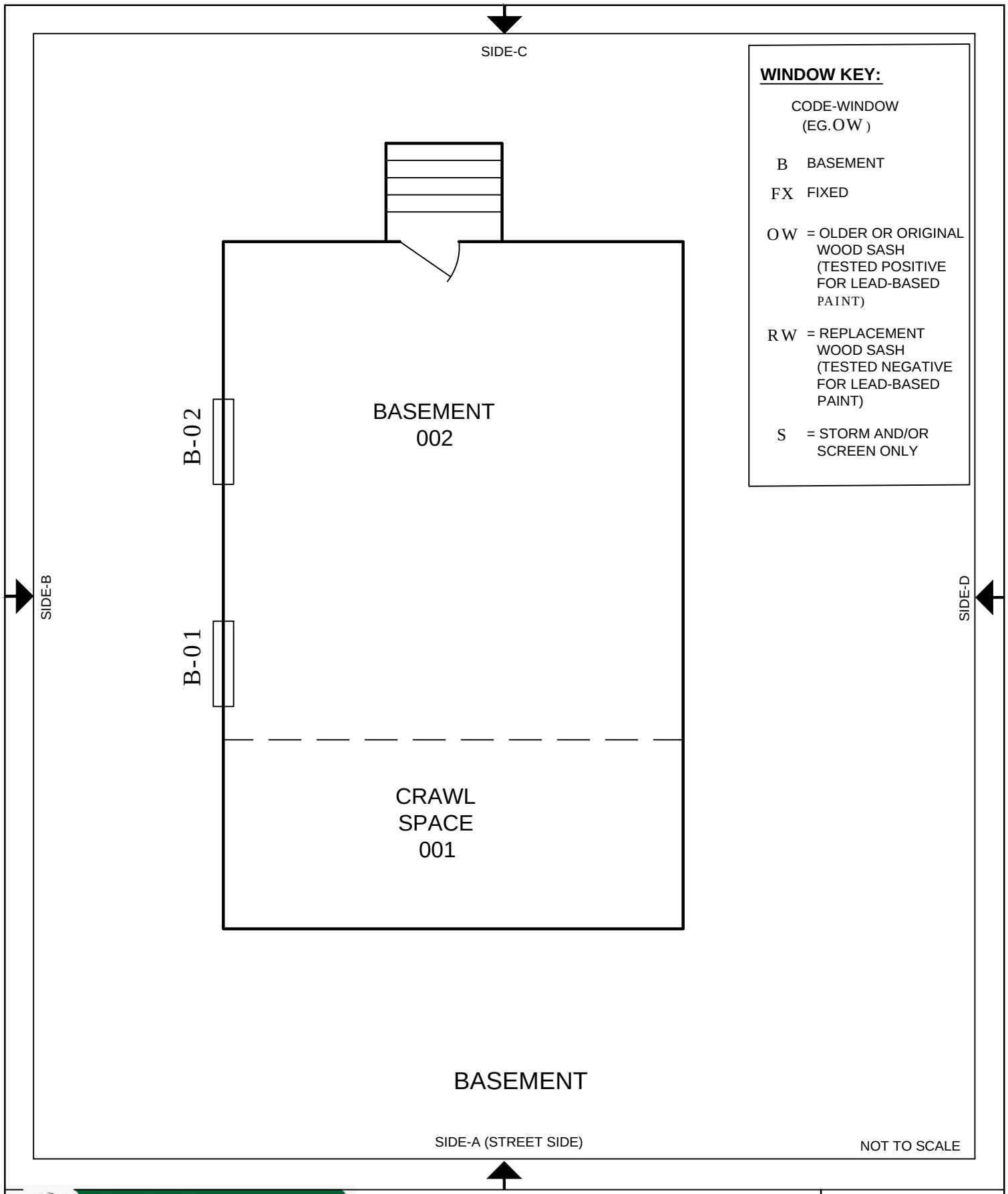
SHEET 1 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

ASBESTOS ABATEMENT
020800-21



EAGLE Environmental, Inc.

8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.

FP-1

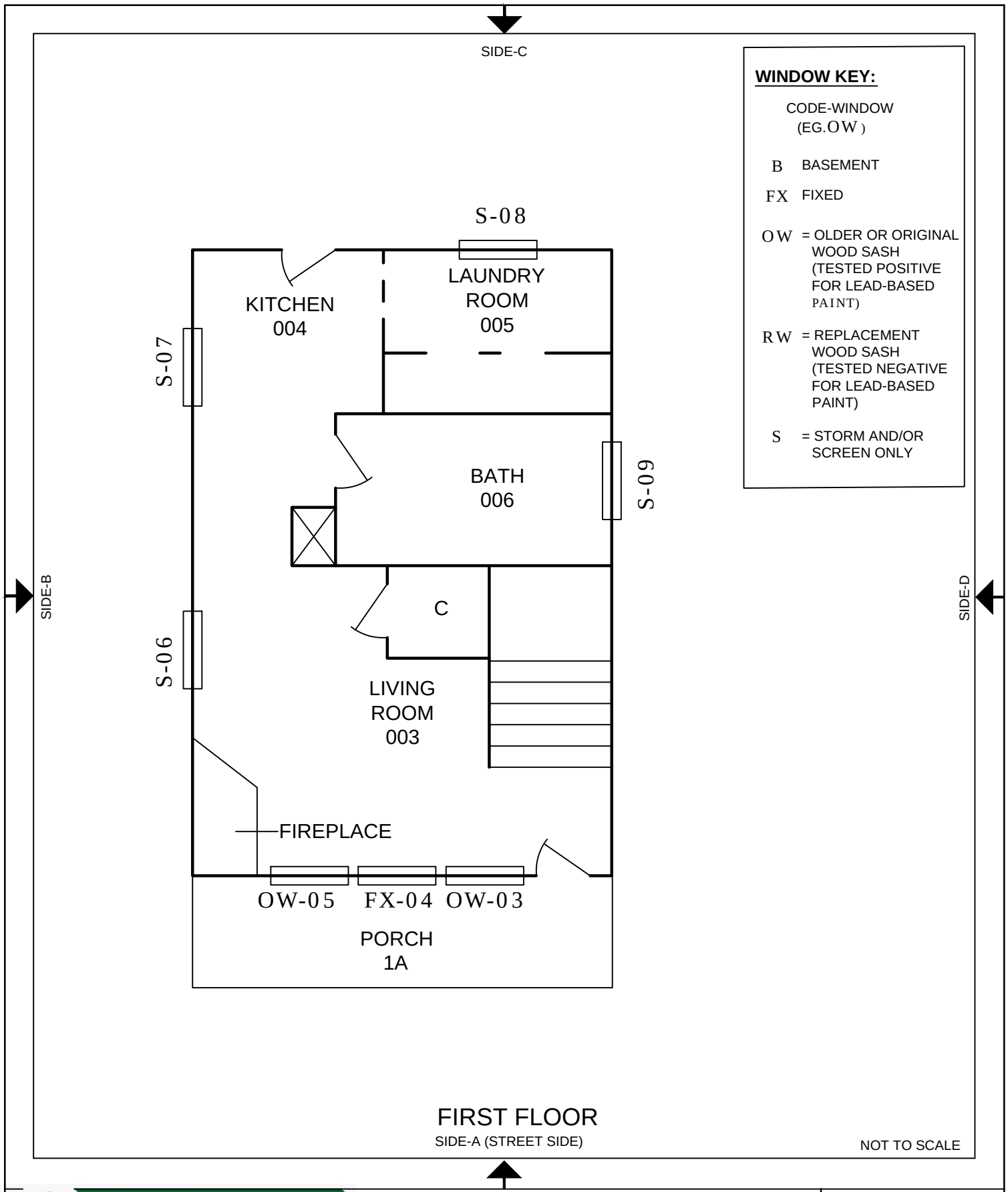
SHEET 2 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

ASBESTOS ABATEMENT
020800-22



EAGLE Environmental, Inc.

8 SOUTH MAIN STREET, SUITE 3
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860-589-8257

SHEET NO.

FP-2

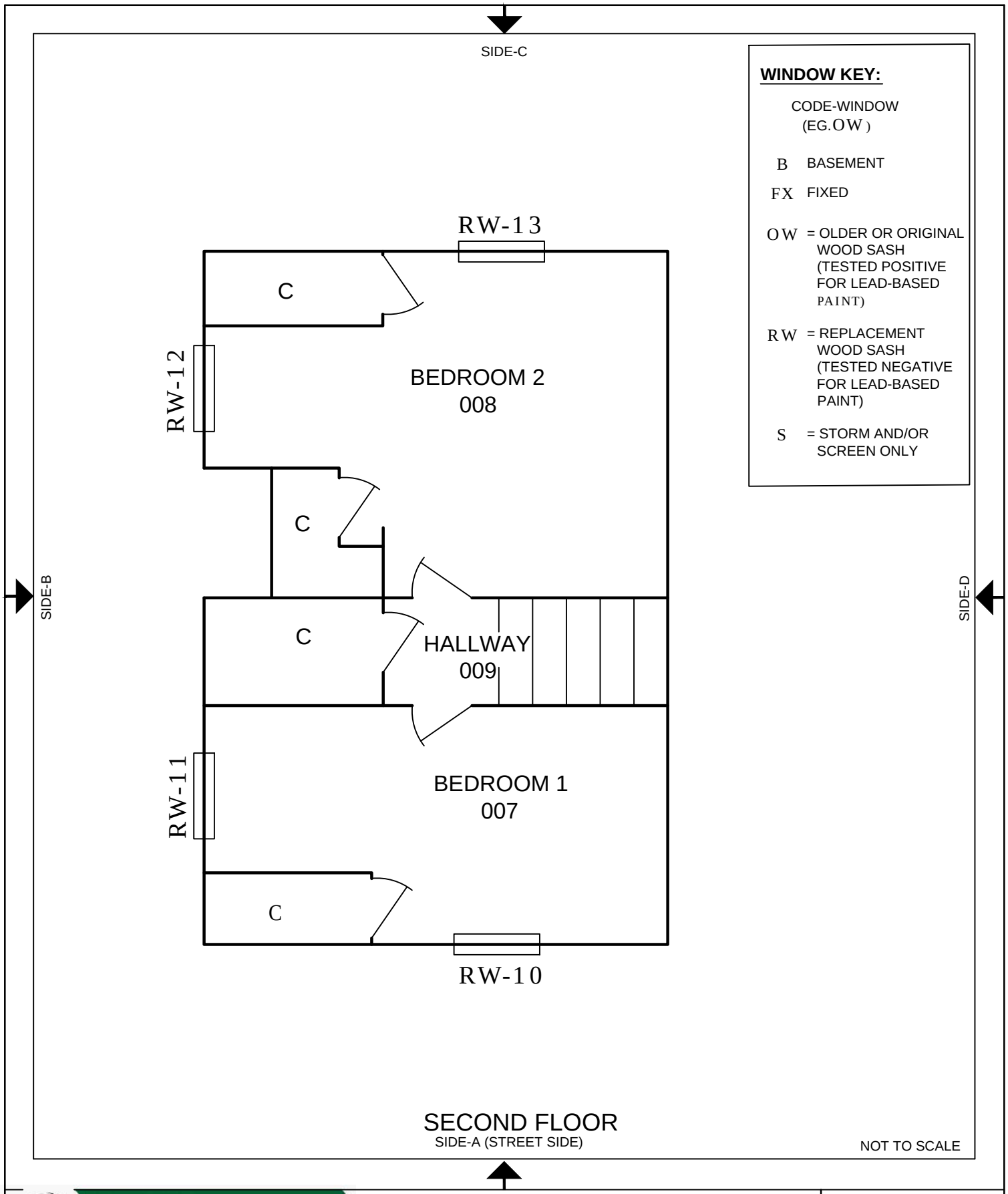
SHEET 3 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

ASBESTOS ABATEMENT
020800-23



EAGLE Environmental, Inc.

8 SOUTH MAIN STREET, SUITE 3
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860-589-8257

SHEET NO.

FP-3

SHEET 4 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

ASBESTOS ABATEMENT
020800-24

END OF SECTION

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SECTION 020900
LEAD-BASED PAINT ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General Supplementary Conditions and Division 1 Specifications Sections, of the Contract Documents apply to this Section.

B. Asbestos Abatement Plan.

C. Microbial Remediation Plan.

1.2 PROJECT DESCRIPTION

A. A lead-based paint abatement project is being undertaking at 888 Ocean Avenue in West Haven, Connecticut. The lead-based paint abatement work is being funded by a Community Development Block Grant (CDBG) under the Department of Housing Occupied Rehabilitation and Rebuilding Program (OORR).

B. The site building consists of a single family residential building. Notification to the Connecticut Commission on Culture & Tourism has been made by Capital Studio Architects to determine if the building is eligible for listing on the National Register of Historic Places and the results are pending.

C. A comprehensive lead-based paint inspection was performed on the interior and exterior of the dwelling. No children under six (6) years old resided in the dwelling at the time of inspection. Toxic levels of lead-based paint were identified on various components and surfaces. There are no known lead-based paint abatement orders on the inspected building.

D. Under federal regulation 24 CFR 35, Subpart J, Rehabilitation, for a property receiving greater than $25,000.00 per unit, all identified interior lead hazards are required to be abated and all exterior lead-based paint hazards may be remediated utilizing interim control (non-permanent) measures. Lead-based paint abatement will be performed throughout the interior of the dwelling units and interim controls will be used on the exteriors. All lead-based paint abatement work specified in the Scope of Work must be performed by a State of Connecticut licensed Lead Abatement Contractor. Interim control work may be performed by a USEPA certified Renovation, Repair and Painting (RRP) contractor.

E. All lead-based paint abatement and hazard control work shall be conducted in compliance with all Federal, State and local regulations. Specifically, work shall conform with The Department of Housing and Urban Development (HUD) Guidelines For the Control and Evaluation of Lead Based Paint in Housing, The United States Environmental Protection Agency (USEPA), The State of Connecticut Department of Public Health (DPH) Lead Poisoning Prevention and Control Regulations, The State of Connecticut Department of Environmental Protection (DEP) Hazardous Waste Disposal regulations and the Department of Labor Occupational Safety and Health Administration (OSHA) Lead in Construction Final Rule 29 CFR 1926.62.

F. The property owner is responsible for moving all items to the center of the room within areas where work is to be performed. They are also responsible for putting them back at the completion.

1.3 SCOPE OF WORK

A. The general scope of work entails the following:

1. Removal of the basement door and door header

2. Window replacement (limited)

3. Specialized cleaning

4. Any surface that was not defective at the time of inspection or was not intended to be disturbed by renovations must be assumed to contain toxic levels of lead-based paint. If any surfaces are disturbed or uncovered during the renovation project, they must be treated as lead-based paint and either abated or left in intact condition at the completion of the job.

SEE ATTACHED TABLE A FOR SCOPE OF WORK.

REPAIRS PRIOR TO LEAD HAZARD REDUCTION					
Item #	Location	Component	Side	Quantity	Repair
NONE					

1.4 SITE EXAMINATION

A. The Contractor shall visit the site and examine all structures located thereon. The specifications shall be compared with the existing field conditions. The Contractor will examine all parts of the existing structure to which new work will be connected, attached or applied, and notify Eagle Environmental of any conditions detrimental to the proper and timely completion of the work.

B. The Contractor shall, as a part of their bid, notify Eagle Environmental of any discrepancies, errors, or omissions that might have been discovered in the specifications for the purpose of making such corrections or adjustments as may be necessary. Unless specifically noted otherwise in the bid, any additional work by other trades or by the contractor that is required in order for the Contractor to finish the job will be assumed to be included in the bid price. If it should appear that any work called for in the specifications is not in accordance with State, local or federal laws or ordinances, the Contractor shall immediately notify Eagle Environmental.

1.5 LEAD PLANNER/PROJECT DESIGNER INFORMATION

A. Name of Planner/Project Designer: Kristen Liljehult
Certificate Number: 002153
Firm: Eagle Environmental, Inc.
Address: 8 South Main Street
City: Terryville State: Connecticut Zip: 06786
Telephone Number: (860) 589-8257

1.6 INSPECTION REPORT INFORMATION

A. Inspector Name: Kristen Liljehult
Title: Lead Inspector/Risk Assessor
Certificate Number: 002206
Firm Name: Eagle Environmental, Inc.
Firm License Number: 001723
Telephone Number: (860) 589-8257

1.7 OWNER INFORMATION

A. Name: Kenneth Hill
Address: 888 Ocean Avenue
City: West Haven State: Connecticut Zip: 06516
Home Telephone:

1.8 CONTRACTOR INFORMATION

A. Company Name: State of Connecticut licensed Lead Abatement Contractor
Contractor License Number: Not applicable at this time
Contact Person: Not applicable at this time
Address: Not applicable at this time
City: N/A State: N/A Zip: N/A
Telephone Number: N/A

1.9 APPLICABLE CODES

A. The Contractor shall be solely responsible for conducting this project and supervising all work in a manner which will be in conformance with all federal, state and local regulations and guidelines pertaining to lead paint abatement. Specifically, the Contractor shall comply with the requirements of the following:

1. Occupational Safety and Health Administration: OSHA

   a. 29 CFR 1910 General Industry Standards
   b. 29 CFR 1910.1025 Lead Standard for General Inventory
   c. 29 CFR 1910.134 Respiratory Protection
   d. 29 CFR 1910.1200 Hazard Communication
   e. 29 CFR 1910.245 Specifications for Accident Prevention (Sign and Tags)
   f. 29 CFR 1926.62 Construction Industry Standard

2. State of Connecticut Department of Energy and Environmental Protection: DEEP

   a. Connecticut DEEP Regulations (Section 22a-209-8(I) and Section 22a-220 of the Connecticut General Statutes)

3. State of Connecticut Department of Public Health: DPH

   a. 19a-111-1 thru 19a111-11 Lead Poisoning Prevention and Control Regulations.

4. USEPA

   a. 40 CFR 745.100 - .119 Final Rule
   b. 40 CFR Part 261 United States Environmental Protection Agency
   c. 40 CFR 745 Subpart E

5. Department of Housing and Urban Development: HUD

   a. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, dated June 1995.
   b. 24 CFR Part 35 Lead-Based Paint Poisoning in Certain Residential Structures.

1.10 FEES, PERMITS AND LICENSES

A. The Contractor shall comply with the provisions of all permits or applications required by the work specified, as well as make all submittals required under those auspices.

1.11 SEQUENCING AND SCHEDULING

A. The Contractor shall extend full cooperation to Owner in all matters involving the use of Owner's facilities. At no time shall the Contractor cause or allow to be caused conditions which may cause risk or hazard to the general public or conditions that might impair safe use of the facility. The Contractor shall provide electricity, water and portable sanitary facilities for this project.

B. The Contractor shall submit a time-line schedule, not date specific, to Owner and Consultant for integration into the overall project schedule. Coordinate the work of this section with the needs of the Owner. Phasing and scheduling of this project will be at the discretion of the Owner and shall not proceed in any area without the express consent of the Owner. The Contractor shall be available within 24 hours' notice for additional work or rework, if after acceptance of the work, it is found that full abatement was not achieved from the initial work effort as determined by the Owner.

C. The proposed time line for the work in this Section, as noted above, shall show the time involved from start to finish of abatement operations, including preparation, removal, clean-up, and tear-down portions of the job.

D. A final written schedule shall be prepared for approval by the Owner and the Consultant.

E. The Contractor shall complete all work in a unit prior to proceeding to the next unit.

1.12 SUBMITTALS

A. USEPA RRP Firm certification

B. Lead Abatement Contractors License

C. Original and most recent certificate for lead abatement workers/supervisor trainings

D. Current license for lead abatement workers/supervisors

E. Medicals for all lead abatement workers/supervisors on the job site

F. Fit tests for all lead abatement workers/supervisors on the job site

G. The last four (4) digits of each lead abatement worker/supervisor's social security number

1.13 BUILDING OCCUPANCY

A. The homeowners are not currently occupying the dwelling due to the conditions. The homeowners are not to re-occupy the dwelling until after lead clearance has been met.

1.14 NOTIFICATION TO CONNECTICUT COMMISSION ON CULTURE & TOURISM

A. Notification to the Connecticut Commission on Culture & Tourism has been made and the results are pending.

1.15 NOTIFICATIONS

A. For RRP work, notifications shall include the following:

1. The Contractor shall provide written notification to the Architect's representative a minimum of five (5) days prior to work at the site.

2. The Owner shall notify the tenants a minimum of five (5) days prior to any lead renovation work.

3. The Contractor is required to comply with the following information distribution requirements. No more than 60 days before beginning renovation activities in any residential dwelling unit of target housing, the firm performing the renovation must:

4. Provide the owner or adult occupant of each unit the pamphlet titled Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools and comply with one of the following:

5. Obtain, from the owner, a written acknowledgement that the owner has received the pamphlet (Each Unit).

6. Obtain a certificate of mailing at least 7 days prior to the renovation.

7. If the Contractor is unsuccessful in obtaining written acknowledgement from an adult occupant, certify in writing that the pamphlet has been delivered to the dwelling. The certification must include the date and method of delivery of the pamphlet, names of the persons delivering the pamphlet, reason for lack of acknowledgement, signature of the representative of the Contractor performing the lead renovation work and the date of signature.

8. The Contractor shall have an adult occupant sign the Pre-Renovation Disclosure Form. A signed copy of the disclosure form shall be submitted to Architect's representative with the notice of the start date.

B. For lead-based paint abatement work, notifications shall include the following:

1. The Lead Abatement Contractor shall notify the Local Health Department a minimum of five days prior to the commencement of abatement activities. The notification shall be made in writing and copies shall be sent to the Owner and Eagle Environmental, Inc.

2. The Owner shall notify the tenants a minimum of five (5) days prior to abatement work.

3. The Owner shall provide a notice to occupants no more than fifteen (15) calendar days after the hazard reduction activities have been completed. Notice of hazard reduction shall include, but not be limited to:
   a. A summary of the nature, scope and results (including clearance results) of hazard reduction activities.
   b. A contact name, address and telephone for more information.

c. Available information on the location of any remaining lead-based paint in the rooms, spaces or areas where hazard reduction activities were conducted on a surface by surface basis.

1.16 EPA RENOVATE, REPAIR AND REPAINTING RULE

A. The Contractor must apply, pay the fee and become an EPA Certified RRP firm.

B. The Contractor must ensure that that all renovators working in target housing and child occupied facilities, common areas or exteriors are EPA certified renovators or trained by a certified EPA renovator. Renovators can become certified by successfully attending an Eight (8) hour RRP EPA accredited training course.

C. The Contractor must provide all tenants with a copy of EPA's Renovate Right: *Important Lead Hazard Information for Families*, Child Care Providers and Schools pamphlet no earlier than sixty (60) days prior to the date renovation activities are to be performed.

D. The Contractor shall have an adult occupant sign the Pre-Renovation Disclosure Form. A signed copy of the disclosure form shall be submitted to the Architect's representative with written notice within five days of the commencement of the work.

E. The Contractor shall review the testing results and become familiar with the locations of lead-based paint within the scope of the tested areas. The Contractor must assume that all untested painted surfaces are lead-based paint unless inspected by a licensed lead inspector/risk assessor or tested with an EPA approved lead testing kit and proven otherwise.

F. The Contractor is required to ensure renovators minimize lead paint/dust exposure by performing activities in a lead safe manner See Sections 3.1 through 3.4 in this document for requirements, including posting of lead warning signs in plain view of the occupants.

G. The Contractor shall ensure all sub-contractors performing renovation activities on assumed lead-based paint above the EPA de minimus level are EPA RRP certified firms and employees are EPA certified renovators or trained by a certified EPA RRP renovator. The Contractor shall document the firm's and renovator's certification numbers.

