The State of Connecticut

Department of Housing (DOH)

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

Scattered Site Rehabilitation and Rebuilding Program (SSRR)

BID PACKAGE

For

Rehabilitation/Reconstruction work for:

Rosanna Nadal and Bernado Valdez

71-73 Worth Street

Bridgeport, CT

Prepared By:

Martinez Couch & Associates, LLC
1084 Cromwell Avenue Suite A-2
Rocky Hill, CT
860-436-4364

Project #: 5077 – 71-73 Worth Street, Bridgeport, CT

EQUAL HOUSING OPPORTUNITY

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Section 1

ADVERTISEMENT FOR BIDS

Project # 5077 – 71-73 Worth Street, Bridgeport, CT

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 71-73 Worth Street, Bridgeport, CT will be received by Martinez Couch & Associates, LLC until 4 o'clock PM on August, 9th, 2016.

The Information to Bidders, Form of Bid, Form of Contract, Plans, Specifications, and Form of Bid Bond, Performance and Payment Bond or Security, 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.

Copies of plans may be downloaded directly from the Department of Housing website under bid notices or obtained at the office of Martinez Couch & Associates, LLC located at 1084 Cromwell Avenue, Suite 2 Rocky Hill, CT 06067 upon payment of $50.00 for each set. Requests for copies plans shall provide 2 days notice to Martinez, Couch and Associates, LLC.

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

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 30 calendar days after the actual date of the bid opening thereof. Submitted bid values are allowed three percent (3) per annum increase for award by the DOH made beyond ninety calendar (90) days. Cost increases for such periods shall be prorated monthly and calculated by the DOH.

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 Martinez Couch & Associates, LLC until 4 o'clock PM on August, 9th, 2016.

The envelopes containing the bids must be sealed, addressed to Mr. Richard Couch, P.E. at Martinez, Couch & Associates, LLC. and designated as bid for 71-73 Worth Street, Bridgeport, 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 30 days after the actual date of the opening thereof. Submitted bid values are allowed three percent (3) per annum increase for award by the DOH made beyond ninety calendar (90) days. Cost increases for such periods shall be prorated monthly and calculated by the DOH.

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 July, 26th, 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.

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: Martinez, Couch & Associates, LLC. at 1084 Cromwell Avenue, Suite A-2 Rocky Hill, CT 06067 and, to be given consideration, must be received at least five 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 three 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.

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.

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.

Submitted bid values are allowed three percent (3) per annum increase for award by the DOH made beyond ninety calendar (90) days. Cost increases for such periods shall be prorated monthly and calculated by the DOH.

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 of 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.

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.

BID FORM

The undersigned, being familiarized with the local conditions affecting the cost of the work and with the Drawings, Scope of Work, Specifications, Invitation to Bidders, Instructions to Bidders, General Conditions, Bid Form, Form of Contract and Form of Bonds for Project 5077 – 71-73 Worth Street, Bridgeport, CT and Addenda No. and _____ thereto, as prepared by Martinez Couch and Associates, LLC, Rocky Hill Connecticut, and on file in the office of DOH, hereby proposes to provide all work as required for the rehabilitation and reconstruction for said Project No. 5077 – 71-73 Worth Street located at 71-73 Worth Street in Bridgeport, State of Connecticut, all in accordance with the Drawings and Specifications, for the sum of :

_____ Dollars ($_____).

Section #	***Scope of Work***	***Lump Sum Cost***
		Total ($)
	General Conditions	
02 83 19.13	Lead Paint Abatement	
03 30 53	Miscellaneous Cast in Place Concrete	
Division 6	Carpentry	
07 31 13	Asphalt Shingles	
07 71 23	Gutters & Downspouts	
09 90 00	Paintings Coatings	
09 93 00	Staining and Transparent Finishing	
TOTAL COST		

Unit