H. The Contractor shall provide documentation to include:

1. The Contractor's EPA RRP Firm Certification Number.

2. The Contractor's EPA RRP Renovator's Certification Number.

3. Documentation that all other non-certified employees have been trained on RRP practices by an EPA RRP Certified Renovator.

4. The Contractor is required to keep all documents for a minimum of three (3) years.

1.17 INSURANCE

A. The contractors shall carry per General Conditions the following insurances:

1. Workman's Compensation

2. Lead Abatement Liability Insurance

3. Manufacturer's and Contractor's Liability Insurance

1.18 CONTRACT ASSIGNMENT

A. The contractor shall not assign this contract without written consent of the Program's representative. A request for written consent shall be approved by DOH. Eagle Environmental, Inc. must be informed prior to the assignment of this contract.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.

B. Damaged or deteriorating materials shall not be used and shall be removed from the premises.

C. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 6 mil.

D. Polyethylene disposable bags shall be six (6) mil. Tie wraps for bags shall be plastic, five (5) inches long (minimum), pointed and looped to secure filled plastic bags.

E. Tape or adhesive spray will be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions.

F. Impermeable containers are to be used to receive and retain any lead containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with EPA and DOT standards.)

G. HEPA filtered exhaust systems shall be used during any dust generating deleading operations.

H. For manual scraping activities, Contractor shall supply each worker with multiple newly sharpened scrapers on a daily basis.

I. Sanders, grinders, wire brushes and needle gun removal equipment shall be equipped with a HEPA filtered vacuum dust pick-up system.

J. Other materials such as lumber, nails and hardware necessary to construct and dismantle the decontamination enclosures and the barriers that isolate the work area shall be provided as appropriate for the work.

K. Machine Sanding Equipment - Sanders shall be of the dual action, rotary action, orbital or straight line system type, fitted with a high efficiency particulate air (HEPA) dust collection system.

L. Air compressors utilized to operate this equipment shall be designed to continuously provide 90 to 100 psi or as recommended by the manufacturer.

M. Heat Blower Gun Equipment: Any electric operated heat-blower gun used shall be a flameless electrical-paint-softener type. Heat-blower shall have electronically controlled temperature settings to allow usage below a temperature of 700 degrees Fahrenheit.

N. Liquid encapsulants used on this project shall be an approved encapsulant by the State of Connecticut Department of Public Health.

O. Paints and primers shall contain less than 0.06% lead in wet film.

2.2 REPLACEMENT AND COVERING MATERIALS

A. Refer to the architect's specifications for replacement materials. When provided, the architect's specifications shall supersede the replacement materials in this section.

B. Unless stated otherwise, all replacement materials/products, shall meet the minimum code requirements for such applications.

C. All materials shall have Energy Star ratings where applicable.

D. Paints and primers must be less than or equal to the following VOC levels: Flats 50 g/L; non-flats 50 g/L; floor paint 100 g/L. Grams per Liter (g/L) levels are based on a combination of the Master Painters Institute (MPI) and Green Seal standards.

E. All caulks, sealants and adhesives must comply with Rule 1168 of the South Coast Air Quality Management District. All caulks, sealants must comply with regulation8, rule 51 of the Bay Area Quality Management District.

F. Unless stated otherwise, replacement windows, doors and other materials and products shall be of equal or better quality of those specified in this Lead-Based Paint Hazard Control Plan.

G. Exterior Entrance Doors

1. Unless otherwise noted, new exterior doors must be 1 ¾" thick 24 gauge thermally broken galvanized and bonderized steel insulated core doors, with an adjustable sill, magnetic weather stripping, and 1 ½ pair 3 ½ x 3 ½ loose pin butt hinges, use Thermo-Tru Steel Foam Core Insulated Exterior Doors or approved equal.

2. Install single cylinder deadbolt plus passage set as manufactured by Schlage or equivalent. Provide owner with 2 keys for each lock.

3. Door shall be accurately cut and fitted to frames and must operate freely without binding. Insulate between doorjambs and rough opening with spun fiberglass prior to trimming the interior of the door.

H. Storm Doors

1. Existing storm/screen doors are to be re-hung or replaced with similar units. If re-hung, they must be fully operational.

I. Interior Doors

1. Unless otherwise noted, install 1 3/8" hollow core luan door manufactured by Brosco or equivalent.

2. If a hollow core door doesn't meet building and/or CT Fire Safety Code, install a door to meet code.

3. Shim doors plumb, level and square. New doors shall be installed in pine jambs with 1 pair

of 3" loose pin butt hinges. Fasten doors to rough framing through shims with 10-penny finish nails. Trim out both sides of new doors with finger jointed casings to match existing. Glue miters before fastening trim to jamb and wall. Fasten trim to walls with 6-penny finish nails and to jambs with 4-penny nails. Set heads of nails below surface of wood and fill with putty. Install passage set as manufactured by Schlage, Kwikset, Harlock or approved equal.

J. Wood Replacement Windows - Historic

1. Furnish and install new wooden sashes with full screens. Contractor must measure the bevel of the sill if it is different from 14 degrees. The bevel must be custom specified to manufacturer. Sashes shall have insulated double-glazing with non-corroding fiberglass screens in aluminum frames. Windows must have tilt in sashes, Low E glazing, and must comply with Emergency Escape requirement of the building code for all bedrooms. Grid pattern must match prior windows being replaced.

2. Windows shall be manufactured by Harvey, Weathershield, Marvin or equivalent. Submit for approval prior to ordering. Windows shall be installed in accordance with the manufacturer's recommendations.

3. Frames and sash shall be properly adjusted for tight closure and easy operation. Frames shall be thoroughly sealed at the interfaces with the walls prior to completion of finish work. Screw in and caulk edges to seal. Install jamb liners. Cut aluminum coil stock or vinyl to fit the window well.

4. Remove sashes from opening; disconnect weights and pullys from lower sash and salvage. Then scrape window glazing compound and remove glazing points and glass, use a mild paint removal product and conditioner for wood. Install glass panes and glazing with points as well as pully and weight system. Jamb liners and aluminum coil stock shall be installed in opening then window sashes. Window sashes shall not be installed until XRF testing is performed.

K. Vinyl Replacement Windows

1. Furnish and install new rigid vinyl replacement windows with 5/8" Low E double-pane insulating glass and non-corroding half-height lockable fiberglass screens in aluminum frames. Windows must have tilt in sashes, welded frames, cam and sash locks, and must comply with Emergency Escape requirement of the building code for all bedrooms.

2. Windows shall be manufactured by Harvey (Classic Series), Viking, Mercury-Excellum, NorthEast (DH 100) or equivalent. Windows shall be installed in accordance with the manufacturer's recommendations.

3. Frames and sash shall be properly adjusted for tight closure and easy operation. Frames shall be thoroughly sealed at the interfaces with the walls (inside & out) prior to completion of finish work.

L. Basement Vinyl Replacement Windows

1. Remove and discard as lead waste any leaded basement windows.

2. Furnish and install new vinyl replacement basement windows manufactured by Harvey, Viking, Mercury-Excellum or equivalent. Windows shall be installed in accordance with the manufacturer's recommendations.

M. Vinyl Siding

1. Siding shall be of first quality manufactured by Vipco, Certainteed, or equivalent. Color by Owner. Provide 50-year warranty. Apply Amocor XP38 fanfold insulation board or equivalent, following the manufacturer's instructions to enclose lead paint.

2. Replace lead-based paint containing components of attic vents or combination gable and soffit vents to meet ventilation requirements for roof and attic areas.

3. Install vinyl siding and aluminum or vinyl wrapped trim following manufacturer specifications.

N. Exterior Porch Flooring

1. Tongue & Groove flooring, if specified or requested as an Alternate, is to be 5/4" Fir or ¾" Mahogany. When Plywood is specified, materials to be ½" Exterior Grade Plywood.

2. Include edge moldings to cover any exposed leaded materials. Caulk all seams. Prime & paint using sand or other non-slip additive.

O. Interior Porch Flooring

1. When specified, material to be ¼" luan.

2. Include edge moldings to cover any exposed leaded materials. Caulk all seams.

P. Radiator Covers

1. Radiators must be restored to a sound substrate using high heat paint before the cover is installed.

2. Radiator covers must be removable (for example by unscrewing a bracket) in case repairs are necessary. The cover must be a professionally manufactured radiator cover or be made using metal grille mounted in a pine frame. Note that heat must be able to rise through the top as well. Plywood is not acceptable for use in radiator covers.

Q. Sheetrock and wood enclosure materials shall meet current code requirements for such products and specified applications.

R. Overhead Garage Doors

1. Furnish and install new overhead garage doors (number required to replace those removed) and any and all tracks, rails, springs, hardware, etc. to make operational. Hardware should include an outside handle and keyed lock for each door installed. The doors must be three-layer pressure bonded construction (steel + insulation + steel) construction. Standard Colors – Owner to choose any standard color available from Manufacturer. Warranty must be a minimum of 20 years from Manufacturer.

2. Manufacturer to be Clopay or equal and meet Clopay's Premimum Series specifications or equal. No automatic openers are to be included. If, however, the existing Overhead door units being replaced have automatic openers, contractor to reuse and make operable or replace with new unit(s).

3. Submittal of Manufacturers catalog cuts with all pertinent information, including warranty information, to be submitted to Waterbury Health Department and Owner for approval prior to placing order.

PART 3 - EXECUTION

3.1 WORKER HYGIENE PRACTICES

A. Workers shall don protective gear prior to entering work area including respirators, disposable coveralls, and footwear. No street clothes shall be permitted to be worn under protective clothing. The Contractor shall provide a clean area for workers to store street clothes and personal belongings.

B. Eye protection, head protection, and ear protection shall be provided to each worker.

C. While leaving respirators on, workers shall remove all gross contamination, debris, and dust from disposable coveralls and remove coveralls and footwear and place in hazardous waste disposal bag prior to leaving work area.

D. The Contractor shall establish a wash station in close proximity to the work area where workers shall decontaminate their person. The wash station shall be supplied with warm water and soap and an ample supply of drying towels. Wash water shall be tested for proper disposal.

E. All equipment used by workers inside the work area shall be wet wiped or bagged for later decontamination before removal from work area.

F. The Contractor is responsible for using safe procedures to avoid electrical hazards. All temporary electrical wiring will be protected by GFIs.

3.2 WORK AREA PREPARATION

A. Interior

1. The tenants are responsible for packing all personal items for removal out of proposed abatement area(s). The Lead Abatement Contractor shall move the personal belongings to an easily accessible area to maintain tenant access to their belongings.

2. The Lead Abatement Contractor shall conduct pre-cleaning activities including HEPA vacuuming floors and horizontal surfaces in the proposed work area.

3. The Lead Abatement Contractor shall remove all moveable objects from the proposed work area.

4. The Lead Abatement Contractor shall cover all non-moveable objects with a single layer of six (6)-mil polyethylene sheeting.

5. The Lead Abatement Contractor shall cover the floors with two (2) layers of six (6)-mil polyethylene sheeting.

6. The Lead Abatement Contractor shall cover ducts, diffusers, exhausts, windows, door openings or other penetrations with a single layer of six (6)-mil polyethylene sheeting.

7. The Lead Abatement Contractor shall post lead warning signs at all ingresses to the work area.

8. The Lead Abatement Contractor shall establish a worker decontamination facility adjacent to the work area(s). The decontamination facility shall be equipped with warm running water, soap, and drying towels.

9. The Lead Abatement Contractor may elect to construct mini-enclosures around the interiors of the windows or components scheduled for abatement. If mini-enclosures are not constructed, the entire room shall be treated as the work area and must be cleaned in accordance with this Specification.

10. Install six (6)-mil critical barriers over the interior of window openings if window will be removed from the exterior of the building.

B. Exterior

1. Cover all shrubbery, plantings, stoops, etc. with opaque tarps, which will prevent damage or burning from the sun.

2. Regulate the exterior work area with lead-warning tape. The lead warning tape shall extend around the perimeter of the work area creating a minimum of a ten (10)-foot buffer zone between abatement operations and the warning tape.

3. Post lead-abatement warning signs at conspicuous areas around the perimeter of the abatement area. Unauthorized personnel shall be prohibited from entering the abatement area.

4. Utilize six (6)-mil polyethylene sheeting on the ground and/or porch floors. The sheeting shall extend a minimum of ten (10) feet from the foundation of the building. Sheeting shall be secured to the foundation utilizing duct tape.

5. The edges of the sheeting shall be weighted to avoid blowing or lifting.

3.3 LEAD ABATEMENT PROCEDURES

A. Window Removal and Replacement Procedures

1. The Contractor shall conduct work area abatement preparation as specified in Sections 3.1 and 3.2 prior to conducting abatement activities.

2. The Contractor shall HEPA vacuum any loose or flaking paint from the component prior to removing the component.

3. The Contractor shall manually remove the window sashes in the following sequence:

   a. Remove exterior window screens/storms where necessary and recycle
   b. Remove interior window stops
   c. Remove inner sash by cutting sash cords
   d. Remove wood parting beads
   e. Remove outer sash by cutting sash cords

4. Stabilize all loose paint on window jambs, wells and exterior sills. HEPA vacuum window jambs, wells and exterior sills.

5. Prior to installation of new vinyl windows, the Lead Abatement Contractor shall label the components containing lead-based paint with the warning “Danger: Lead-Based Paint” in permanent ink behind the enclosure.

6. The Lead Hazard Reduction Contractor shall Remove window sash weights from cavities and insulate the entire cavity of the window jambs and header with insulation prior to or after window installation. If the Lead Abatement Contractor chooses to use a spray foam insulation, the MSDS must be provided to the Program’s consultant for approval prior to use.

7. Exterior blind window stops shall abut the new vinyl window. Exterior blind window stops shall be liquid encapsulated or enclosed with aluminum coil stock depending on the scope of work. Re-use interior stops. Replace at Contractor’s cost broken or un-useable interior stops.

8. The Lead Abatement Contractor shall immediately place components into appropriate waste container. All components containing LBP that were removed during the abatement project shall be assumed to be hazardous waste until analytical results of the TCLP test are received. Metal components shall be recycled at an approved recycling facility.

B. Door Removal and Replacement Procedures

1. The Lead Abatement Contractor shall conduct work area abatement preparation as specified in Sections 3.1 and 3.2 prior to conducting abatement activities.

2. Where doors are to be replaced, remove the door from the hinges and remove the hinges from the jamb. Avoid damaging the existing jamb if it is to remain.

3. Reinstall the new door, hinges and appropriate hardware. Ensure the door is plumb and open and closes smoothly.

4. All doors shall be accurately cut and fitted to frames and must operate freely without binding.

5. Entry doors shall be insulated between the door jambs and rough opening with spun fiberglass prior to trimming the interior of the door.

6. Where door systems are to be replaced with pre-hung doors, remove the door, casing if necessary and avoid damage, then remove the door stop and door jamb.

7. Reinstall new pre-hung system, level and plumb. The door should open and close smoothly.

8. Re-install the door casing if removed. If the door casing was damaged during removal, install a new door casing to match existing trim.

C. Enclosure Procedures

1. The Lead Abatement Contractor shall conduct work area abatement preparation as specified in Sections 3.1 and 3.2 prior to conducting abatement activities.

2. The Lead Abatement Contractor shall stabilize all loose paint on components prior to enclosure.

3. The Lead Abatement Contractor shall label the components containing lead-based paint with the warning “Danger: Lead-Based Paint” in permanent ink behind the enclosure.

4. The Lead Abatement Contractor shall utilize materials that will provide a permanent enclosure designed to be effective for twenty (20) years.

5. Aluminum coil stock enclosures shall be fastened with manufacturer recommended materials. All seams shall be caulked with compatible non-asbestos caulk.

6. Rigid enclosure materials such as paneling, sheetrock and plywood shall be mechanically fastened in conjunction with a non-asbestos compatible adhesive. All seams shall be caulked and or compounded with a compatible non-asbestos material.

D. Liquid Encapsulation Procedures

1. The Lead Abatement Contractor shall conduct work area abatement preparation as specified in Sections 3.1 and 3.2 prior to conducting abatement activities.

2. HEPA vacuum and wet scrape all loose and flaking paint from each component to be encapsulated. The surface shall be rendered intact prior to de-glossing activities.

3. Clean each component to be encapsulated. Cleaning solutions shall be compatible to the liquid encapsulant that will be applied. Ensure that encapsulants are not applied over dirt, grease, mildew, rust, oil or chalk. Measures shall be taken to remove dirt, grease, mildew, rust, oil or chalk prior to encapsulation.

4. De-gloss each surface prior to encapsulation in accordance with the manufacturer's recommended procedures for de-glossing.

5. Conduct patch tests on each type of architectural component to be encapsulated. Where feasible, the size of the patch test shall be a minimum of fifteen (15) inches by fifteen (15) inches on each component. The surface shall be rendered intact, cleaned and de-glossed prior to performing the patch test. The encapsulant shall be allowed to dry and cure as required by manufacturer specifications.

6. Cut an “X” into the center of the patch test area ensuring that the cut goes entirely through the encapsulant to the substrate. Each cut shall be a minimum of two (2) inches long. Use the cutting tool to lift the encapsulant from the substrate at the intersection of the cutting points. If greater than one-half (1/2) inch of encapsulant is removed, the patch test fails.

7. Failure of a patch test shall require a second patch test to be performed. The same procedures shall be followed for the second patch test.

8. Fill gouges, holes, gaps, or other imperfections or damage, which may result in failure of the encapsulant. The damaged areas shall be repaired with materials compatible to the encapsulant.

9. Encapsulants shall not be applied when the air temperature of the room where encapsulants are to be applied is below forty (40) degrees F or above ninety-five (95) degrees F. In addition, relative humidity is not to be above eighty-five (85) percent or the temperature of the target surface is above the dew point. Document temperature, relative humidity and the temperature of the target surface on a daily basis. Encapsulation procedures may not be conducted when the temperature, relative humidity or target surface temperature are not in compliance with this section or with the manufacturer's specification, whichever is more stringent.

10. All encapsulants shall be applied in accordance with the manufacturer's specifications, including but not limited to temperature requirements, humidity requirements, mil thickness requirements, number of coats, application methods, surface preparation requirements, dry time, cure time, and tinting.

11. Encapsulants used for this project shall be an encapsulant that has been approved by the State of Connecticut Department of Public Health for use in the State of Connecticut.

12. All lead-based painted components and surfaces that are liquid encapsulated shall be placed on a Lead-Based Paint Management Plan for continual surveillance.

E. Paint Stabilization Procedures

1. The Contractor shall conduct work area abatement preparation as specified in Sections 3.1 and 3.2 prior to conducting abatement activities.

2. Lightly mist the surface to be stabilized with water. Wet scrape the surface with a drag scraper or putty knife to remove the loose paint. Continuously mist during scraping. Do not dry scrape.

3. Feather paint edges as necessary to remove high spots in paint that may be subject to future peeling.

4. Remove all raised paint edges that may be present on surfaces or components.

5. Surface contaminants that prevent adhesion should be removed by cleaning with a five (5) percent trisodium phosphate (TSP) and water solution. These contaminants generally include dirt, grease, and soap films.

6. Once all loose paint is removed, clean the surface with a five (5) percent TSP and water solution.

7. Wet wipe the surface with clean water. Allow to dry, prime and repaint.

F. Paint Removal Procedure

1. Complete all necessary work area preparation in each area prior to commencing abatement in that area.

2. Conduct on-site paint removal utilizing one (1) of the following approved methods or combinations thereof:

   a. Heat gun (not to be operated over seven hundred (700) degrees F).
   b. Power equipment with attached HEPA dust collection device
   c. Chemical removal agent

3. Remove all layers of paint and or primers down to a bare substrate. The contractor is responsible for reducing lead levels below the toxic level on components where paint removal is specified.

4. Eagle Environmental, Inc. shall conduct on site XRF testing of abated components to determine completeness of paint removal. The component(s) shall not be considered completely abated until XRF measurements are below the toxic level as defined by State regulations.

G. Specialized Cleaning Procedures

1. Complete all necessary work area preparation in each area prior to commencing abatement in that area.

2. Follow the cleaning procedure described below for hard smooth or semi-porous surfaces:

   a. Conduct a thorough HEPA vacuuming of the surface.
   b. Wash the floor with a string mop equipped with wringer. Use a five (5) percent phosphate and water solution. Wring the mop into an empty bucket after each cleaning and before dipping the mop back into the cleaning solution.
   c. Conduct a clean rinse mopping on the floor.
   d. Conduct a second HEPA vacuuming of the surface.

3. Follow the cleaning procedure described below for area rugs:

   a. HEPA vacuum the top side of the rug for one (1) minute per ten (10) square feet.
   b. Fold the rug in half and HEPA vacuum the back side of the rug and underlying floor at a rate of one (1) minute per ten (10) square feet.
   c. Repeat Step 2 for the other half of the rug.
   d. Unfold the rug and HEPA vacuum the top at a rate of two (2) minutes per ten (10) square feet.

4. Follow the cleaning procedure described below for carpet:

   a. HEPA vacuum the carpet at a rate no faster than two (2) minutes per ten (10) square feet. Vacuum in a side-to-side motion.
   b. HEPA vacuum the carpet in the opposite direction at a rate no faster than 2 minutes per 10 square feet. Vacuum in a side-to-side motion.

H. Soil Abatement Procedures

1. Complete all necessary work area preparation in each area prior to commencing abatement in that area.

2. Where soil is to be covered, perform the following:

a. HEPA vacuum and or rake surface soil to remove loose paint chips.
b. Remove small and large debris through raking or manual pick-up.
c. Install rolled weed guard material where specified.
d. Install the following covering materials at the specified depths:

1) Bark Mulch – four (4) inch minimum depth.
2) Top Dressing Topsoil – two (2) inch minimum depth.
3) Gravel, Pea Stone, etc. – four (4) inch minimum depth.

3. Where soil is to be removed, perform the following:

a. Regulate work area around soil removal location(s).
b. Remove visible surface paint chips prior to soil removal.
c. Manually remove soil to specified depth. Lightly mist soil with water to reduce dust.
d. Place soil in appropriate waste container.
e. Apply replacement soil or materials as specified. Replacement soil must contain less than two hundred (200) mg/kg of lead.

4. Where ground cover is to be applied, perform the following:

a. Perform steps specified in 3.3 and/or 3.3.
b. Where grass seed is to be planted, utilize a K31 Fescue or equivalent hearty seed.
c. Prepare soil for planting by lightly raking and loosening soil.
d. Apply seed at manufacturer's recommended covering rate.
e. Cover with straw mulch and water.
f. Install temporary caution tape around planted areas.
g. Caution tape to be removed by Owner once grass is established.

3.4 CLEANING

A. Interior

1. The Contractor shall ensure that all tools and materials are adequately cleaned at the completion of each shift.

2. The Contractor shall remove all gross waste from the lead abatement area prior to conducting final cleaning operations. All waste shall be treated as hazardous until the analytical results from the TCLP tests are received.

3. The Contractor shall thoroughly HEPA vacuum all flat surfaces and components including polyethylene sheeting within and/or adjacent to the lead abatement work area.

4. The Contractor shall remove polyethylene sheeting from floors and non-moveable objects following the initial cleaning. Polyethylene sheeting shall be folded inwards from the corners and folded upon itself.

5. The following final cleaning shall be conducted following removal of polyethylene sheeting:

a. HEPA vacuum floors and horizontal surfaces.

b. Wet clean floors and horizontal surfaces with a five (5) percent phosphate solution
c. Conduct second HEPA vacuuming on floors and horizontal surfaces.
d. Wait twenty-four (24) hour for dust settlement period.
e. Repeat steps a, b and c.

3.5 FINISH WORK AND WORKMANSHIP

A. Refer to the project Architect's specifications for finish work and workmanship requirements.

3.6 DISPOSAL OF WASTE MATERIALS

A. The Contractor shall perform the following:

1. Assure that all waste is properly disposed of according to local, state and federal law and regulations and at the minimum practical cost.

2. All waste should be considered hazardous lead waste. The Contractor is responsible for proper disposal of all waste generated during the project.

3. All primary waste materials generated during lead hazard reduction, i.e. windows, doors, wood components, plaster, etc. shall be characterized for proper disposal utilizing the TCLP method. The cost associated with the TCLP sampling and analysis shall be the responsibility of the Contractor.

4. All secondary waste materials generated during lead hazard reduction, i.e. disposable clothing, polyethylene sheeting, waste water, etc., shall have confirmatory TCLP testing to determine waste characterization. This testing shall be performed and paid for by the Contractor.

5. The Lead Abatement Contractor shall comply with the requirements for small quantity generators (generates between one hundred (100) kg and one thousand (1000) kg of hazardous waste in a month or accumulates no more than one thousand (1000) kg of hazardous waste on-site at any one time and stores waste for no greater than ninety (90) days).

6. The Contractor shall ensure that all hazardous waste generated is sent off-site to permitted hazardous waste treatment, storage, or disposal facilities (TSDF).

7. The Contractor shall use DEEP permitted transporters for transport of hazardous waste.

8. The Contractor shall apply for a temporary EPA identification number, where applicable. Hazardous waste manifests must be utilized which bear this I.D. number.

9. The Contractor must comply with hazardous waste containerization requirements including but not limited to maintaining the containers in good condition, keeping containers closed and locked while in storage, properly labeling and dating containers, and using containers which are DEEP approved for over the road use.

10. The Contractor shall develop a written inspection schedule to inspect any containers of hazardous waste at least weekly.

11. The Contractor must designate an emergency coordinator who will be responsible for coordinating emergency response measures. Basic emergency information must be listed in writing, and posted next to the on-site telephone. This information must include the name and number of the emergency coordinator.

12. The Contractor must develop a written contingency plan for the site, which describe actions personnel will take in response to fires or other emergencies that may result in a release of hazardous waste constituents. The plan must meet certain content requirements and copies of the plan must be submitted to certain local emergency response officials.

13. The Contractor must provide written notification to local fire departments and/or police regarding the location, nature, and duration of the lead-removal project, and regarding the type and quantity of hazardous waste that may be stored at the site.

14. The Contractor must train their employees in hazardous waste management. They must maintain certain documentation regarding their training program, including the names, job titles, and job descriptions of the employees involved with hazardous waste management, a written description of the training that is given, and records documenting that employees have been trained. Annual updates of training must also be given.

15. The Contractor may not store hazardous waste on-site for greater than ninety (90) days without a TSDF permit.

16. Before leaving the site for the last time, the Contractor must remove any remaining hazardous waste and must decontaminate any equipment, storage areas, structures, soil, etc. contaminated as a result of the removal or storage of the hazardous waste generated at the site.

B. Contractor and Owner shall comply with the following:

1. Contractor agrees to assume responsibility of all waste. The homeowner will not participate with the waste disposal in any way.

3.7 POST RENOVATION/ABATEMENT CLEANING VERIFICATION

A. The Lead Abatement Contractor must perform a visual inspection to determine whether dust, debris or residue is still present. If present, the abatement area shall be re-cleaned following the specified cleaning procedures.

B. Contractor cleaning verification cloths will not be used for this project. Dust sampling by the Program's Consultant shall be performed in each interior area where lead-hazard reduction work was performed. This includes specialized cleaning procedures and window replacement procedures performed from the exterior of the building.

C. The following criteria must be met for final clearance dust wipe samples where renovation work is performed:

1. Floors: 40ug/ft²

2. Window Sills: 250ug/ft²

3. Window Wells: 400ug/ft²

D. Clearance dust wipe samples that fail shall be re-cleaned at the Contractor's expense until dust wipe sampling meets the applicable criteria.

3.8 RECORDKEEPING

A. The Contractor must retain and, if requested, make available to EPA all records necessary to demonstrate compliance with the RRP Rule for a period of 3 years following completion of the renovation.

B. The Contractor must retain the following records and provide a copy to Program's Consultant at the completion of the project:

1. Records or reports certifying that a determination had been made that lead-based paint was not present on components affected by the renovation including reports by a State of Connecticut licensed Lead Inspector, records by a Certified Renovator after using EPA-recognized test kits, including an identification of the manufacturer and model of any test kits used, a description of the components that were tested including their locations, and the results of each test kit used.

2. Signed and dated acknowledgement of receipt of notification dissemination of pamphlet.

3. Certifications of attempted delivery of pamphlet.

4. Certificates of mailing of pamphlet.

5. Records of notification activities performed regarding common area and child occupied facilities renovations.

6. Documentation of compliance that a certified renovator was assigned to the project, the certified renovator provided on-the-job training for workers used on the project, the certified renovator performed or directed worker who performed all the tasks, the certified renovator performed the post-renovation cleaning verification.

TABLE A
SCOPE OF WORK
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

Item #	Room	Component	Side	Quantity	Abatement Method
INTERIOR					
1	Basement (002)	Door, door header	C	1 Opening	Remove and dispose
2	Bedroom 1 (007)	Floor	-	All	Specialized cleaning
3	Hallway (009)	Closet door, door jamb	B	1 Opening	Replace with new pre-hung interior door system
EXTERIOR					
4	Facades	Double hung wood window systems	A	2 Openings	Replace with new vinyl window systems (homeowner has windows)
5		Fixed wood window sash	A	1 Opening	Replace with new vinyl window system

CAPITAL STUDIO ARCHITECTS

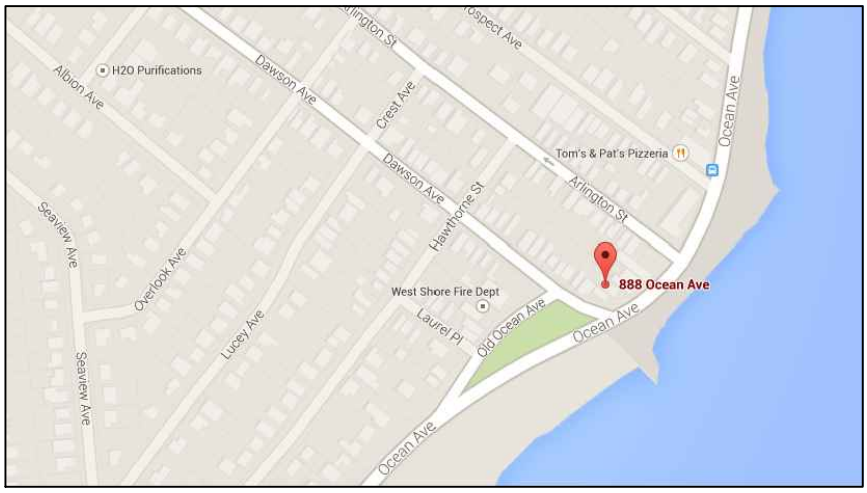
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

EAGLE PROJECT NUMBER: 14-028.12T28

INDEX OF DRAWINGS

SP-1 SITE PLAN
FP-1 BASEMENT PLAN
FP-2 FIRST FLOOR PLAN
FP-3 SECOND FLOOR PLAN

LOCATION MAP

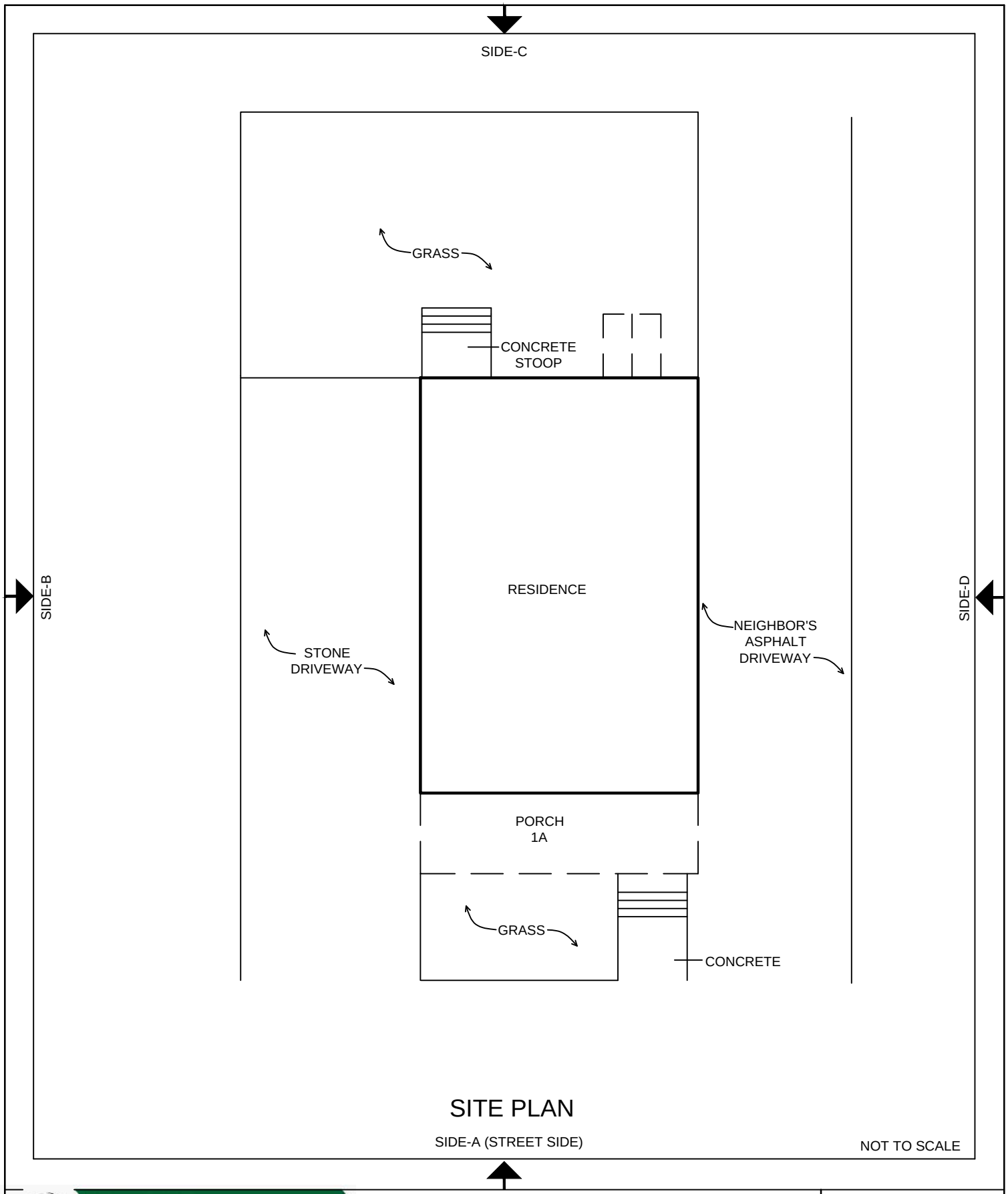


AUGUST 25, 2015

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

CSA Project No.
1347-43

LEAD-BASED PAINT ABATEMENT
020900-22



SITE PLAN

NOT TO SCALE

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.

SP-1

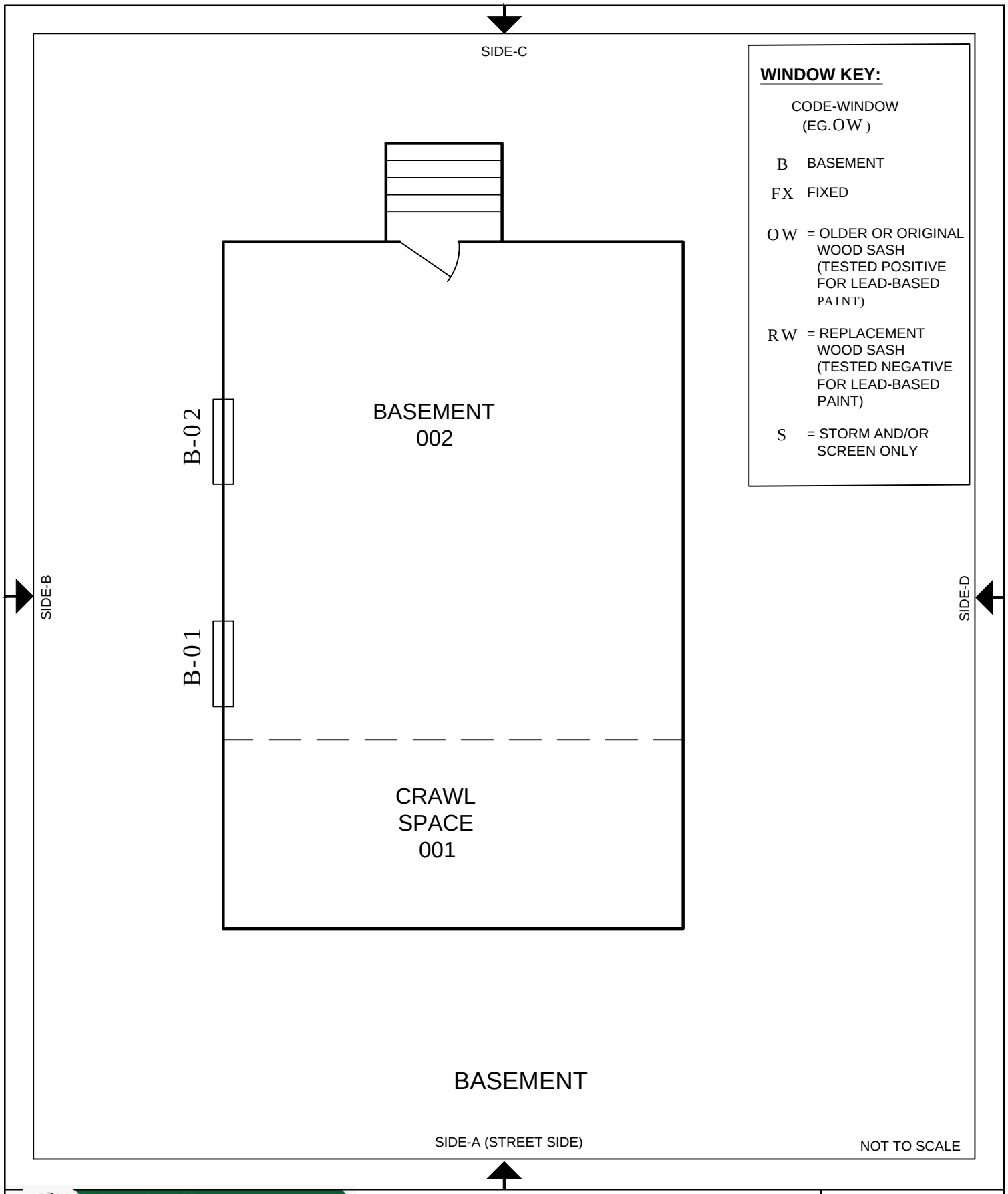
SHEET 1 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

LEAD-BASED PAINT ABATEMENT
020900-23



EAGLE Environmental, Inc.

8 SOUTH MAIN STREET, SUITE 3
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SHEET NO.

FP-1

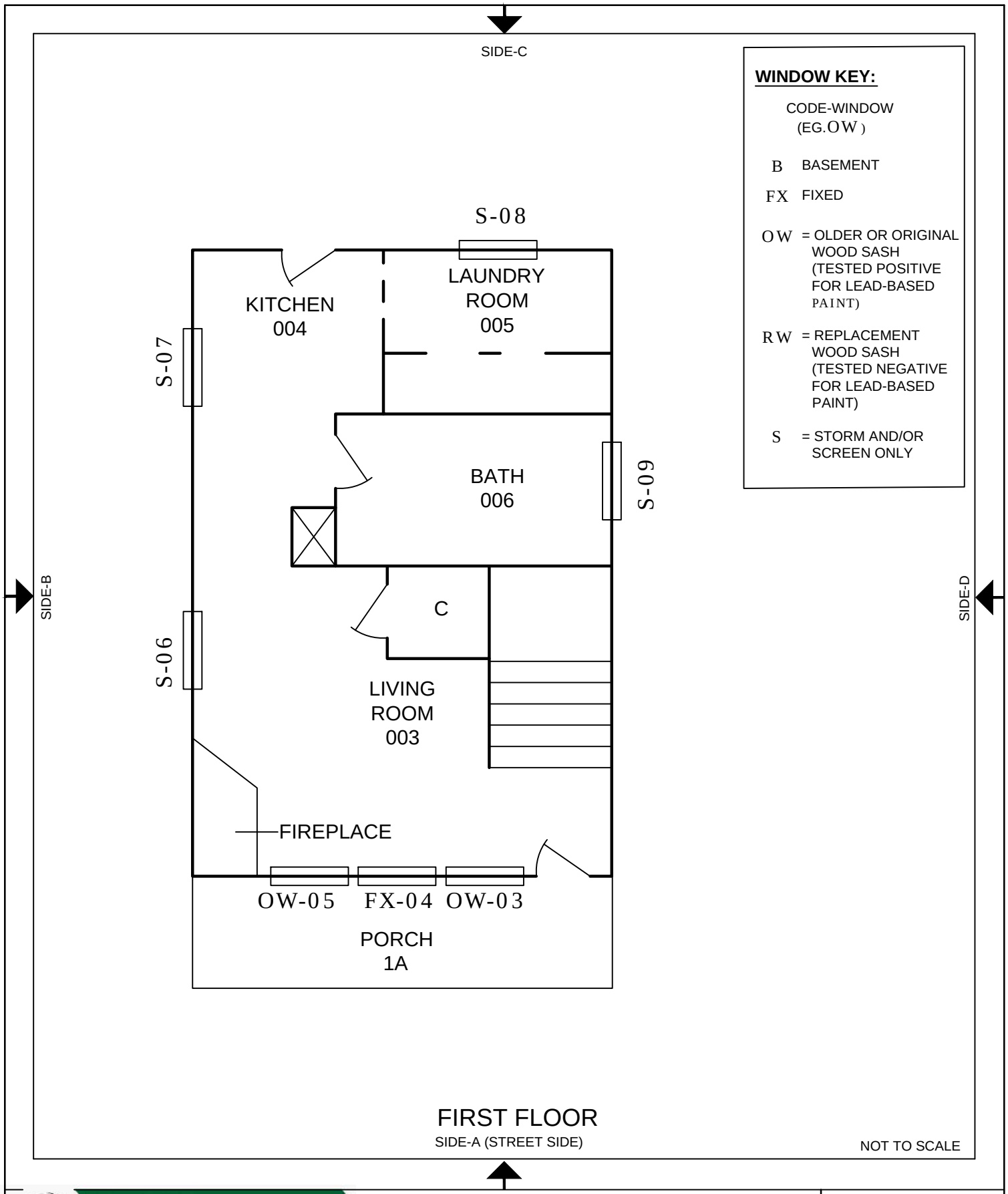
SHEET 2 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No.
1347-43

LEAD-BASED PAINT ABATEMENT
020900-24



WINDOW KEY:

CODE-WINDOW (EG. OW)

B BASEMENT

FX FIXED

OW = OLDER OR ORIGINAL WOOD SASH (TESTED POSITIVE FOR LEAD-BASED PAINT)

RW = REPLACEMENT WOOD SASH (TESTED NEGATIVE FOR LEAD-BASED PAINT)

S = STORM AND/OR SCREEN ONLY

FIRST FLOOR

SIDE-A (STREET SIDE)

NOT TO SCALE

EAGLE Environmental, Inc.

8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.

FP-2

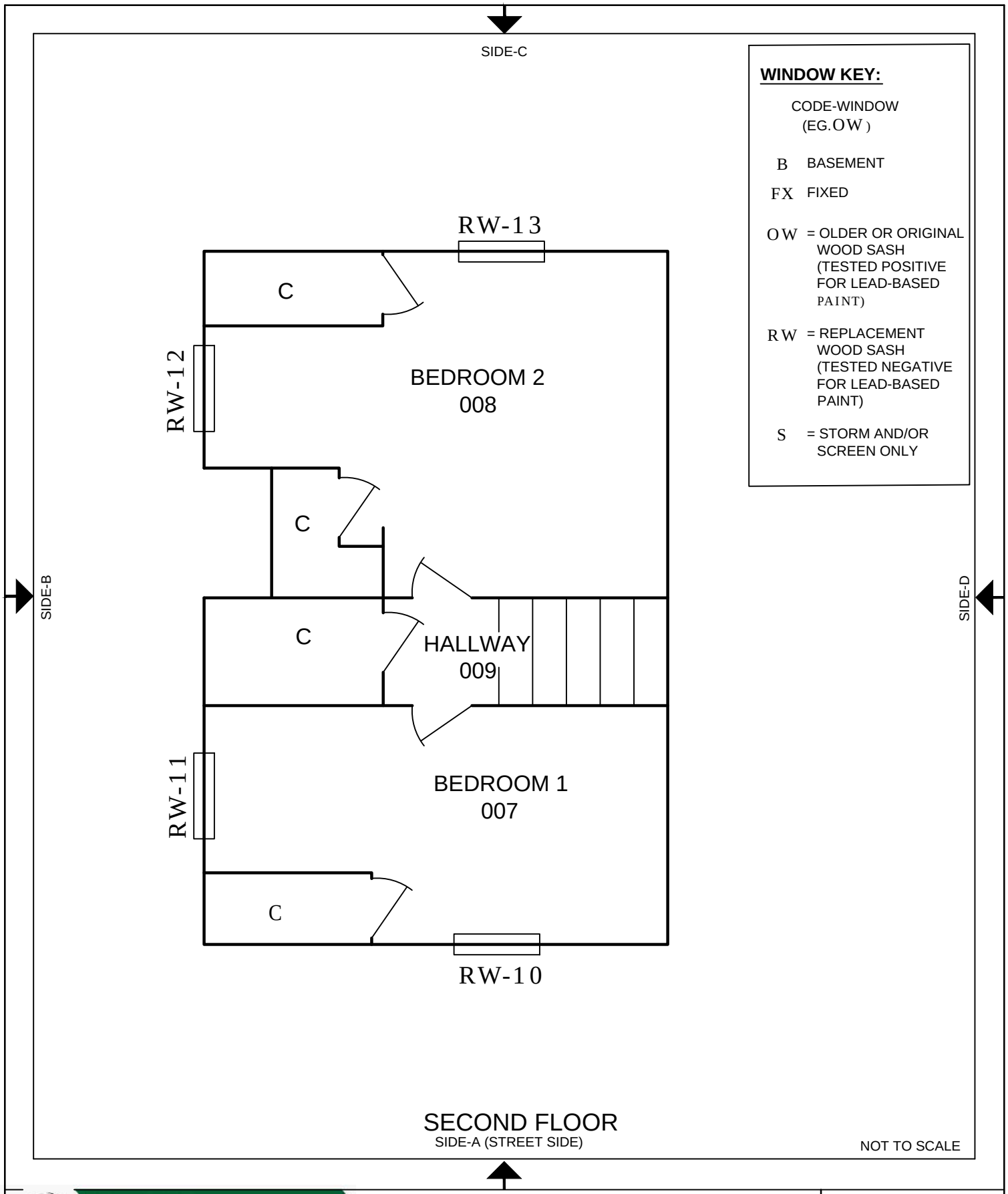
SHEET 3 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

LEAD-BASED PAINT ABATEMENT
020900-25



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SHEET NO.

FP-3

SHEET 4 OF 4

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ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No.
1347-43

LEAD-BASED PAINT ABATEMENT
020900-26

-END OF SECTION-

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SECTION 020920
MOLD AND WATER REMEDIATION

PART 1 GENERAL

1.1 BACKGROUND

A. A Mold and Moisture Assessment was conducted by Eagle Environmental, Inc. (Eagle) in the areas that had storm-related damage at 888 Ocean Avenue in West Haven, Connecticut. The Mold and Moisture Assessment was performed in response to water intrusion into the building during Storm Sandy (Event).

B. Mold and water remediation is being performed to repair specific areas of the structure impacted during the Event.

C. The work is being performed under the State of Connecticut Department of Housing Community Development Block Grant - Disaster Recovery Program (Program). Mold and moisture testing has identified materials that contain microbial growth and/or are holding high levels of moisture as a result of Storm Sandy. The work covered in this section includes the minimum procedures that shall be employed during the remediation of microbial and moisture impacted building materials.

D. Information obtained through the site visits was used as the basis for this mold and moisture remediation specification. The scope of work was developed from this information based on site condition at the time of the site visits.

1.2 GENERAL PROVISIONS

A. The work covered in this section includes the procedures that shall be employed during the remediation of mold and water impact at the Site.

B. The goal of this remediation is to clean and disinfect or remove and dispose of water and/or mold impacted materials from areas of proposed renovation or repair work at the Site and in conjunction with planned renovation and repair work.

C. The surfaces and/or areas requiring microbial and water remediation within the Living Room, Bedroom 1 and Bedroom 2 of the structure include the following:

1. Impacted gypsum and insulation in Living Room

2. Impacted insulation and wood walls and ceiling in Bedroom 1

3. Impacted wood walls and ceiling in Bedroom 2

1.3 RELATED DOCUMENTS

A. Drawings and General Provisions of the Owner Contractor Agreement and the General Conditions of the contract apply to this Section.

B. Architect's Plans and Specifications

C. Environmental Assessment Report Dated September 2, 2015

D. Environmental specifications for other environmental hazards that will be impacted to accomplish the renovation work.

1.4 PROJECT DESCRIPTION

A. Coordinate the work of this Specification with the General Contractor and the Owner and Eagle Environmental, Inc. (Architect's Representative).

B. The work to be performed by the Remediation Contractor includes:

1. Removal of impacted gypsum soffit in living room. Remove gypsum soffit from edge of front wall flush to far end of window S-06. Remove gypsum soffit on front wall from edge of wall over fire place flush to far end of window OW-05. Remove all insulation exposed during removal of gypsum. Disinfect all studs, framing and sheathing with antimicrobial cleaner. Dry studs, framing and sheathing to within two points of the "dry standard" determined by the Architect's Representative.

2. Removal of impacted gypsum ceiling in living room. Remove gypsum ceiling four feet from the exterior walls where gypsum soffit is removed. Remove all insulation exposed during removal of gypsum. Disinfect all studs, framing and sheathing with antimicrobial cleaner. Dry studs, framing and sheathing to within two points of the "dry standard" determined by the Architect's Representative.

3. Removal of impacted gypsum walls within living room. Remove gypsum wall board from edge of ceiling to floor following the limits of gypsum soffit removal. Remove all insulation exposed during removal of gypsum. Disinfect all studs, framing and sheathing with antimicrobial cleaner. Dry studs, framing and sheathing to within two points of the "dry standard" determined by the Architect's Representative.

4. Removal of impacted wood ceiling in Bedroom 1. Remove all wainscoting ceiling in front closet and four feet from exterior wall in main room. Remove wood wainscoting in its entirety on Wall B. Remove all insulation exposed during wainscoting removal. Disinfect all studs, framing, sheathing, flooring, wood trim components, etc. Dry all studs, framing and sheathing to within two points of the "dry standard" determined by the Architect's Representative.

5. Disinfect wood walls and ceiling in Bedroom 2. Disinfect all exposed studs, framing and sheathing, ceiling and wall wainscoting and disinfect with an anti-microbial cleaning agent.

6. All work shall be done in accordance with the recommendations of the Institute of Inspection, Cleaning, and Restoration Certification (IICRC) S-500, Standard and Reference Guide for Professional Water Damage Restoration – Third Edition, the IICRC S-520, Standard and Reference Guide for Professional Mold Remediation – Second Edition, and the Connecticut Department of Public Health, Guidance for Mold Abatement Contractors.

1.5 SCOPE OF WORK

A. Observations and data obtained during the site visits represent conditions during that time span only. Moisture content, fungal ecology, moisture content of building materials, and

psychometric variables are intrinsically dynamic and can vary dramatically and impact the scope of work. The Remediation Contractor shall verify conditions and quantities prior to submitting bid.

B. The work specified herein shall be the removal, cleanup and remediation of water impacted materials by persons who are knowledgeable, qualified, and trained in the cleaning, removal, treatment, handling, and disposal of these materials (Remediation Contractor).

C. The Remediation Contractor shall have a “Competent Person” in control on the job site at all times during the microbial remediation. This person must comply with this specification and the standards set forth in the Institute of Inspection, Cleaning, and Restoration Certification (IICRC) S-500, Standard and Reference Guide for Professional Water Damage Restoration – Third Edition, the IICRC S-520, Standard and Reference Guide for Professional Mold Remediation – Second Edition, and the Connecticut Department of Public Health, Guidance for Mold Abatement Contractors.

D. Deviations from this Specification require the written approval of the Architect’s Representative.

E. Any damage caused during the performance of remediation activities shall be repaired by the Remediation Contractor (e.g., paint peeled off by barrier tape, nail holes, water damage, broken glass, etc.) will be the sole responsibility of the Remediation Contractor. The Remediation Contractor is responsible for protecting all objects in work areas that are permanent fixtures or too large to remove (except those which will be removed as part of the remediation or renovation such as roofing materials).

F. The Remediation Contractor shall be responsible for the following general requirements:

1. Obtain all approvals and permits, and submit all notifications as required.

2. Provide, erect, and maintain all bracing, barricades, and warning signs.

3. Unless otherwise specified, all debris resulting from remediation shall become the property of the Remediation Contractor and shall be removed from the premises.

4. Materials to be reused shall be cleaned and removed with the utmost care to prevent damage of any kind. All material to be reused shall be stored as directed.

5. If signs of water damage or mold growth are revealed during remediation then contact the Architect’s Representative for direction of how to proceed;

6. Remove and dispose of all stained, damaged, wet, or moldy materials exposed by the work of this project;

7. Disinfect all newly exposed substrates; and,

8. Materials not scheduled for reuse shall be removed from the site and disposed of in accordance with all applicable Federal, State and Local requirements.

G. It shall be the responsibility of the Remediation Contractor to protect and preserve in operating condition all utilities traversing the building and site. Damage to any utility due to work under this Contract shall be repaired to the satisfaction of the Architect at no cost to the Owner.

1.6 EXEMPTIONS

A. Any deviation from these specifications requires the written approval and authorization from Architect's Representative.

1.7 QUALITY ASSURANCE

A. The Remediation Contractor shall be responsible for maintaining compliance with the requirements of this specification section. If at any time during the course of the work, conditions arise that will affect the successful completion of this project and are not specifically addressed in this section, the Remediation Contractor shall immediately notify the Architect or Architect's representative.

B. Applicable Codes

1. The Remediation Contractor shall be solely responsible for conducting this project and supervising all work in a manner that will be in conformance with all federal, state and local regulations. This includes all local building codes.

C. Description of Work

1. The Remediation Contractor shall supply all labor, materials, equipment, services, insurance, and incidentals, which are necessary or required to perform the work in accordance with applicable governmental regulations and these specifications.

2. The remediation work shall include the removal and/or cleaning of the following:

a. Removal and disposal of impacted drywall and insulation

b. Removal and disposal of impacted wainscoting walls and ceiling and insulation

c. Decontamination of all exposed surfaces including but not limited to wood framing, floors, walls, ceilings

d. Dry all surfaces scheduled to remain in accordance with this Specifications.

e. Treat wood framing with anti-microbial sealant.

f. Work area preparation:

1) Isolate work areas from adjacent indoor areas with critical barriers
2) Establish airlocks and change rooms at indoor work areas
3) Establish a negative pressure differential between indoor work areas and adjacent indoor areas
4) Isolate HVAC system where applicable
5) Post warning signage.
6) Regulate access to work areas

g. Remediation:

1) Remove and dispose all scheduled impacted materials.

2) Remove all visible mold from exposed surfaces and surfaces that become exposed during the work.

h. Cleaning:

1) Brush, sand, or scrub specified building components including framing, floors, walls, miscellaneous items to remain as necessary to remove all visible debris and/or contamination within the limits of the defined locations. If the integrity of the framing or other building components is compromised, then remove and dispose of as required per unit price Contract. Authorization from the Architect or Architect's representative must be given prior to the performance of any unit price work.

i. Disinfecting

1) Use an EPA registered fungicide as directed by the manufacturer to disinfect all exposed interior surfaces within the remediation areas.
2) DO NOT apply any anti-microbial coating or other permanent coating.

j. Drying

1) Prior to post remediation inspection, dry all remaining structural components, finishes, and furnishings to within two (2) points of a pre-determined "dry standard" as measured on a Protimeter Moisture Measurement System (MMS), Delmhorst TechCheck Plus, Extech MO290, or comparable moisture meter.

2) Record psychometric data at least daily during the drying including, at a minimum, specific humidity in grains per pound inside of the regulated area and at the dehumidifier exhausts (grain depression).

D. The Remediation Contractor is required to confirm all quantities of contaminated materials and their current conditions.

E. The Remediation Contractor shall not apply any sealants (i.e. AfterShock™) or scented products prior to the final inspection or clearance testing.

F. The cleanup work will be conducted in the following general sequence:

1. Removal of all water damaged and/or microbial contaminated materials from designated areas;
2. Microbial cleanup of the remaining building components in the designated areas;
3. Drying of building components and finishes in the designated areas; and
4. Final inspection and clearance of the remediated areas.

G. Unless otherwise specified in this work plan, all contaminated materials are to be removed under negative pressure with critical barriers, a change room, and airlocks.

H. The Remediation Contractor shall coordinate the waste paths from the work area to the appropriate waste container or truck with the Owner.

1.8 DEFINITIONS

A. Accessible - A space easily accessed and which can be entered or seen without demolition.

B. Approved Landfill – A site for the disposal of microbial contaminated wastes and other hazardous wastes that has the necessary governmental approvals for accepting these types of wastes.

C. Architect's Representative – An individual retained by the Architect who will monitor the Contractor's work practices, perform inspections and provide testing as required to support the work.

D. Competent Person – An individual who is capable of identifying existing microbial hazards in the workplace and selecting the appropriate control strategy for microbial exposure and who has the authority to take prompt corrective measures to eliminate them.

E. Remediation Contractor – Remediation Contractor providing demolition and removal services as defined in these specifications.

F. Critical Barrier - A minimum of two layers of six (6) mil polyethylene sheeting taped securely over windows, doorways, diffusers, grilles and any other openings between the Work Area and uncontaminated areas outside of the Work Area, including the outside of the building.

G. Deodorize – The process of odor removal. The four principals for effective deodorization are:

1. Removal of primary source.
2. Cleaning of all surfaces exposed to contaminant.
3. Recreation of conditions of penetration with appropriate odor counteractants.
4. Sealing of salvageable but heavily contaminated surfaces.

H. Demolition - The wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

I. Disinfect – A chemical or physical process used on surfaces or objects to destroy 99.99% of microorganisms in a specific period of time.

J. Engineering Controls - Controls to include, but not be limited to, pressure differential equipment, decontamination enclosures, critical barriers and related procedures.

K. Exposed - Open to view.

L. Microbial Contamination – Visible infestation of materials by microbial growth as determined by bulk, air, microvac or wipe sampling or visual inspection.

M. Microbial Contaminated – Any building material that has visible infestation of bacteria or fungi, as shown by bulk, air, microvac or wipe sampling or visual inspection.

N. Respirator Program – A written program established by an employer that provides for the safe use of respirators on their job sites.

O. Visible Residue - Any debris or dust on surfaces in areas within the Work Area where microbial abatement has taken place and which is visible to the unaided eye. All visible residue is assumed to contain microbial contamination.

P. Wet Cleaning - The process of eliminating microbial contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with an anti-microbial, and afterwards thoroughly decontaminated or disposed of as microbial-contaminated waste.

Q. Work Area - Specific area or location where the actual work is being performed or such other area of a facility that it has been determined that it may be hazardous to public health as a result of the cleanup or abatement.

1.9 REFERENCES

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

1. Occupational Safety and Health Administration (OSHA)

   a. 29 CFR 1910.134 - Respiratory Protection
   b. 29 CFR 1926.21 - Safety Training and Education
   c. 29 CFR 1926.32 - Competent Person
   d. 29 CFR 1926.51 - Sanitation
   e. 29 CFR 1910.1200 - Hazard Communication
   f. 29 CFR 1926.200 - Accident Prevention Signs and Tags
   g. 29 CFR 1926.417 - Lockout and Tagging of Circuits

2. Environmental Protection Agency (EPA)

   a. 40 CFR 763, Subpart G - Worker Protection Rule

3. New York City Department of Health and Mental Hygiene

   a. Guidelines on Assessment and Remediation of Fungi in Indoor Environments (issued November, 2008)

4. American National Standards Institute (ANSI)

   a. ANSI Z9.2 - Fundamentals Governing the Design and Operation of Local Exhaust Systems
   b. ANSI Z88.2 - Respiratory Protection

5. American Society of Testing and Materials (ASTM)

   a. ASTM E 96 - Water Vapor Transmission of Materials

6. Underwriters Laboratories, Inc. (UL)

   a. UL 586 - High-Efficiency, Particulate, Air Filter Units

7. Institute of Inspection, Cleaning, and Restoration Certification (IICRC)

a. S-500, Standard and Reference Guide for Professional Water Damage Restoration – Third Edition

b. S-520, Standard and Reference Guide for Professional Mold Remediation – Second Edition

8. The Connecticut Department of Public Health, Guidance for Mold Abatement Contractors.

1.10 DOCUMENTATION

A. The following documentation shall be obtained by the Remediation Contractor to ensure compliance with the applicable regulations. An up to date copy shall be retained at the job site at all times.

1. Manufacturer's Catalog Data for:

a. Vacuum Equipment and Negative Air Exhaust Fans
b. Respirators
c. Polyethylene Sheeting
d. Adhesive Removal Chemicals
e. MSDS for All Materials Delivered to the Site
f. EPA registration number and MSDS for all fungicides
g. EPA registration number and MSDS for mold-retardant sealants

2. Statements:

a. Worker Medical Certification

b. Worker Respirator Fit Testing

c. Safety Plan

d. Respirator Protection Plan

e. Copies of all required notifications, approvals and permits for the environmentally contaminated materials.

f. Documentation from a physician certifying that all employees who may be exposed to microbial contamination in excess of the background level have been provided with an opportunity to be medically monitored to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. They shall also be informed of the specific types of respirators the employee shall be required to wear and the work he/she will be required to perform as well as special work place conditions such as high temperature, high humidity and chemical contaminants to which he/she may be exposed. Individuals with immune suppression, asthma, hypersensitivity pneumonitis, severe allergies, sinusitis, or other chronic inflammatory lung diseases, or who have undergone recent surgery, shall not be permitted into the remediation Work Area.

g. Documentation certifying that all employees have received training in the proper cleaning method and handling of materials that contain microbial

contamination; understand the health implications and risks involved, including the illnesses possible from exposure to these airborne contaminants; and understands the use and limits of respiratory equipment to be used. The training can be performed as part of a program to comply with the requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

h. Documentation of respiratory fit testing for all employees who must enter the Work Area in accordance with the OSHA Respiratory Protection Standard 29 CFR 1910.134.

i. Establish and supervise in accordance with 29 CFR 1926.21, a program for the education and training of workers in the recognition, avoidance and prevention of unsafe conditions and the regulations applicable to the work environment to control or eliminate any hazards or other exposure to illness or injury. Include any site-specific information to address health and safety procedures unique to this project.

j. Establish a written Respiratory Protection Plan in accordance with 29 CFR 1910.134. This plan shall establish procedures governing the selection and use of respirators and shall include such information as training in the proper use of respirators; medical examination of workers to determine whether or not they may be assigned an activity where respiratory protection is required; training in proper use and limitations of respirators; respirator fit testing; regular inspection and evaluation of the continued effectiveness of the program; and other elements included in the standard.

3. Records:

a. Sign-in/out Logs
b. Psychometric Records

1.11 PERSONNEL PROTECTION

A. Instruct workers in all aspects of personnel protection, work procedures, emergency evacuation procedures and use of equipment including procedures unique to this project.

B. Ensure workers are fully protected with respirators and protective clothing during work in the Cleanup Control Area, where there is the possibility of disturbing microbial containing or microbial contaminated materials.

C. Respiratory protection shall meet the requirements of OSHA as required in 29 CFR 1910.134. Provide appropriate respiratory protection for each worker and ensure usage during potential exposure. As a minimum, workers shall be equipped with ½-face negative respirators with HEPA filters.

D. Select respirators from among those approved as being acceptable for protection by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11. Provide an adequate supply of filter elements for respirators in use.

E. Provide all authorized persons entering microbial contaminated areas with proper respirators and protective clothing. This shall include: a half-face respirator with HEPA filters; disposable protective clothing covering both head and shoes; and protective gloves.

F. Ensure workers do not eat, drink, smoke or chew gum or tobacco while in the Work Area.

1.12 EQUIPMENT REMOVAL PROCEDURE

A. Clean surfaces of contaminated containers and equipment thoroughly by vacuuming with HEPA filtered equipment and wet wiping before final cleaning and removal to uncontaminated areas.

1.13 SEQUENCE OF WORK

A. Proceed in accordance with the sequence of work as mutually agreed upon with the Architect's Representative.

B. The following sequence of work shall be used for the remediation work:

1. All equipment and temporary utilities required for the project shall be on site and operational prior to the initiation of the remediation work.

2. Preparation of work areas.

3. Cleanup and remediation of all designated microbial contaminated materials by the Remediation Contractor.

4. Disinfection of building components and finishes.

5. Drying of building components and finishes.

6. The Remediation Contractor shall not apply any sealants (i.e. AfterShock™) or scented products prior to the final inspection and re-occupancy clearance testing (if required for asbestos abatement).

7. Visual inspection and microbial sampling (if necessary) of the microbial cleanup by the Architect's Representative.

8. Final cleanup by the Contractor.

PART 2 PRODUCTS

2.1 DELIVERY, STORAGE AND HANDLING

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description. Do not use damaged or deteriorating materials. Material that becomes contaminated shall be decontaminated or disposed of as contaminated waste.

2.2 MATERIALS

A. Material Data Safety Sheets MSDSs) shall be on site for all products used.

B. Fungicides shall be registered with the United States Environmental Protection Agency (US EPA) and listed in the US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) database and approved by Norwich Housing Authority and the Consultant.

C. Polyethylene sheet in roll size to minimize the frequency of joints, shall be delivered to job site with factory label indicating four (4) or six (6) mil.

D. Polyethylene disposable bags shall be six (6) mil.

E. Tape shall be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces. Tape must be capable of adhering under both dry and wet conditions.

F. Containers must be impermeable and shall be both air and watertight.

2.3 TOOLS AND EQUIPMENT

A. Tools and equipment shall be suitable for microbial contamination.

B. Protective clothing, respirators, filter cartridges, air filters and sample filter cassettes shall be provided in sufficient quantities for the project.

C. Electrical equipment, protective devices, emergency generators (if any) and power cables shall conform to all applicable codes.

D. Exhaust air filtration units shall be equipped with HEPA filters capable of providing sufficient air exhaust to allow a sufficient flow of air through the area. No air movement system or air filtering equipment shall discharge unfiltered air outside the Cleanup Control Area.

E. Other materials such as lumber, nails and hardware necessary to construct and dismantle the decontamination enclosures and the barriers that isolate the Work Area shall be provided as appropriate for the work.

PART 3 EXECUTION

3.1 PREPARATION OF OUTDOOR WORK AREAS

A. Prior to beginning work, the Architect's Rrepresentative and the Remediation Contractor shall perform a visual survey of the Work Area and list all pre-existing damage to building components.

B. Utilize engineering controls and personnel protective equipment while installing enclosures and supports when contaminated materials may be disturbed.

C. Provide temporary power and lighting as required and ensure safe installation, including ground fault protection, of temporary power sources and equipment in compliance with applicable electrical code and OSHA requirements. The Remediation Contractor is responsible for proper connection and installation of electrical wiring.

D. Seal off the windows, grilles, diffusers, attic hatches, and any other openings between the Work Area and the uncontaminated indoor areas outside of the Work Area with critical barriers.

E. Use signage and barrier tape or fencing to identify work area boundaries.

3.2 PREPARATION OF INDOOR WORK AREAS

A. Utilize engineering controls and personnel protective equipment while installing enclosures and supports when contaminated materials may be disturbed.

B. Provide temporary power and lighting as required and ensure safe installation, including ground fault protection, of temporary power sources and equipment in compliance with applicable electrical code and OSHA requirements. The Remediation Contractor is responsible for proper connection and installation of electrical wiring.

C. Seal off all openings between the Work Area and the uncontaminated indoor areas outside of the Work Area but within the units, with critical barriers. Construct an airlock door flap system and a change room at and adjacent to entry to work areas so that personnel must pass through the change room when entering or exiting the work area.

D. Maintain the contained work area under negative pressure with HEPA filtered exhaust system. Vent the exhaust outside the building.

3.3 MOLD AND MOISTURE REMEDIATION

A. A Supervisor employed by the Remediation Contractor and qualified in mold and moisture remediation shall be on the job at all times to ensure the establishment and maintenance of the negative pressure enclosure (NPE) where required and proper work practices throughout the project.

B. Protect surfaces that will not to be removed with polyethylene sheeting.

C. Cleaning shall be accomplished by scrubbing with brushes, sanding, or other method deemed appropriate by the Architect's Representative.

D. The standard for cleaning shall be no visible mold, dust, dirt, or debris. Stains on lumber resulting from fungal growth are acceptable.

E. Remove all mold or moisture impacted materials from the designated locations.

F. Efforts shall be made to reduce dust generation. This includes lightly misting the surface with a dilute soap or detergent solution prior to removal, the use of HEPA vacuum-shrouded tools at the point of dust generation. Moldy materials that can be cleaned should be cleaned using a soap or detergent solution.

G. Fill disposal containers (six mil polyethylene bags or fiber drums) as remediation proceeds, seal filled containers. Bags shall be securely sealed to prevent accidental opening and leakage by taping in gooseneck fashion. Bags shall be decontaminated by damp cleaning before being removed from Work Area and placed in containers for transport and disposal by the Remediation Contractor.

H. Ensure that workers do not enter from uncontaminated areas into the change room or the work area.

I. The use of household bleach as a disinfectant is not permitted due to its corrosive effect on metal building components and potential adverse physiological impact on residents. Appropriate disinfectants are those that are specified as a fungicide and registered with the EPA.

J. All surfaces to be microbial cleaned are to be HEPA vacuumed prior to the use of the disinfectant. The disinfectant can then be applied by hand or spray applied on all appropriate surfaces. Following the use of the disinfectant, the area must be re-cleaned and rinsed using water, dried, and then HEPA vacuumed again.

K. All surfaces that have been cleaned shall be subject, at the discretion of the Architect's Rrepresentative, to be treated with an anti-microbial sealant (e.g., AfterShock™) following successful completion of the post remediation testing.

L. The work area and areas used by workers for egress shall be HEPA-vacuumed and cleaned with a damp cloth or mop and a light soap or detergent solution.

M. If at any time during the remediation work, should the Remediation Contractor and/or the Architect's Representative suspect contamination of areas outside the Work Area, the Remediation Contractor shall stop all remediation work and take steps to decontaminate these areas and eliminate causes of such contamination. Unprotected individuals shall be prohibited from entering contaminated areas until air and swab sampling and/or visual inspections determine decontamination.

N. All areas should be left dry and visibly free from mold, dust and debris. Remove microbial contamination waste material daily.

3.4 CLEAN-UP PROCEDURE AND INSPECTION

A. Remove all environmental contamination from the exteriors of the negative air machines, hoses and other equipment inside the Work Area. Cleaning may be accomplished by brushing, sanding, or scrubbing.

3.5 DISPOSAL OF MICROBIAL CONTAMINATION AND DEBRIS

A. There are no special requirements of disposal of moldy materials unless they are also contaminated by other hazardous materials such as asbestos or lead. Disposal of microbial contaminated material shall occur in compliance with the requirements of designated State agency having jurisdiction over solid waste disposal.

3.6 REMEDIATION CONTRACTOR RESPONSIBILITY

A. For the microbial contamination cleanup, conduct worksite audits to assure that workers are using appropriate respiratory protection.

3.7 POST-REMEDIATION MICROBIAL SAMPLING

A. After the remediation, disinfection, and cleanup, all components have been dried to within two (2) points of the pre-determined "dry standard, and after a high degree of cleanliness has been verified by visual inspection by the Architect's Representative, non-viable fungal post-remediation sampling utilizing air and/or bulk sampling methods may be conducted.

B. For the purposes of the visual inspection, no visible dust/residue shall be allowed on the surfaces that have been cleaned and disinfected. The Architect's Representative will make the decision on the type and number of microbial samples to be taken in order to verify the acceptability of the microbial remediation work by the Contractor.

CAPITAL STUDIO ARCHITECTS

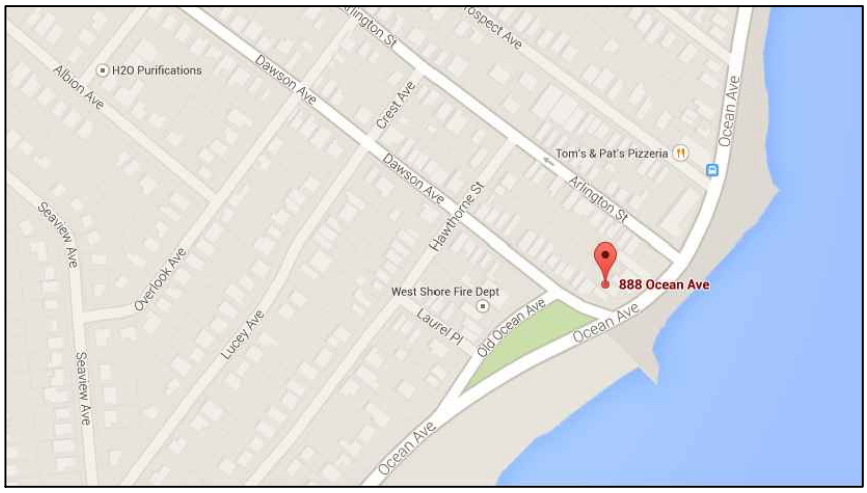
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

EAGLE PROJECT NUMBER: 14-028.12T28

INDEX OF DRAWINGS

SP-1 SITE PLAN
FP-1 BASEMENT PLAN
FP-2 FIRST FLOOR PLAN
FP-3 SECOND FLOOR PLAN

LOCATION MAP



AUGUST 25, 2015

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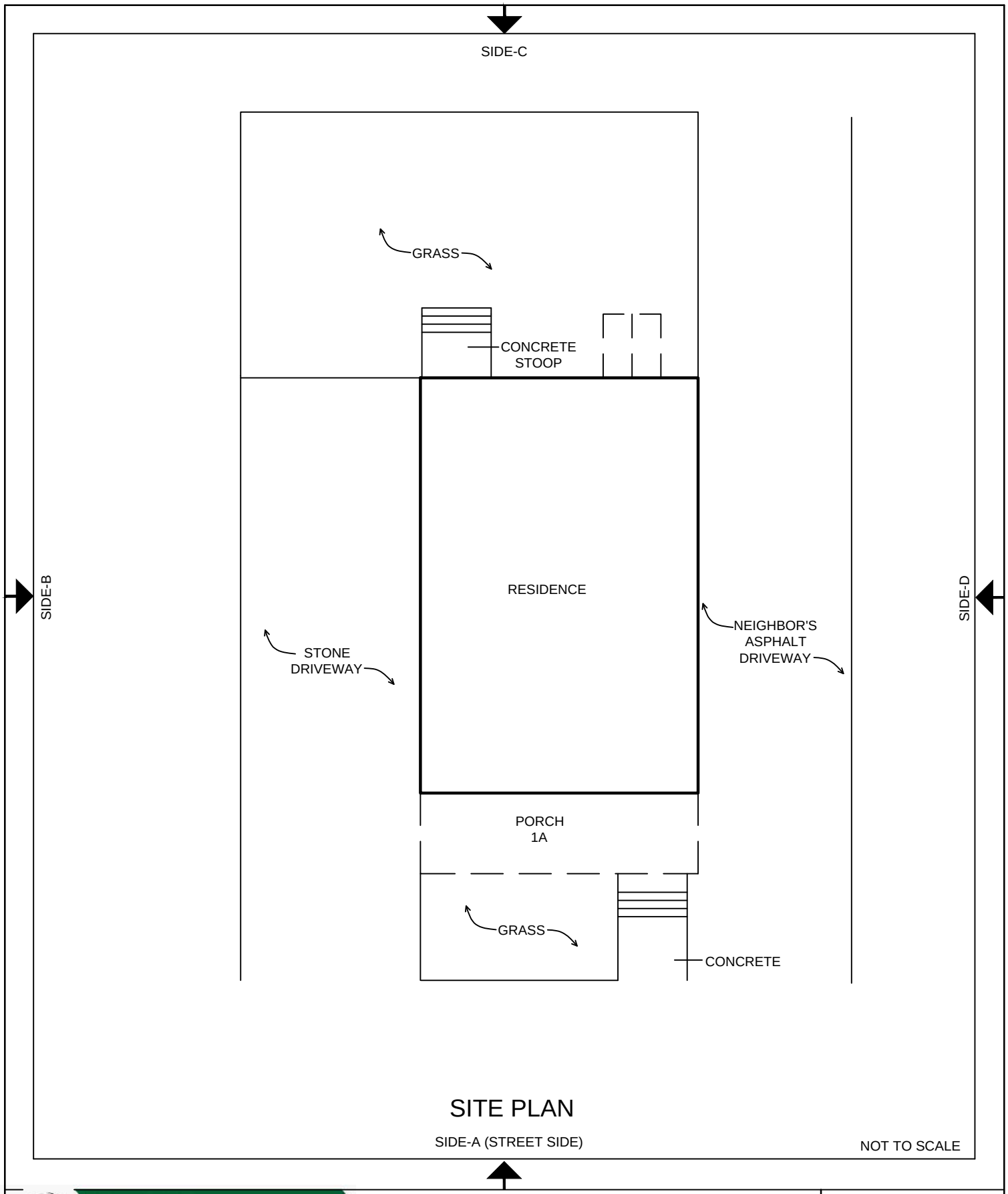
TERRYVILLE, CONNECTICUT 06786
860-589-8257



SITE PLAN

NOT TO SCALE

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.

SP-1

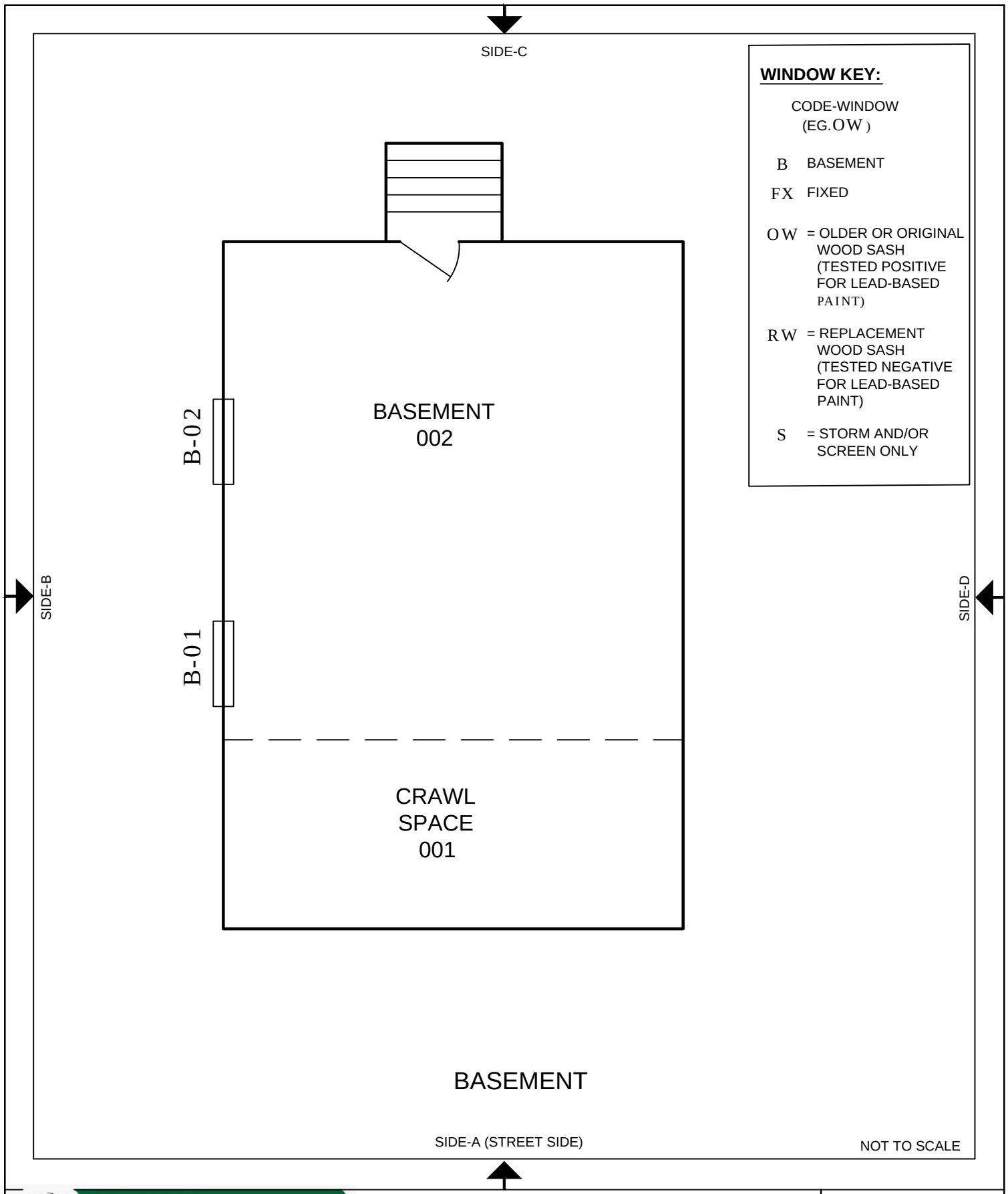
SHEET 1 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

MOLD AND WATER REMEDIATION
020920-16



EAGLE Environmental, Inc.

8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.

FP-1

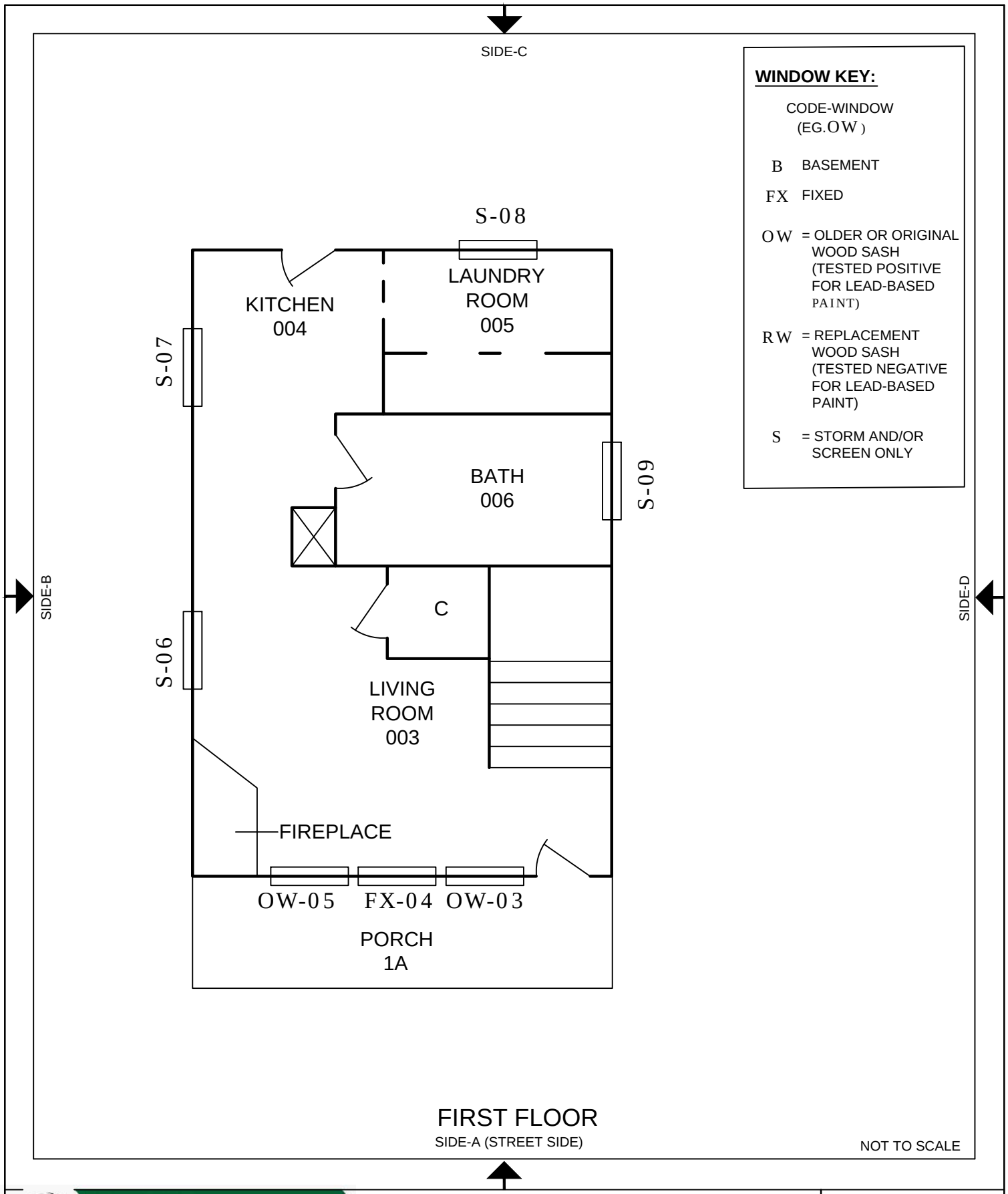
SHEET 2 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

MOLD AND WATER REMEDIATION
020920-17



WINDOW KEY:

CODE-WINDOW (EG. OW)

B BASEMENT

FX FIXED

OW = OLDER OR ORIGINAL WOOD SASH (TESTED POSITIVE FOR LEAD-BASED PAINT)

RW = REPLACEMENT WOOD SASH (TESTED NEGATIVE FOR LEAD-BASED PAINT)

S = STORM AND/OR SCREEN ONLY

FIRST FLOOR

SIDE-A (STREET SIDE)

NOT TO SCALE

EAGLE Environmental, Inc.

8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.

FP-2

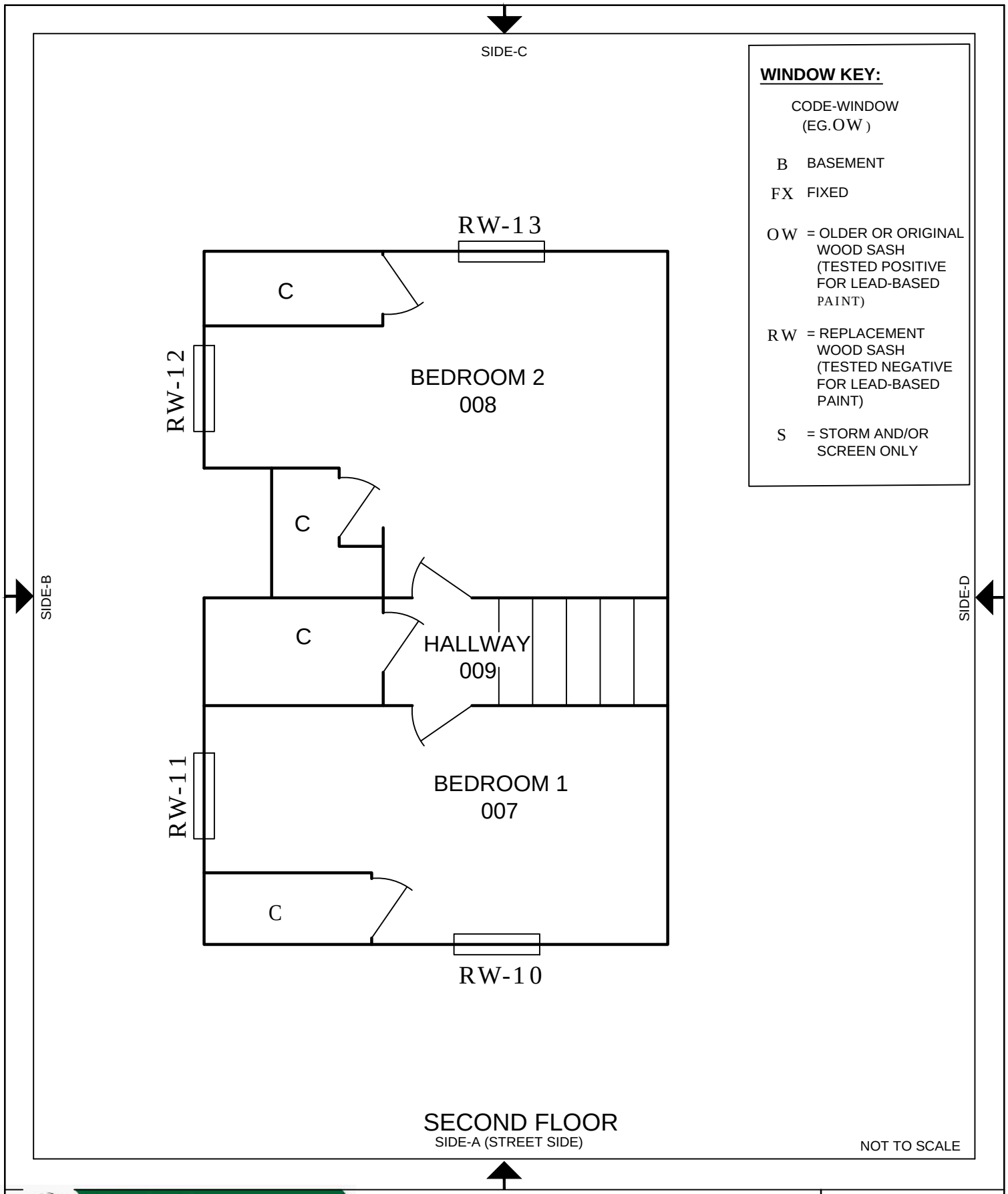
SHEET 3 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

MOLD AND WATER REMEDIATION
020920-18



EAGLE Environmental, Inc.

8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.

FP-3

SHEET 4 OF 4

DATE: 08/25/2015
PROJECT NO.: 14-028.12T28
DRAWN BY: VB
REVIEWED BY: AH

ENVIRONMENTAL REVIEW
888 OCEAN AVENUE
WEST HAVEN, CONNECTICUT

CSA Project No. 1347-43

MOLD AND WATER REMEDIATION
020920-19

END OF SECTION

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SECTION 02200 - EXCAVATION

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 - WORK INCLUDED

A. Excavate for new building footings, foundations and slabs on grade.

B. Trench for site utilities as shown on the Drawings.

C. Coordinate with lifting contractor as per schedule and location of cribbing.

1.3 – RELATED WORK SPECIFIED ELSEWHERE

A. Fill and Backfill is specified in Section 02215.

B. Concrete operations are specified in Section 03300.

1.4 - PROJECT CONDITIONS

A. Verify that survey bench mark and intended elevations for the Work are as indicated.

B. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

C. Notify “Call Before You Dig” prior to beginning the work.

D. Existing house will be located approx. 10’-0” above existing grade during excavation operations. Coordinate with lifting contractor.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 - PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Locate, identify, and protect utilities that remain and protect from damage.

C. Notify utility company to remove and relocate utilities as required.

3.2 - EXCAVATING

A. Excavate to accommodate new structures and construction operations.

B. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

C. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.

D. Do not interfere with 45 degree bearing splay of foundations.

E. Cut utility trenches wide enough to allow inspection of installed utilities.

F. Hand trim excavations. Remove loose matter.

G. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume.

H. Correct areas that are over-excavated and load-bearing surfaces that are disturbed; see Section 02215.

I. Grade top perimeter of excavation to prevent surface water from draining into excavation.

J. Remove excavated material that is unsuitable for re-use from site.

K. Stockpile excavated material to be re-used in area designated on site. Protect from erosion.

L. Remove excess excavated material from site.

3.3 - PREPARATION FOR UTILITY PLACEMENT

A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill.

B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.

3.4 - FIELD QUALITY CONTROL

A. Provide for visual inspection of load-bearing excavated surfaces before placement of foundations and temporary cribbing (lift operations).

3.5 - PROTECTION

A. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

B. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

C. Protect load bearing cribbing installed by lifting contractor.

END OF SECTION 02200

SECTION 02215 - FILL AND BACKFILL

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 - WORK INCLUDED

A. Filling, backfilling, and compacting for building volume below grade, footings, slabs-on-grade, and utilities within the building perimeter. Contractor shall provide fill as required to achieve required elevation of new building floor slab, and base fill at basement level..

B. Backfilling and compacting for utilities trenches shown on the Drawings. Contractor shall backfill and compact trenches to elevation of adjacent grade or as otherwise shown on the Drawings.

C. Prepare solid base for cribbing supports; location by lifting contractor.

1.3 – RELATED WORK SPECIFIED ELSEWHERE

A. Lawn & Planting Restoration is specified in Section 02900.

B. Concrete operations are specified in Section 03300.

1.4 - REFERENCES

A. ASTM C 136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2001.

B. ASTM D 698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)); 2000a.

C. ASTM D 1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2000.

D. ASTM D 1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3(2,700 kN-m/m3)); 2002.

E. ASTM D 2487 - Standard Practice for Classification of Soil for Engineering Purposes (Unified Soil Classification System); 2000.

F. ASTM D 3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth); 2001.

1.5 - SOURCE QUALITY CONTROL

A. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

B. If tests indicate materials do not meet specified requirements, change material and retest.

C. Provide materials of each type from same source throughout the Work.

1.6 - SUBMITTALS

A. Submit Compaction Density Test Reports.

B. Submit soil gradation reports for all types of materials.

1.7 - PROJECT CONDITIONS

A. Provide sufficient quantities of fill to meet project schedule and requirements. When necessary, store materials on site in advance of need.

B. When fill materials need to be stored on site, locate stockpiles as directed by the Owner.

1. Separate differing materials with dividers or stockpile separately to prevent intermixing.

2. Prevent contamination.

3. Protect stockpiles from erosion and deterioration of materials.

C. Verify that survey bench marks and intended elevations for the Work are as indicated.

D. Existing house will be located approx. 10’-0” above existing grade during backfill operations.

PART 2 - PRODUCTS

2.1 - FILL MATERIALS

A. General Fill: Subsoil excavated on-site, or off-site material.

1. Graded.

2. 100% passing 3 ½ inch, not more than 15% passing no. 200 sieve.

B. Structural Fill: Subsoil excavated on-site, or off-site material.

1. Graded.

2. Free of lumps larger than 3 inches, rocks larger than 2 inches, and debris.

3. All structural fill shall be sand, sand/gravel, gravelly sand or processed material.

C. Stone Base to ¾" minus gravel fill. Gravel: Pit run washed stone; free of shale, clay, friable material and debris.

1. Graded in accordance with ASTM C 136, within the following limits:

a. 2 sieve: 100 percent passing.
b. 1 inch sieve: 95 percent passing.
c. 3/4 inch sieve: 95 to 100 percent passing.
d. 5/8 inch sieve: 75 to 100 percent passing.
e. 3/8 inch sieve: 55 to 85 percent passing.
f. No. 4 sieve: 35 to 60 percent passing.
g. No. 16 sieve: 15 to 35 percent passing.
h. No. 40: 10 to 25 percent passing.
i. No. 200: 5 to 10 percent passing.

D. Granular Fill - Pea Gravel: Natural stone; washed, free of clay, shale, organic matter.

1. Grade in accordance with ASTM D 2487 Group Symbol GM.

2. Graded in accordance with ATM C 136, within the following limits:

a. Minimum Size: 1/4 inch.
b. Maximum Size: 5/8 inch.

E. Sand: Natural river or bank sand; washed; free of silt, clay, loam, friable or soluble materials, and organic matter.

1. Grade in accordance with ASTM D 2487 Group Symbol SW.

2. Graded in accordance with ASTM C 136; within the following limits:

a. No. 4 sieve: 100 percent passing.
b. No. 14 sieve: 10 to 100 percent passing.
c. No. 50 sieve: 5 to 90 percent passing.
d. No. 100 sieve: 4 to 30 percent passing.
e. No. 200 sieve: 0 percent passing.

2.2 - ACCESSORIES

A. Geotextile Fabric: Non-biodegradable, woven, silt film.

PART 3 - EXECUTION

3.1 - EXAMINATION

A. Identify required lines, levels, contours, and datum locations.

B. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.

3.2 - PREPARATION

A. Scarify and proof roll subgrade surface to a depth of 6 inches to identify soft spots.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with fill as directed.

C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

E. Compact base area under load bearing cribbing by lifting contractor.

3.3 - FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Stone base directly below slab on grade, unless otherwise indicated.

C. Employ a placement method that does not disturb or damage other work.

D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

E. Maintain optimum moisture content of fill materials to attain required compaction density.

F. Structural Fill: Place and compact materials in equal continuous layers not exceeding 12” inches compacted depth.

G. Correct areas that are over-excavated.

1. Load-bearing foundation surfaces: Use structural fill, flush to required elevation, compacted to 95 percent of maximum dry density.

2. Other areas: Use general fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density.

3. Compaction Density Unless Otherwise Specified or Indicated:

   a. Under paving, slabs-on-grade, and similar construction: 95 percent of maximum dry density.
   b. At other locations: 90 percent of maximum dry density.

4. Reshape and re-compact fills subjected to vehicular traffic.

3.4 - FILL AT SPECIFIC LOCATIONS

A. Use general fill unless otherwise specified or indicated.

B. Fill at building:

1. Use structural fill.

2. Structural Fill up to subgrade elevations.

3. Maximum depth per lift: 12" prior to compaction.

4. Compact to minimum percent of maximum dry density as directed.

C. Buried Utility Piping and Conduits in Trenches:

1. Bedding: Use structural fill.

2. Cover with general fill.

3. Fill up to existing grade elevation.

4. Maximum depth per lift: 12" prior to compaction.

5. Compact to minimum percent of maximum dry density as directed.

3.5 - TOLERANCES

A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.

B. Top Surface of Filling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.6 - FIELD QUALITY CONTROL

A. Perform compaction density testing on compacted fill in accordance with ASTM D1556,

ASTM D2167, ASTM D2922, or ASTM D3017.

B. If tests indicate work does not meet specified requirements, remove work, replace and retest.

C. All expenses in connection with tests specified herein shall be borne by the Owner. The testing laboratory selected to conduct the tests shall be approved by the Owner and the Architect.

3.7 - CLEAN-UP

A. Leave unused materials in a neat, compact stockpile.

B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

3.8 – REMEDIAL WORK

A. At the completion of the work, patch lawn areas disturbed by the work of this Contract. Provide additional topsoil, regrade and reseed as required.

B. Patch paved areas disturbed by trenching with the same surface material removed. See additional requirements in Section 01500, cutting and patching.

END OF SECTION 02215

SECTION 02230 – CLEARING & GRUBBING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Protecting existing vegetation to remain.
2. Removing existing vegetation and shrubs shown on the plans.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Temporary erosion- and sedimentation-control measures.

1.2 MATERIAL OWNERSHIP

A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain on Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.3 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, driveways, parking areas, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the Town of Groton and/or property owners.
2. Provide alternate routes around closed or obstructed traffic ways to the extent possible.

B. Salvable Improvements: Carefully remove items indicated to be salvaged or relocated and store on Owner's premises.

C. Utility Locator Service: Notify ‘Call Before You Dig’ prior to the construction effort.

D. Do not commence site clearing operations until erosion and sedimentation control measures are installed.

E. The following practices are prohibited within close proximity to trees to be preserved:

1. Storage of construction materials, debris, or excavated material.
2. Parking of vehicles or equipment.
3. Excavation unless otherwise indicated.
4. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Erosion Control Materials: Shall meet all requirements of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, and conform to the details provided in the Drawings.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Locate, clearly identify, and protect trees, shrubs, and other vegetation to remain or to be relocated.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to the Drawings and requirements of authorities having jurisdiction.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not create impacts outside the limits of construction.

C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

A. General: Protect trees and plants remaining on-site.

B. Repair or replace trees, shrubs, and other vegetation indicated to remain that are damaged by construction operations, in a manner approved by Architect.

3.4 EXISTING UTILITIES

A. Locate, identify, and disconnect utilities indicated to be removed or relocated.

1. Coordinate with applicable utility companies if necessary.

B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Owner not less than four days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's permission.

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

1. Remove stumps and roots of shrubs to be removed.
2. Use care to protect trees to be saved.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal lifts not exceeding a loose depth of 8 inches, and compact each lift to 95% modified proctor density.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil in a manner to prevent intermingling with underlying subsoil or other waste materials.

C. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

3.9 Storm Drainage

A. Protect existing storm drainage structures to remain from damage during construction.

END OF SECTION 02230

SECTION 02374 – EROSION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Temporary erosion and sedimentation control materials and practices.

1.2 QUALITY ASSURANCE

A. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers.

B. Comply with all governing codes and regulations including the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store materials in accordance with manufacturer's written instructions.

1.4 MAINTENANCE SERVICE

A. Maintain temporary erosion control measures until site is stabilized and accepted by the Engineer.

PART 2 - PRODUCTS

2.1 EROSION CONTROL MATERIALS

A. Silt Fencing:
1. Filter Fabric: Extra strength filter fabric (50 lbs/lin.in. min.), or a combination of standard strength (30 lbs/lin inch minimum) and 14 gauge woven wire fence.

2. Fence posts: 2”x2” pressure treated wood, minimum of 48” high.

B. Haybales: Haybales shall be composed of non-degraded straw in reasonable condition.

C. Filter Fabric; Filter Fabric for drywell grate wrap shall meet requirements for Silt Fencing Filter Fabric.

PART 3 - EXECUTION

3.1 GENERAL LAND CONSERVATION

A. All structural erosion and sediment control practices shall be placed prior to or as the first step in grading for all areas.

B. Permanent or temporary soil stabilization shall be applied to disturbed areas within 14 days after final grade is reached on any portion of the site.

C. Any disturbed area not stabilized with seeding, sodding, paving, or built upon by November 1st, or areas disturbed after that date, shall be mulched immediately with hay or straw at the rate of 2 tons per acre and over-seeded by April 15th.

D. At the completion of construction, and establishment of vegetation, all temporary sediment controls shall be removed.

3.2 EROSION CONTROL

A. Provide straw bales and silt fencing in areas shown on the plans, or in other areas deemed as potential erosion locations.

B. Silt fencing shall be placed down-gradient of construction areas, as necessary, to control sediment and minimize erosion until turf is established.

3.3 SILT FENCING

A. Set posts maximum ten feet (10’) apart. Angle posts approximately 5 degrees upslope.

B. Excavate a 6”x6” trench upslope and along the line of posts.

C. Staple wire fencing to upslope side of posts, if applicable.

D. Attach filter fabric to wire fence or upslope side of posts and extend fabric into trench. Top of fabric is to be a minimum of 30” above ground level.

E. Backfill and compact excavated soil.

3.4 MAINTENANCE

A. All erosion and sediment control measures shall be checked weekly and within 24 hours after each rainfall to assure that the measures are functioning adequately. Sediment that is collected will be distributed on the protected portion of the site and stabilized.

B. All stockpiles of earth and topsoil shall be protected with temporary seeding, erosion control fence around the entire perimeter, or other means to prevent erosion.

3.5 SILT FENCE

A. Silt fences and filter barriers shall be inspected immediately after each rainfall, at least daily during prolonged rainfall, and weekly during other periods. Any required repairs shall be made immediately.

B. Should the fabric on a silt fence or fabric barrier decompose or become ineffective and the barrier is still necessary, it shall be replaced immediately.

C. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately one-half the height of the barrier.

D. For any sediment deposits remaining after the silt fence or filter barrier is no longer required, the sediment shall be spread, dressed, and seeded to conform to the surrounding area.

END OF SECTION 02374

SECTION 02750 – CONCRETE PAVEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Concrete Walks

1.2 SUBMITTALS

A. Submittals:

   1. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

   2. Joint Filler: Include manufacturer's product data sheet.

1.3 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

B. ACI Publications: Comply with ACI 301 (ACI 301M) unless otherwise indicated.

PART 2 - PRODUCTS

2.1 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:

1. Portland Cement: Shall meet CT DOT Form 816 M.03.01.

   a. Fly Ash: Shall meet CT DOT Form 816 M.03.01 13(a)

B. Normal-Weight Aggregates: Shall meet CT DOT Form 816 M.03.01 1&2.

C. Water: Potable and complying with CT DOT Form 816 M.03.01 4.

D. Air-Entraining Admixture: Shall meet CT DOT Form 816 M.03.01 9 (a).

E. Chemical Admixtures: Shall meet CT DOT Form 816 M.03.01 9

F. Joint Filler for Sidewalk Expansion Joint Repair: Sikaflex-2C SL Two-component, self-leveling, polyurethane elastomeric sealant. Or approved equal.

2.2 CURING MATERIALS

A. Curing Materials: Shall meet CT DOT Form 816 M.03.01 10

2.3 CONCRETE MIXTURES

A. Concrete Mixtures: shall meet CT DOT Form 816 M.03.01 Class ‘C’.

2.4 CONCRETE MIXING

A. Ready-Mixed Concrete: shall meet CT DOT Form 816 M.03.01.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Proof-roll prepared subbase surface below concrete walks, pads, etc. Identify soft pockets and areas of excess yielding.

B. Remove loose material from compacted subbase surface immediately before placing concrete.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.3 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness.

E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch (6-mm) radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.4 CONCRETE PLACEMENT

A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.

B. Comply with CT DOT Form 816 M.03.01 requirements for measuring, mixing, transporting, placing, and consolidating concrete.

C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

D. Screed paving surface with a straightedge and strike off.

E. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.5 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.
2. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch (1.6 to 3 mm) deep with a stiff-bristled broom, perpendicular to line of traffic. Match finish texture to existing concrete to remain adjacent to new sidewalks.

3.6 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete in accordance with CT DOT Form 816 M.03.01 10.

3.7 REPAIRS AND PROTECTION

A. Remove and replace concrete sidewalk that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Engineer.

B. Protect concrete sidewalks from damage.

C. Maintain concrete sidewalks free of stains, discoloration, dirt, and other foreign material. Sweep sidewalks not more than two days before date scheduled for substantial completion inspections.

END OF SECTION 02750

SECTION 02900 – LAWN & PLANTING RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 WORK INCLUDED:

A. Furnish and install loam and grass seed as required to repair and restore grass areas disturbed by the work of this contract.

1.3 SUBMITTALS

A. Submit grass seed analysis.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Loam: Clean natural agricultural soil capable of sustaining healthy growth. Soil shall be porous enough to permit adequate aeration and drainage. Soil shall be relatively free of subsoil, stones, roots, debris, trash and other foreign materials. Use loam stripped from site and provide additional loam from off site as required.

B. Grass Seed:

1. Analysis:

   70% “Kentucky 31” fescue with 98% purity and 90% germination.

   15% “Kentucky Bluegrass” with 97% purity and 70% germination.

   15% “Creeping Red Fescue” or “Chewing’s Fescue” with 98% purity and 75% germination.

2. Grass seed shall be fresh, clean, and of latest crop. Deliver seed in unopened containers bearing date and guaranteed analysis, or submit certificate of date and analysis.

PART 3 - EXECUTION

3.1 PREPARATION AND SEEDING

A. Spread loam to compacted depth of 6” or greater.

B. Rake out clods, stones, roots, debris and trash. Largest size of remaining foreign material shall be ¾” diameter.

C. Rake loam smooth.

D. Distribute seed at rate of 5 pounds per 1000 square feet with mechanical seeder on calm day. Seed 50% - 50% at right angles. Seed when weather and ground conditions are proper.
   1. Seeding seasons:
      From August 15 to October 15
      From March 15 to May 1

E. Rake and lightly water seeded loam.

F. In place of dry seeding, hydroseeding may be used. Rate of application shall be the same as specified for dry seeding.

G. Prevent erosion. In areas subject to erosion, stake soil stabilization mat within topsoil. Stakes shall be as recommended by Enka Building Products/Colbond. Alternate methods of preventing erosion may be used if approved by Architect.

3.2 PREPARATION

A. Prevent construction traffic from crossing grass areas.

B. Water grass lightly and frequently until healthy stand of grass is established.

C. Perform maintenance of grass. Water, regrade, reseed and otherwise maintain grass so as to produce healthy uniform lawn.

END OF SECTION 02900

SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1 -GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 – WORK INCLUDED

A. Contractor shall furnish all labor, material, tools and equipment required to complete all cast-in-place concrete work as shown on the Drawings and specified herein.

1.3 - QUALITY ASSURANCE

A. The work of this Section shall conform to the current State of Connecticut Building Codes, which includes the 2003 International Building Code and 2009 International Residential Code, as amended and adopted by the State of Connecticut.

B. The work of this Section shall conform to all requirements of ACI 301, “Specifications for Structural Concrete for Buildings". Although the remainder of this Section states in condensed form, the pertinent provisions of that document, it shall be understood that it has been adopted in its entirety and may be referred to throughout the project for provisions not restated below.

C. Concrete floor and slab construction shall conform to the recommendations of ACI 302.IR, "Guide for Concrete Floor and Slab Construction".

D. The standards of the American Society for Testing and Material and the American Concrete Institute, referred to in these specifications by their serial designation and declared to be a part of these specifications, the same as if fully set forth herein.

1.4 - SUBMITTALS

A. Submit separate concrete mix designs and additives for each strength class of normal weight concrete and for pumped concrete.

B. Prepare for cold weather conditions, if required.

C. Submit reinforcing drawings showing size and location of all rebar.

1.5 - STANDARDS

A. Applicable portions of the latest edition of the following codes and standards are hereby made part of this specification in their entirety as though fully set forth herein:

ACI 211.1	Proportions for Normal, Heavyweight, and Mass Concrete
ACI 214	Recommended Practice for Evaluation of Strength Test Results of Concrete
ACI 301	Specifications for Structural Concrete for Buildings
ACI 302	Guide for Concrete Floor Slab Construction
ACI 304	Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete
ACI 304R	Placing Concrete by Pumping Methods
ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 309	Recommended Practice for Consolidation of Concrete
ACI 315	Details and Detailing of Concrete Reinforcement
ACI 318	Building Code Requirements for Reinforced Concrete

PART 2 - PRODUCTS

2.1 - MATERIALS

A. Concrete:

1. Cement shall be Type I or Type II Portland Cement, and shall conform to "Standard Specifications for Portland Cement: (ASTM C 150).

2. Aggregates for concrete of normal weight shall conform to "Standard Specification for Concrete Aggregates: (ASTM C 33).

3. Mixing water for concrete shall be fresh, clean, and potable.

B. Normal Weight Aggregates:

1. ASTM C33, aggregates shall be from a single source.

C. Air entraining admixtures:

1. ASTM C260

D. Water-reducing, retarding, and accelerating admixtures:

1. ASTM C494

2. Containing not more than 1% chloride ions.

E. Non-shrink grout:

1. Masterflow by Master Builders, SIKA, or approved equal.

F. Mix water shall be clean, fresh, and potable.

G. Curing compounds:

1. ASTM C309, Kure-n-Seal, or approved equal.

H. Vapor barrier:

1. Polyethylene of thickness indicated on the Drawings.

2.2 - PROPORTIONING

A. Concrete compressive strength at 28 days:

1. 3,000 psi for concrete walls, footings, piers.

2. .....3,500 psi for slabs on grade.

3. 3,000 psi for all other concrete.

B. Concrete proportions shall be selected in accordance with ACI 211.1 for normal weight concrete.

C. All concrete exposed to the weather shall be air-entrained with air content not less than 5% and not more than 7% by volume.

D. No air entrainment shall be used for interior concrete, including, but not limited to trowelled slabs on grade.

E. Water-cement ratio shall not exceed 0.50.

F. Maximum slump:

1. 4” for slabs

2. 5” for all other concrete

G. Minimum slump:

1. 2” for slabs.

2. 3” for all other concrete.

H. The nominal maximum size of coarse aggregate shall be not larger than:

1. 1/5 the narrowest dimension between sides of forms.
2. 1/3 the depth of slabs.
3. ¾ the minimum clear spacing between reinforcing bars.

I. All admixtures shall be reviewed by the Architect and the Engineer.

J. Concrete proportions shall be established on the basis of previous field experience or laboratory trial batches with the same materials to be employed in the work.

K. Use accelerating admixture in all concrete placed at ambient temperatures below 50 degrees F. Use hot water if required to meet specifications.

PART 3 - EXECUTION

3.1 - FORMWORK

A. Forms shall result in a final structure that conforms to shapes, lines, and dimensions as required by the design drawings and specifications.

B. Forms shall be substantial and sufficiently tight to prevent leakage of mortar or concrete.

C. Forms shall be properly braced or tied together to maintain position and shape.

D. Formwork shall conform to ACI 347.

E. Form ties shall be type with break off or screw-out ends and plugs which may be easily removed at least 3/4" back of surface of the concrete.

F. Before placing reinforcing steel or concrete, the surface of forms shall be covered with an acceptable form release coating material that will effectively prevent absorption of moisture, prevent bond with the concrete, and not stain the concrete surface.

G. Excess form release coating material shall not stand in puddles in the forms nor shall it come in contact with hardened concrete against which fresh concrete or reinforcing steel is to be placed.

H. Formwork for columns, walls, and other parts not supporting the weight of the concrete may be removed as soon as the concrete has hardened sufficiently to resist damage from removal operations.

I. Forms and shoring in the formwork used to support the weight of concrete in beams, slabs and other structural members shall remain in place until the concrete has reached a minimum strength of 80% of the specified 28 day compressive strength.

J. Install bulkheads, boxes, etc., for openings required for piping, conduits, and other equipment for other trades.

K. Clean forms just before concrete placement. Remove all chips, wood, sawdust, dirt or other debris.

3.2 - REINFORCEMENT

A. Reinforcing bars shall be ASTM A615 grade 60. All reinforcement required to be welded to structural steel shall be low alloy, Grade 60, deformed steel bars conforming with ASTM A 706.

B. Reinforcement shall be maintained free from dust, mud, rust, oil or ice.

C. Fabrication and placement of reinforcing steel shall be in accordance with CRSI “Manual of Standard Practice” and CRSI “Placing Reinforcing Bars.”

D. Minimum cover on reinforcement:

1. Concrete cast against earth ..... 3"
2. Concrete exposed to earth or weather:
   a. #6 and larger ..... 2”
   b. #5 and smaller ..... 1 ½"
3. Interior surfaces:
   a. slabs, walls..... ¾”
   b. beams, columns ..... 1 ½"

E. Splices shall be lapped 48 bar diameters and securely tied.

F. Heat shall not be used to bend reinforcing bars.

G. Bar chairs and slab bolsters shall have plastic tips where concrete surface is exposed to view.

H. Welded wire fabric: ASTM A185 and A82.

I. Welded wire fabric reinforcing shall be placed at 1” clear from top of slabs on grade. Place mesh on concrete brick or chairs and raise to position in slab as concrete is placed.

J. Welded wire fabric shall be furnished in flat sheets, not rolls.

K. Welded wire fabric shall be lapped at least 8 inches between outermost cross wires and tied at all edges.

L. Welded wire fabric shall be fabricated and installed in accordance with "Manual of Standard Practice - Welded Wire Fabric", Wire Reinforcement Institute, Inc.

M. At all intersecting walls and footings, provide additional horizontal “L” shaped dowels of the same size and spacing as reinforcing indicated in sections. All bars shall lap a minimum of 48 bar diameters with horizontal reinforcement.

3.3 - JOINTS AND EMBEDDED ITEMS

A. Maximum length of pours between wall construction joints shall be 40 feet. Location of joints shall be approved by the Architect.

B. Wall construction joints shall have a 2 x 4 key and horizontal wall reinforcement shall be continued across joints.

C. Saw-cut control joints in slabs on grade at 8’-0” x 8’-0” panels, per column bay maximum.

D. Slab control joints shall be cut within 24 hours of concrete placement.

E. Slab control joints shall be saw-cut 1/8" wide and to a depth of 1/4 the slab thickness.

F. Welded wire fabric shall extend through slab control joints.

G. Saw-cut control joints shall be filled with joint sealant.

H. Premolded joint filler shall be non-extruding and resilient bituminous type conforming to ASTM D1751.

I. Anchor bolts and other embedded items shall be positioned accurately and supported against displacement.

J. All sleeves, inserts, anchors, and embedded items required for adjoining work or for its support shall be placed prior to concreting.

K. All contractors whose work is related to the concrete or must be supported by it shall be given ample notice and opportunity to introduce and/or furnish embedded items before the concrete is placed.

L. Conduits and pipes of aluminum shall not be embedded in concrete.

3.4 - PRODUCTION OF CONCRETE

A. Concrete shall be batched, mixed and transported in accordance with ASTM C94 and ACI 304.

B. Batching plant equipment and facilities shall conform to "Certification of Ready Mixed Concrete Production Facilities" of the National Ready Mixed Concrete Association.

C. Admixtures shall be charged into the mixer as solution and shall be measured by means of an acceptable mechanical dispensing device. The liquid shall be considered a part of the mixing water.

D. If more than one admixture is used in the concrete, they shall be added separately.

E. Ready-mixed concrete trucks shall not be loaded in excess of their rated capacity.

3.5 - PLACING

A. Do not pour concrete until forms and subgrade have been thoroughly cleaned and are free of frost, mud, ice, or water.

B. Convey concrete from truck to forms as rapidly as possible by methods which will prevent segregation or loss of ingredients. Place in forms as nearly as practicable to its final position.

C. When placement is started, carry on as a continuous operation until the placing of a section is complete. Cold joints are not permitted.

D. Consolidate concrete by mechanical vibration. Do not use vibrators to transport concrete in forms.

E. No concrete shall be placed in freezing weather or when freezing weather is forecast by the Weather Bureau to occur within 36 hours, unless special measures and precautions are taken to heat the water and aggregates and to protect the concrete from rapid drying.

F. No concrete shall be placed when the temperature is greater than 90 F. unless special measures are taken to cool the water and aggregate and to protect the concrete from rapid drying.

G. No concrete shall be placed during rain, sleet, or snow unless protection is provided.

H. The maximum elapsed time between introduction of water and placing shall be one hour.

3.6 - FINISHING OF FORMED SURFACES

A. Form tie holes shall be dampened and filled with mortar.

B. All formed surfaces exposed to view shall receive a grout rubbed finish within 24 hours of concrete placement.

C. Tops of walls shall be floated to a texture comparable to formed surfaces.

3.7 - SLABS

A. Interior slabs on grade shall be placed over a polyethylene vapor barrier.

B. Extreme care should be exercised during slab placement to insure that welded wire fabric is positioned as shown on the Drawings.

C. Slabs shall be constructed in accordance with ACI 302.

D. Interior slabs shall receive a steel trowel finish.

E. Finishing Tolerances: Finish floor slabs to true planes within 1/8" in 10 feet, as determined by a 10 foot straightedge placed anywhere on the slab in any direction.

3.8 - CURING AND PROTECTION

A. Concrete shall be maintained above 50 degrees F. and in a moist condition for at least the first 7 days after placement.

B. Provisions for curing of concrete shall be in accordance with ACI 308.

C. Curing compound shall be Sonneborn Kure-N-Seal or equal and must be reviewed for compatibility with floor finishes.

D. One coat of curing compound shall be applied to all slabs as soon as concrete is firm enough to walk on.

E. In hot weather, concrete shall be protected in accordance with ACI 305.

F. In cold weather, concrete shall be protected in accordance with ACI 306.

3.9 - INSPECTION AND TESTING

A. All expenses in connection with tests specified herein shall be borne by the Owner. The testing laboratory selected to conduct the tests shall be approved by the Architect, Engineer, and Owner.

B. A minimum of three (3) test specimens shall be made for each 50 cubic yards of concrete or not less than three (3) for each day's placement. Two (2) cylinders shall be tested at seven days and one (1) at 28 days. The specimens shall be carefully stored and transported so as not to damage them in any way. Records shall be kept, identifying each cylinder with the locations of placement from which test cylinders were taken.

C. Slump tests shall be performed when each set of test cylinders are cast.

D. If any concrete fails to develop the required 28 day strength, the Architect may order core tests at the Contractor's expense, and if the concrete in place is below strength, the Architect may order the removal and replacement of such concrete at the Contractor's expense, including any additional cost for the Architect's inspection and redesign.

E. The testing laboratory shall send copies of test reports to the Architect, Engineer, Contractor, Owner, and the local Building Department.

END OF SECTION 03300

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 – WORK INCLUDED

A. Furnish and install all new wood framing as shown on the Drawings and as specified herein.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Interior woodwork exposed to view is specified in Section 06200.

1.4 - REFERENCE STANDARDS

A. Use lumber and plywood grade-marked in accordance with the following standards:

1. Southern Pine: "Standard Grading Rules for Southern Pine Lumber", published by Southern Pine Inspection Bureau.

2. Plywood: Comply with PS 1 (ANSI A 199.1) or, for products not manufactured under PS 1 provisions, with applicable APA Performance Standard for type of panel indicated.

B. Preservative pressure treated lumber and plywood shall comply with AWPA C2 and C9, respectively, and with the requirements listed below:

1. Wood for ground contact use: AWPB LP-22.

2. Wood for above-ground use: AWPB LP-2.

C. Requirements for all lumber:

1. Lumber shall be seasoned to 19% or less moisture content.

2. Lumber and plywood shall be grade marked to show conformity to specifications.

3. All materials shall conform to ‘FEMA’ *Technical Bulletin 2, Flood Damage–Resistant Materials Requirements*.

D. Requirements for all fasteners, timber anchors, connectors, and post bases:

1. All fasteners, timber anchors, connectors, and post bases and shall comply with 'FEMA' *Technical Bulletin 8-96(FIA-TB-8), Corrosion Protection for Metal Connectors in Coastal Areas.*

1.5 – SUBMITTALS

A. Submit all lumber materials for approval by Architect/Engineer.

B. Submit all LVL, I joists and accessories for approval by Architect/Engineer.

PART 2 - PRODUCTS

2.1 - MATERIALS

A. Sills, bucks, blocking, and nailers for use in conjunction with wood construction and where exposed to concrete, masonry, roofing or other sources of dampness: Any species of structural lumber, construction grade, pressure treated, meeting the requirements listed above.

B. Joists, rafters, headers, stringers, beams, posts, studs, plates and other structural support members except those listed below: Douglas Fir-Larch, No.1 grade or better.

C. Blocking, nailers, and other non-structural uses: Any species of structural lumber, construction grade or better.

D. Exterior wall sheathing: nominal 1/2" tongue & groove, APA rated sheathing, Exposure 1.

E. Roof Sheathing: Nominal 5/8", square edge, APA Rated Sheathing, Exposure 1.

F. Flooring Plywood: Nominal ¾" tongue & groove "Sturd-I-Floor" combination subfloor underlayment, or approved equal.

1. Plywood flooring shall be INT-APA Grade C-D plugged, with exterior glue and contain four (4) inner plies.

G. Flooring underlayment: APA rated underlayment, exposure 1, with sanded face or APA rated underlayment A-C, exterior grade, with sanded face.

H. Laminate veneer lumber (LVL): Red Lam or equal: Fb= 2800 psi, E= 2000 ksi

I. I Joists: Red Built Engineered Wood Products, or approved equal.

J. Exterior Wood: Coastal Wood Products – LVL for seaside exposure.

PART 3 -EXECUTION

3.1 – WORKMANSHIP

A. Produce joints which are tight, true and well nailed, with members assembled in accordance with the Drawings and with pertinent codes and regulations.

B. Selection of lumber pieces:

1. Carefully select the members.

2. Select individual pieces so that knows and obvious defects will not interfere with placing bolts or proper nailing, and will allow making of proper connections.

3. Cut out and discard defects which render a piece unable to serve its intended function.

4. Lumber may be rejected by the Architect, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.

C. Do not shim any framing component.

3.2 – GENERAL FRAMING

A. General:

1. Provide framing members of the size(s) and spacing shown on the Drawings.

2. In addition to framing operation normal to the fabrication and erection indicated on the Drawings, install solid wood blocking and backing required for fastening of grab bars and other accessories as required. All exterior blocking to be pressure treated.

3. Do not notch, cut, or bore members for pipes, ducts, or conduits, or for other reasons except as shown on the Drawings or as specifically approved in advance by the Architect.

B. Bearings:

1. Make bearings full unless otherwise indicated on the Drawings.

2. Finish bearing surface on which structural members are to rest so as to give sure and even support. Shim with pressure treated wood or plastic at foundation walls.

3. Where framing members slope, cut or notch the ends as required to give uniform bearing surface.

3.3 – ALIGNMENT

A. On framing members to receive a finished surface, align the finish subsurface to vary not more than 1/8" from the plane of surfaces of adjacent furring and framing members.

3.4 – INSTALLATION OF PLYWOOD SHEATHING

A. Placement:

1. Place plywood with face grain perpendicular to supports and continuously over at least two supports, except where otherwise shown on the Drawings.

2. Center joints accurately over supports, unless otherwise shown on the Drawings.

B. Protect plywood from moisture by use of waterproof coverings until the plywood in turn has been covered with the next succeeding component or finish.

3.5 – INSTALLATION OF PLYWOOD UNDERLAYMENT

A. Preparation: Allow plywood underlayment to acclimate to environmental moisture conditions of the installation area prior to beginning installation.

B. Placement:

1. Place plywood underlayment with face grain (long dimension) perpendicular to supports and continuously over at least two supports. Stagger underlayment end joints by 16" minimum. Offset joints from joints of subfloor below by 2" minimum.

2. The subfloor over which the underlayment will be installed must be smooth, dry, properly fastened and free of joint swelling, warping, or delamination.

3. Position the edges of plywood panels net (lightly butted) without excessive tightness.

4. Fasten the underlayment using 3d (1 ¼") ring-shank nails for plywood panels up to ½" thick. Narrow crown chisel point staples may be used in lieu of nails on panels up to 3/8" thick.

5. Position the fasteners every 3" around edges and 6" in the body of the sheet. Place fasteners so they do not penetrate framing (joists). In structures where the joists and subfloor materials were subjected to wet weather or where the materials are of unseasoned lumber, to prevent nail popping, it is advisable to use staples set 1/32" below the surface to fasten the underlayment. If it is necessary to use nails, set the

heads 1/32" below the surface; filling nail holes is not recommended.

6. Sand any uneven joints level and fill any gaps between joints in excess of 1/32" with a recommended latex patching compound prior to flooring installation.

7. For optional adhesive application, see 3.6 F. below.

3.6 - FASTENING

A. Fasteners: All fasteners shall comply with the reference in 1.4, D. above.

1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide, at a minimum, fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M, or stainless steel.

2. Power-Driven Fasteners: CABO NER-272.

3. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers. At a minimum, all bolts set in concrete or exposed to the weather shall be galvanized.

B. Metal framing anchors: All timber connection hardware, post bases, and the like shall comply with the reference in 1.4, D. above.

1. Provide timber connection hardware by Simpson or approved equal of the gauges shown on the Drawings, or as otherwise required. At a minimum, provide galvanized anchors for attaching carpentry to masonry or concrete, and for all exterior applications. All V-E Zone structures shall have stainless steel fasteners and connectors.

C. Nailing:

1. Use only common wire nails or spike of the sizes required in the 2009 International Residential Code, as amended, except where otherwise specifically noted on the Drawings. Contractor shall also comply with the "Wood Framed Construction Manual", exposure 3, where it applies.

2. For conditions not covered in the Code, provide penetration into the piece receiving the point of not less than ½ the length of the nail or spike, provided, however, that 16d nails may be used to connect tow pieces of 2" (nominal) thickness.

3. Nail without splitting wood.

4. Pre-bore as required.

5. Remove split members and replace with members complying with the specified requirements.

6. All fastening to comply with American Wood Council, WFCA – 100 mph, or as stipulated in the 2009 International Residential code, as amended by the State of Connecticut.

D. Bolting:

1. Drill holes 1/16” larger in diameter than the bolts being used.

2. Drill straight and true from one side only.

3. Do not bear bolt threads on wood, but use washers under head and nut where both bear on wood, and use washers under all nuts.

E. Screws:

1. For lag screws and wood screws, pre-bore holes same diameter as root of threads, enlarging holes to shank diameter for length of shank.

2. For screws at plywood underlayment, countersink screws such that heads of screws are 1/32” below the uppermost surface of the plywood.

F. Adhesives:

1. Contractor shall insure the stability and solidity of the underlayment installation. Contractor may opt to use an approved adhesive construction below underlayment.

2. Any adhesive used shall be troweled on and applied over the entire surface of the underlayment, where underlayment is over another solid surface.

3. Use only adhesives compatible with product being adhered. Adhesives should not be used to install flooring underlayment unless it is known that they will not stain resilient floor coverings.

4. Apply adhesive only in accordance with manufacturer’s instructions and recommendations.

END OF SECTION 06100

SECTION 06200 - FINISH CARPENTRY

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 - WORK INCLUDED

A. Furnish and install all new interior woodwork exposed to view as shown on the Drawings and as specified herein.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Wood and plywood not specified here are specified in Section 06100.

B. Wood doors are specified in Section 08200.

C. Painting is specified in Section 09900.

PART 2 - PRODUCTS

2.1 - MATERIALS AND FABRICATION

A. The "Quality Standards" of the Architectural Woodwork Institute (AWI) is hereby incorporated by reference.

B. Standing & running trim for opaque finish:

1. Quality Grade: "Custom" as defined by AWI.

2. Species: Clear white pine.

3. Profile: Match existing, or as otherwise shown on the Drawings.

C. Standing & running trim for transparent finish:

1. Quality Grade: "Premium" as defined by AWI.

2. Species: Match existing adjacent.

3. Profile: Match existing, or as otherwise shown on the Drawings.

PART 3 - EXECUTION

3.1 - WORKMANSHIP

A. Install finish carpentry in a manner consistent with specified quality of manufacturer, and/or acceptable standards of good practice. Distribute allowed defects to best over-all advantage.

B. Jointing: Produce joints which are true, tight and well nailed. Make joints to conceal shrinkage. Install trim in pieces as long as possible, jointing only where solid support is obtained.

1. House or cope interior corners.

2. Blind miter exterior joints.

3. Miter or scarf end-to-end joints.

C. Fastening:

1. Install items straight, true, level, plumb, and firmly anchored in place.

2. Where blocking or backing is required, coordinate as necessary with other trades to ensure placement of required backing and blocking in a timely manner.

3. Nail trim with finish nails of proper dimension to hold the member firmly in place without splitting the wood.

4. On exposed wood, set nails for putty.

5. Screw, do not drive, wood screws; except that screws may be started by driving and then screwed home.

3.2 – FINISHING

A. Sandpaper finished wood surfaces thoroughly as required to produce a uniformly smooth surface, always sanding in the direction of the grain, except do not sand wood which is designed or intended to be left rough.

B. No coarse grained sandpaper mark, hammer mark, or other imperfection will be accepted.

C. Fill cracks in existing wood trim with an approved filler material. Sand smooth to match existing lines and profile prior to finishing.

END OF SECTION 06200

SECTION 07150 - DAMPPROOFING

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 - WORK INCLUDED

A. Furnish and install vapor barrier under all new concrete slabs-on-grade (Bid Alternate #1) and stone surfaced areas on grade (Base Bid).

B. Furnish and install infiltration barrier (sheathing wrap) under all new vinyl siding.

C. Furnish and install flexible membrane flashing at all new window sills.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Concrete is specified in Section 03300.

B. Rough Carpentry is specified in Section 06100.

C. Building insulation is specified in Section 07200.

D. Vinyl siding is specified in Section 07460.

PART 2 - PRODUCTS

2.1 - MATERIALS

A. Vapor Barriers:

1. Sub-slab/Sub-stone Vapor barriers: 10 mil thickness Polyethylene.

B. Infiltration Barrier (Sheathing wrap): "Tyvek Home Wrap" as manufactured by Dupont or approved equal.

C. Self-adhering flexible membrane flashing: “Vycor” as manufactured by W.C. Grace Co., or approved equal.

PART 3 - EXECUTION

3.1- INSTALLATION OF SUB-SLAB/SUB-STONE VAPOR BARRIER

A. Install vapor barrier over compacted fill prior to installation of concrete slab or stone surface barrier at grade. Do not install more material than will be covered on a given day.

B. Minimum lap 6" at joints. Seal all joints as recommended by barrier manufacturer.

C. Avoid tearing. Patch tears with pieces of vapor barrier lapping tear 6" in all directions. Tape patches in place. Tape around all penetrations through vapor barrier.

3.2 - INSTALLATION OF INFILTRATION BARRIER

A. Install infiltration barrier (Sheathing wrap) on outside of new exterior wall sheathing (new construction only) directly below new vinyl siding. Lap horizontal joints upper outside lower, at least 12", and lap vertical joints at least 12". Tape joints. Tape tightly to protrusions. At windows, doors, and other openings, tape infiltration barrier over head and jamb flashings and under sill flashings. Install infiltration barrier to form complete waterproof, windproof film outside sheathing. Hold infiltration barrier in place using sharp pointed nails with broad plastic heads.

B. After infiltration barrier has been installed, notify Architect for inspection before covering infiltration barrier, and perform hose testing to demonstrate that infiltration barrier is waterproof. Tape rips that occur in infiltration barrier.

C. At all window sills, install flexible membrane flashing. Install in accordance with manufacturer's instructions. Lap over sheathing wrap 8", full width of opening, turning continuous membrane vertically 4” minimum at each jamb.

END OF SECTION 07150

SECTION 07200 - INSULATION

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 – WORK INCLUDED

A. Furnish and install insulation of the types, thicknesses and R values, as shown on the Drawings and specified herein.

1.3- RELATED WORK SPECIFIED ELSEWHERE

A. Rough framing is specified in Section 06100.

B. Sheathing wrap is specified in Section 07150.

C. Sealants are specified in Section 07900.

PART 2 - PRODUCTS

2.1 – GENERAL REQUIREMENT

A. All batt, blanket, and fill materials specified in this Section shall conform to the requirements of ASTM E84 as follows:

1. Where exposed as installed in rooms or spaces, including attics, and crawl spaces, shall have a flame spread rating of 25 or less and a smoke-developed rating of 450 or less.

2. Where concealed as installed shall have a flame spread of 75 or less and a smoke-developed rating of 450 or less.

2.2 – MATERIALS

A. Batt Insulation: “EcoTouch Pink Fiberglas” insulation as manufactured by Owens Corning, foil-faced or unfaced, thickness and/or R values as shown on the Drawings.

B. Rigid Foam Insulation: “Foamular High-R CW Plus” extruded polystyrene rigid foam insulation board as manufactured by Owens Corning. Thickness and/or R values as shown

on the Drawings.

C. Flashing Tape: *"3M All Weather Flashing tape 8067"*, or approved equal.

PART 3 - EXECUTION

3.1 – INSTALLATION OF BATT INSULATION

A. Install batt insulation between joists and studs of all new construction and elsewhere as shown on the Drawings to form an unbroken blanket. Fit insulation tightly around and behind obstructions. Install tightly edge to edge. At eaves, provide manufactured inserts or baffles to hold insulation tight to interior finish.

1. Always install foil face (vapor barrier) of insulation facing **warm side** of floor or wall system being insulated.

2. Where there is plumbing in exterior walls, install insulation only on the cold side of the piping; do not install insulation on the warm side of the piping.

3.2 – INSTALLATION OF BOARD INSULATION

A. Rim joists, headers: Provide rigid foam insulation board of the thicknesses/R value shown at rim joists of each floor level, in door & window headers, and elsewhere as shown on the Drawings.

B. Floors over exterior spaces: Fasten rigid foam insulation board to the underside of floor system located over newly created exterior space. Install in accordance with manufacturer's instructions. Seal all board joints using specified flashing tape.

END OF SECTION 07200

SECTION 07310 - FIBERGLASS BASED ASPHALT SHINGLES

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 - WORK INCLUDED

A. Provide all materials, labor, equipment and services necessary to furnish, deliver and install asphalt shingle roofing and related work as required by the Drawings and/or herein specified, generally as follows:

1. Asphalt shingle roofing on all roofs of new building additions, and re-roofed areas of existing roofs as shown on the Drawings.

2. Felt underlayment under all new asphalt roofs.

3. Ice and water barrier at all new eaves, all new valleys and elsewhere as shown.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Rough Carpentry is specified in Section 06100.

B. Flashing is specified in Section 07600.

C. Gutters and leaders are specified in Section 07630.

1.4 - REFERENCES

A. The National Roofing Contractors Association Roofing and Waterproofing Manual, "Steep Roofing" section, is hereby incorporated by reference. Contractor shall be familiar with this reference, and a copy shall be on the job.

B. Follow roof shingle manufacturer's recommendations unless they are less stringent than these specifications. If roof shingle manufacturer's recommendations prohibit parts of these Specifications, notify Architect.

1.5 – SUBMITTALS

A. Samples: Submit samples of asphalt shingles for matching existing roofing.

B. Certificate: Furnish manufacturer's certification that asphalt shingles furnished meet or exceed the requirements of this section.

C. Manufacturer's Literature: Material description and recommended installation procedures.

D. Manufacturer's Warranty.

1.6 - DELIVERY, STORAGE & HANDLING

A. Deliver materials with manufacturer's labels intact and legible.

B. Deliver materials in sealed packages with Underwriters Laboratories, Inc. labels.

C. Store materials on raised platforms and protect with coverings at outdoor locations.

D. Do not stack bundles of shingles more than 4 high.

E. Store rolled goods on end.

1.7 - WARRANTY

A. The asphalt roof shingle shall be guaranteed against material defects for a period of 30 years minimum by the manufacturer.

PART 2 - PRODUCTS

2.1 - ASPHALT ROOF SHINGLES

A. Self-sealing “Architectural” style fiberglass shingles, UL Class "A", Standard Weight: Mineral-surfaced, self-sealing, 3-tab asphalt fiberglass strip shingles complying with ASTM D 3018, bearing UL Class "A" external fire exposure label and UL "Wind Resistant" label, with thirty (30) year warranty. Color, texture, and style as selected. Basis of Design: GAF “Timberline”. Subject to compliance with requirements of the Contract, equal products from one of the following manufacturers may also be acceptable:

1. CertainTeed.

2. Owens – Corning.

2.2 - OTHER MATERIALS

A. Underlayment: Manufacturer's recommended fiberglass-reinforced asphalt-saturated roofing felt underlayment conforming to the requirements of ASTM D226, Type 1, or ASTM D4869, Type 1, and manufactured for use as fiberglass-asphalt shingle underlayment. Product shall be GAF "Shingle-Mate" or equivalent by same manufacturer as shingles.

B. Nails: Aluminum or hot-dip galvanized, minimum 12 gauge, sharp pointed conventional roofing nails with barbed shanks, 3/8" diameter head. Nails length shall be of sufficient length to penetrate minimum ¾" into sheathing.

C. Eave Flashing (Ice & Water Barrier): GAF "Weatherwatch" or equivalent by same manufacturer as shingles, 36" wide rolls to dimensions indicated on drawings.

D. Metal Rake and Drip Edge: Minimum .024" thick aluminum sheet as manufactured by Alcoa, or approved equal, with 3" roof deck flange, and 1-1/2" fascia flange and 3/8" drip at lower edge. Furnish in 8' or 10' lengths. Color shall be white.

E. Vented Drip Edge: Cor-A-Vent, or approved equal.

F. Roof Cement: Complying with ASTM D 4586.

G. Provide auxiliary products such as rubber-metal boots for flashing vents and other penetrations. Such products shall be manufactured by the shingle manufacturer or recommended by them.

PART 3 - EXECUTION

3.1 - PREPARATION

A. Assure the surfaces to which shingles are to be applied are uniform, smooth, sound, clear, dry and free of irregularities. Do not start shingle installation until all unsatisfactory conditions are corrected. The installation of shingles shall represent the acceptance of existing conditions by the installer.

B. When the outside temperature is expected to be 40 degrees or below, the shingles shall be warmed sufficiently so as to prevent cracking. All cracked or damaged shingles shall be discarded as debris.

3.2 – DEMOLITION

A. Where specifically shown on the Drawings, remove existing layer(s) of asphalt shingle, wood shake starter course, underlayment, metal drip and rake edges, etc., down to the existing sheathing. Avoid damage to the existing sheathing. Set or replace any loose or missing nails.

B. Protect the public, the building and the landscaping from damage from materials removed from the roof. Use plywood chutes or other approved method.

C. All demolition materials shall be legally disposed of off-site, at the Contractor's expense including all disposal fees and permits.

D. Inspect all existing sheathing, fascias, soffits and framing for damage (rotting, delaminating, structural impairments) and notify the Architect in writing.

3.3 - INSTALLATION

A. Coordinate work with flashings specified in Section 07600 and work specified in Divisions 15 and 16 which passes through roof. Build in flashings for mechanical and electrical work.

B. Apply materials generally in the following order:

1. Apply eave flashings. At bottom edge turn eave flashing material over and down wall to the bottom of the gutter or to the bottom of the metal drip or fascia. Install eave flashings to extend from the eaves up the roof slope to a point 24" or more inside and above the projected interior plane of the exterior wall of the building, measured on the slope. Within 8'-0" of dormers and at dormers, extend eave flashings up the roof slope to a point 48" or more inside and above the projected interior plane of the exterior wall of the building. Apply eave flashing material up valleys, 33" to both side of valleys. If roof slope is less than 6:12, extend eave flashing material 48" to both sides of valleys. Lap flashing 6", and seal laps.

2. Apply metal fascia or metal eave drips.

3. Apply underlayment over all roof surfaces, including over eave and valley flashings down to the edge. Lap joints 12", the upper over the lower. Apply patches where underlayment is cut, broken, or fitted around penetrations. Tape patches and all penetration and edge joints.

4. At valleys, weave underlayment.

5. At intersections between sloped roof and walls, install metal step flashing as recommended by SMACNA. Lower flashings shall extend 5" or more out between shingles, and shall extend 5" or more up wall, behind siding.

6. Install shingles as recommended by manufacturer. Apply six nails per shingle. If the temperature and season at the time of installation are not such that self-sealing shingles will bond, warm them with hot air gun and press them to adhere self-sealing material, or apply mastic and press shingles into it to adhere them.

7. Make all shingles, including lowest courses and rake shingles, tight to the wind.

8. Follow manufacturer's instructions for installation of starter shingles to ensure that there are self-sealing strips under the butts of the lowest courses of shingles. This may require removing tabs from shingles. In addition to following manufacturer's and reference recommendations, set lowest two courses of shingles with full bed of roof cement between all layers.

9. In addition to following manufacturer's and reference recommendations, set rake shingles with full bed of roof cement between all layers, 12" wide.

10. If the shingles are not effectively self-sealed within 1 month of installation provide a bed of roof cement or "Blackjack" asphalt sealant to hold them.

11. Flatten all shingles which do not naturally lie flat, and cement them in place. Note that fiberglass shingles do not always flatten by themselves.

3.4 - EXTRA STOCK

A. At the conclusion of the Work, the Contractor shall provide the Owner with a minimum of 2 unopened bundles of shingle used. Deliver bundles to area designated by Owner.

END OF SECTION 07310

SECTION 07460 - VINYL SIDING

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 - WORK INCLUDED

A. Furnish and install vinyl siding, including soffits and all accessories as shown on the Drawings.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Sheathing Wrap is specified in Section 07150.

1.4 - SUBMITTALS

A. Submit selected manufacturer's range of standard colors for Architect's color selection.

1.5 - WARRANTY

A. Provide a 50 year non-prorated warranty of material quality and color stability from selected manufacturer.

PART 2 - PRODUCTS

2.1 - ACCEPTABLE MANUFACTURERS

A. Basis of Design: “Classic” as manufactured by CertainTeed Corp. Subject to compliance with the requirements of the Contract, equal products by one of the following manufacturers may also be acceptable when approved in advance by the Architect:

1. Alcoa Building Products.

2. Georgia-Pacific Corp.

3. Mastic

4. Wolverine Technologies.

2.2 - SIDING MATERIALS

A. Solid vinyl siding, soffit, and accessories are extruded Poly Vinyl Chloride compound as defined in ASTM D3670, "Standard Specification for PVC Siding".

1. All vinyl siding material shall have a flame spread rating of 20 or less.

B. Horizontal siding panels shall be: 12'-0" length, match existing exposure. Color: As selected. Provide weep holes in the shadow leg of the bottom panel, thus allowing the wall to "breathe" and also permit condensation and water vapor to escape from the wall.

C. Soffit panels: Provide corrugated PVC soffit panels, perforated (ventilated) and non-perforated, where indicated on the Drawings. Provide panels from same manufacturer as horizontal siding. Color: As selected.

D. Finish - Vinyl Siding shall be produced from PVC Compound containing quality color pigments to provide color throughout thickness of siding. Close control of color and gloss shall be maintained to provide for an attractive, weatherable surface.

2.3 - SIDING ACCESSORIES

A. Provide standard or custom accessory and trim shapes as shown on the Drawings or as required.

1. All accessories used with vinyl siding shall be produced from the same quality PVC compound as used for siding, by the same manufacturer.

PART 3 - EXECUTION

3.1 - PREPARATION

A. Before starting work, verify governing dimensions at building. Examine, clean, and repair, if necessary, any adjoining work on which this work in anyway is dependant for its proper installation.

3.2 - INSTALLATION

A. Install vinyl siding in accordance with the requirements and recommendations of "Rigid Vinyl Siding Application", published by the Society for the Plastics Industry, and manufacturer's printed installation instructions.

END OF SECTION 07460

SECTION 07600 - FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 - RELATED WORK SPECIFIED ELSEWHERE

A. Fiberglass based asphalt shingles are specified in Section 07310.

B. Sealants are specified in Section 07900.

PART 2 - PRODUCTS

2.1 - FLASHING MATERIALS

A. For use in Contact with Concrete or Concrete Masonry Units: Galvanized sheet metal. Thickness: 24 gauge.

B. For use in wrapping exterior wood trim, fasciae, and rake boards: Aluminum, 0.032” thick. Color/finish: As selected by Architect.

C. For all other uses: Aluminum, 0.024" thick. Color/finish: As selected by Architect.

2.2 - ACCESSORIES

A. Fasteners: Use broad-head deformed shank roofing nails for nailing, and use screws, pop-rivets, and other fasteners where appropriate. Use double galvanized or stainless steel fasteners to fasten galvanized steel. Use double galvanized or aluminum fasteners to fasten aluminum. Use of improper fasteners shall be cause for rejection of the work.

B. Solder: ASTM B32, of grade recommended for metal being specified.

C. Sealant: See Section 07900.

PART 3 - EXECUTION

3.1 - INSTALLATION, GENERAL

A. Unless shown otherwise, installation of sheet metal work shall conform to the recommendations of "Roofing and Waterproofing Manual", published by the National Roofing Contractors Association (NRCA), and "Architectural Sheet Metal Manual", published by Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA).

B. Wherever metal comes in contact with dissimilar metals, insulation shall be provided between same consisting of a layer of 15 lb. saturated roofing felt bonded in mastic, or the surfaces in contact shall be given a coat of bituminous base paint.

END OF SECTION 07600

SECTION 07900 - SEALANTS

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1.2 - WORK INCLUDED

A. Caulk all new openings in exterior walls, including doors, windows, mechanical openings, and control joints and elsewhere as shown. Caulk both inside and outside.

B. The required interior applications of sealant work include, but are not necessarily limited to the following general locations:

1. New sound sealed and waterproof joints.
2. New joints between metal door frames and other finished surfaces.
3. New joints between wood frames or wood trim and other finished surfaces.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Finish Carpentry is specified in Section 06200.

1.4 - SUBMITTALS

A. Submit manufacturer's color charts for color selection.

1.5 - DELIVERY, STORAGE AND HANDLING

A. Do not retain at the job site material which has exceeded the shelf life recommended by its manufacturer.

1.6 - PROJECT/SITE CONDITIONS

A. Apply sealants only to dry surfaces.

B. Do not apply sealants when temperature is below 40 degrees F. or less than 46 degrees F. and falling.

PART 2 - PRODUCTS

2.1 – MATERIALS

A. General Exterior sealant: 1-Part type silicone joint sealant complying with Federal Specification TT-S-001543A, Dow Corning 790 Silicone Building Sealant. Equal products by Pecora or General Electric are also acceptable. Color: As selected by the Architect.

B. Sealant for use in filling interior cracks at door and window trim, countertops, wood base, etc.: Acrylic Latex Caulk (ASTM C384) suitable for painting. Color: white.

C. Joint Backing: Rod stock compatible with sealant being used, size as required.

PART 3 - EXECUTION

3.1 - INSPECTION

A. Prior to application of sealants, the Contractor shall examine the surfaces of the work to which sealants will be applied. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 - PREPARATION

A. Bonding surfaces on both new and remedial jobs must be clean, dust and frost free. Solvent wipe the surfaces using a clean oil-free rag saturated with solvent compatible with surface being cleaned, as recommended by sealant manufacturer. Do not flood surfaces with more solvent than necessary.

B. Do not clean surfaces with soap, detergent or any water-based cleaner. Make sure that apparently clean surfaces are not covered with a thin film of construction dust.

3.3 - APPLICATION

A. Apply joint backing to joints open in back or over 1/2" deep. Compress backing so as to form a firm stop which will resist sealant pressure.

B. Sealants shall be installed with either a hand operated or air-operated caulking gun with sufficient pressure to completely fill voids and joints solidly. Extreme care shall be taken to prevent smearing onto adjacent surfaces. Material shall be heated as recommended by the manufacturer. Joints shall have a neat, uniform, slightly concave appearance.

C. All sealant work shall strictly conform to the sealant manufacturer's technical instructions for surface preparation and application procedures to accomplish a weathertight seal.

D. Tool joints within 10 minutes of application. If masking tape is used, remove tape before a surface skin begins to form.

E. After applying the sealant and after a "skin" has formed, do not disturb the joint for 48 hours.

3.4 - REMEDIAL WORK AND LIMITATIONS

A. Should sealant not completely fill or fully adhere to intended surfaces on first pass, remove bead and reapply. Do not apply successive beads to fill opening or obtain adhesion.

B. If cleaning solvents stain, abrade, or otherwise damage adjacent materials or surfaces, all repair, replacement, etc. shall be performed at no additional cost.

3.5 - CLEAN UP

A. Completely remove excesses, spillage, "tails", and properly dispose of same; use solvents recommended by manufacturer of sealant being applied.

B. Select solvents that are compatible with surfaces being cleaned.

END OF SECTION 07900

SECTION 08550 - CLAD WINDOWS

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this section.

1-2 - WORK INCLUDED

A. Provide insulating glass, double hung and fixed clad windows (single units and mulled units), complete with screens, in the sizes and locations shown on the Drawings.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Rough Framing is specified in Section 06100.

B. Vinyl Siding is specified in Section 07460.

C. Sealants are specified in Section 07900.

1.4 – QUALITY ASSURANCE

A. Windows/window performance shall comply with the requirements of the2009 International Energy Conservation Code as published by the International Code Council and amended by the State of Connecticut.

B. The selected window manufacturer and the General Contractor shall be responsible for grouped or mulled multiple window arrangements complying with a design wind load resistance of 100 mph as a group.

PART 2 – PRODUCTS

2.1 - MATERIALS

A. Basis of Design: “Vigilence” Windows as manufactured by Harvey Industries.

1. Subject to compliance with the requirements of the Contract, “Integrity” from Marvin, or “400 Series” from Andersen with manufacturer’s impact glazing are also acceptable.

B. Features and Accessories:

1. Color: White.

2. Glazing: Provide low-E with argon gas insulating glazing for all sash.

3. Screens: Provide one (1) full size screen for each operable window.

4. Provide loose jamb extensions for each window, 3” size for field fit.

5. Interior: Manufacturer’s standard paint finish. Color: white. Interior hardware: white.

6. Provide manufacturer's standard extension sills & headers, panning systems, etc. and any other accessories required to complete the installation. Color to match windows.

7. Windows must meet or exceed “Energy Star” requirements.

PART 3 - EXECUTION

3.1 - INSTALLATION

A. Install windows in accordance with manufacturer's recommendations and instructions.

B. Tape window flashing fins to sheathing wrap continuously around entire perimeter.

C. As required for watertightness, provide and install continuous vinyl sections of profiles required to accomplish a watertight closure condition. Seal all joints with sealant. Color to match windows.

D. Adjust sash for tight closure and easy operation.

END OF SECTION 08550

SECTION 09250 - GYPSUM WALLBOARD

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 – WORK INCLUDED

A. Furnish and install new gypsum board walls and ceilings in areas of new construction and elsewhere as shown on the Drawings.

1.3 - RELATED WORK SPECIFIED ELSEWHERE

A. Rough framing is specified in Section 06100.

B. Insulation is specified in Section 07200.

C. Painting is specified in Section 09900.

PART 2 - PRODUCTS

2.1 - ACCEPTABLE MANUFACTURERS

A. In general, specified products and systems are by U.S. Gypsum Co. Equivalent products and systems by National Gypsum Co., & Celotex Corp. are also acceptable.

2.2 - MATERIALS

A. Gypsum Board: ASTM C36-78, tapered edge and square edge gypsum board. Where indicated, use water-resistant gypsum board, or fire rated gypsum board. Board thickness shall be as shown on the Drawings.

1. Gypsum Board for Garage/Parking Area ceiling only: 5/8" thick "*M-Bloc Type X*" as manufactured by American Gypsum, or Architect approved equal.

B. Edge & corner beads, and other required accessories:

1. Corner beads: Paper covered metal type, equal to USG "Bead-X".

2. Casings: Vinyl concealed type typically, equal to U.S.G. P-1, abutting windows or at intersections of gypsum wallboard to dissimilar materials. No casings shall be exposed. Metal type may be used at locations not subject to wetness or condensation.

C. Drywall screws:

1. For fastening gypsum board only to wood studs, use type S bugle head screws with rust resistant finish meeting ASTM C1002 in length recommended by manufacturer. Use galvanized screws with WR-GWB.

2. For fastening gypsum wall board and any combination of cement board or plywood to wood studs, use type S-12 bugle head screws. Use galvanized screws with WR-GWB.

D. Tape, compound and other required products:

1. Standard products by manufacturer of gypsum board.

E. Other Materials:

1. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor from the gypsum board manufacturer's list of recommended or acceptable products.

PART 3 - EXECUTION

3.1 - SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 - INSTALLATION

A. If U.S. Gypsum products are used, install gypsum drywall according to "Gypsum Drywall Construction Handbook", latest edition, published by U.S. Gypsum Company. Also, conform to the requirements of ASTM C840 and Gypsum Association GA-216, Application and Finishing of Gypsum Board. Also conform to the requirements and recommendations of Gypsum Association GA-600, “Fire Resistance Design Manual”. Fasten all gypsum board products using screws. Do not use nails at any time.

B. Use tapered-edge gypsum board for finish surfaces; use square-edge for backing board. Fasten gypsum board to all studs as per manufacturer's recommendations.

C. Use casing beads at all butt transitions to dissimilar materials and/or as detailed on Drawings. Compound, tape and compound over bead. Feather out for smooth finish surface. Completely conceal bead.

D. Finish fasteners and joints with drywall compound and tape. Apply at least 3 coats of compound over tape and heads of screws. Conform to the requirements of Gypsum Association Publications GA-214, Levels of Gypsum Board Finish, and GA-216, Application and Finishing of Gypsum Board. Unless specified otherwise, the level of gypsum board finish shall be Level 4.

3.3 - CLEANING UP

A. In addition to other requirements for cleaning, use necessary care to prevent tracking gypsum and joint finishing compound onto floor surfaces.

END OF SECTION 09250

SECTION 09900 - PAINTING

PART 1 - GENERAL

1.1 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions, and Division 1 Specification sections, apply to work specified in this Section.

1.2 - WORK INCLUDED

A. Paint all new interior and exterior surfaces as set forth below. Painting work includes, but is not necessarily limited to, the following:

1. Paint all new interior wood trim not scheduled for transparent finish.
2. Paint all existing interior wall surfaces disturbed by the work of this Contract, entire wall surface, to next corner or break point.
3. Paint all new gypsum wallboard exposed to view, unless noted otherwise.
4. Paint all new interior wood doors not scheduled for transparent finish.
5. Paint all new louvers, hatches, and access doors unless factory pre-finished.
6. Paint all new exterior wood trim, soffits, and fasciae provided as a part of this Contract (Either as part of the Base Bid or on a Unit Price basis).
7. Paint all lead-based paint surfaces encapsulated during the remediation process of specification section 020900. Provide 2 finish coats over encapsulated surface.

1.3 – RELATED WORK SPECIFIED ELSEWHERE

A. Unit Prices are specified in Section 01270.

B. Lead-Based Paint Abatement is specified in Section 020900.

C. Finish Carpentry is specified in Section 06200.

D. Gypsum Wallboard is specified in Section 09250.

1.4- SUBMITTALS

A. Submit complete list of proposed materials. For each surface, list materials by manufacturer and name, and list number of coats. List thinners, if any.

B. Submit complete range of standard and custom mix colors of the selected manufacturer for color selections.

1.5 - DELIVERY, STORAGE & HANDLING

A. Deliver all products to job site in manufacturers' unopened containers with seals unbroken and labels intact.

B. Store products so as to minimize danger of fire and protect building surfaces from spills.

1.6 - PROJECT/SITE CONDITIONS

A. Do not paint when temperature of air or surfaces being painted is below 40 degrees F. Do not apply epoxy paint when temperature of air or surfaces being painted is below 60 degrees F. Do not paint when atmosphere is damp, and do not paint when surfaces are damp, unless paint manufacturer states that paint is intended for such use.

B. Do not paint unless lighting is adequate.

C. Provide ventilation during painting and drying periods.

PART 2 - PRODUCTS

2.1 - ACCEPTABLE MANUFACTURERS

A. Besides manufacturer listed in schedule (PPG Industries, Inc. - Pittsburgh Paints), the following manufacturers are also acceptable:

Benjamin Moore Co.
Sherwin-Williams Co.

No other paint manufacturer will be accepted.

2.2 - MATERIALS

A. Use first quality products of the types specified in schedule. Deliver all materials to job site in unopened containers, bearing names of manufacturer and contents.

B. All paints and primers must be less than or equal to the following VOC levels:

1. Flats: 50 grams/liter.
2. Non-Flats: 50 grams/liter.
3. Floor Paint: 100 grams/liter.

C. Use thinners only as recommended or instructed by paint manufacturer.

D. Materials shall meet all requirements of ANSI Z66.1, "Specifications to Minimize Hazards to Children from Residual Surface Coating Materials".

2.3 - COLORS

A. For interior and exterior surfaces, the Architect shall select colors from full range of standard ready-mixed and custom-mixed colors offered by supplying manufacturer. Architect shall submit color selections in schedule form. Follow Architect's schedule exactly.

B. Concealed surfaces, such as door bottoms, may be painted grey.

PART 3 - EXECUTION

3.1 - INSPECTION

A. Examine all surfaces to receive paint.

1. If surfaces are not fit to receive paint; scrape, brush, or remove unsatisfactory materials by mechanical means, then clean and prepare surfaces for painting operation. Follow manufacturer's instructions concerning surface suitability.

B. The start of work on any surface shall constitute acceptance of the condition of that surface.

3.2 - PREPARATION

A. Broom-clean entire area before painting.

B. Clean surfaces to be painted.

C. Remove rust. If, in Architect's opinion, primed products have corroded significantly, strip all primer from such products, prepare again and reprime.

D. Sand and fill rough surfaces, which are not intended to be rough. Spackle interior holes and cracks. Putty fastener holes after applying prime coat.

E. Seal knots and pitch spots. Wash sap and pitch from surface, and apply Western Pine Association Formula WP-578 sealer or equivalent as recommended by selected manufacturer.

F. Protect adjacent surfaces and items. Remove or protect such items as electrical plates and hardware. After painting, reinstall items removed for protection.

G. On galvanized metal products scheduled to be painted, remove factory applied stabilizers using solvent, brush blasting or chemical treatment as required. Properly prepare all galvanized surfaces as required to obtain proper paint adhesion.

3.3 - APPLICATION

A. Architect has specified number of coats of paint based on the assumption that quality of paint, opacity of pigments, extent of thinning, and quality of workmanship will be good. If Contractor disputes Architect's schedule, notify Architect in writing before starting work.

B. Use products as packaged, unless manufacturer specifically directs thinning or other alteration for proper application. Mix all products thoroughly before, and regularly during application.

C. Follow manufacturer's directions for millage thickness application and rate of coverage.

D. Apply paint evenly. Produce uniform surfaces. Avoid runs, sags, brush or roller marks, "holidays", differences in sheen or color, and other blemishes.

E. If specified number of coats is not sufficient to satisfy requirements specified in D. above, as adjudged by Architect, apply additional coats as required to do so.

F. Brush paint into cracks and seams. Cut straight, neat edges.

G. Do not allow paint to get on adjacent surfaces. Clean up spills and spatters as soon as possible, and no later than end of same day.

H. Allow each coat to dry as recommended by manufacturer before applying following coat.

I. Between coats, trowel in place drywall compound to cover defects in surface and sand smooth to match adjacent surfaces. Reprime those areas.

J. At substantial completion, all surfaces shall be clean. If painted surfaces cannot be uniform, rectify condition by cleaning, or repaint them in accordance with 3.2 and 3.3 of this specification section.

K. Sand smooth finish enamel between coats.

3.4 - SCHEDULE

A. General

1. Paint concealed surfaces such as door tops and bottoms and panel frames and edges.

2. Paint mechanical/electrical products unless they are fully concealed and corrosion-resistant.

3. If shop-applied primer coat is in good condition, field prime coat is not required. Patch primer where scratched or abraded.

4. If shop-applied finish coat is in good condition, and if it matches Architect's selected color, field finishing is not required. Patch where not smooth, uniform, and in tact.

B. Paint <u>all</u> new exposed interior surfaces and any existing surfaces disturbed by the work of this Contract, except the following:

1. Items such as window glass, acoustical tile, ceramic tile, plastic laminates, and resilient flooring which are customarily not painted.

2. Shop-finished items such as cabinets, window frames, except as required in A. above.

3. Wood doors, wood trim, and architectural woodwork scheduled for transparent finish.

4. Concrete floors and walls, except where schedule on the Drawings specifically calls for painted concrete floors or walls.

5. Floor, wall, and ceiling surfaces listed in finish schedule not to be painted.

C. Schedule by surfaces. The following schedule is based on the products of Pittsburgh Paints as manufactured by PPG Industries, Inc. Equal products of other manufacturers listed in 2.1 above are also acceptable. Submit schedule to the Architect as required in 1.4 above. Primer coat may be deleted on previously painted surfaces or surfaces receiving liquid encapsulation performed under specification section 020900.

1. Interior Gypsum Wallboard Surfaces:

   Primer: 1 coat Speedhide Quick-drying Latex Primer-Sealer, 6-2.

   Finish: 2 coats Speedhide Interior Enamel Eggshell Latex, 6-411 series.

2. Interior Wood Trim scheduled for opaque finish:

   Primer: 1 Coat Speedhide Quick-drying Latex Primer-Sealer, 6-2.

   Finish: 2 coats Speedhide Interior Semi-Gloss Acrylic Latex, 6-500.

3. Exterior Features & Trim:

   Primer: 1 Coat Speedhide Exterior Latex Wood Primer, 6-609.

   Finish: 2-coats Sun-Proof Exterior House and Trim Satin Latex 100% Acrylic, 76-110.

4. Exterior Galvanized Steel:

   Primer: 1 coat Seal Grip Interior/Exterior Acrylic Universal Primer/Sealer, 17-921.

   Finish: 2 coats Speedhide Interior/Exterior WB Alkyd Satin, 6-1420.

   CAUTION: Care must be exercised when preparing galvanized metal products for painting. Galvanized substrates may have factory applied stabilizer which is used to prevent white rusting during storage and shipment. In solvent degreasing operations, some of the stabilizers are not soluble in solvents. Stabilizers remaining on the surface prevent paint from gaining maximum adhesion. Contact paint manufacturer for additional information and assistance.

5. Other Surfaces:

Follow master specification of selected paint manufacturer for three (3) coat work in normal service area.

END OF SECTION 09900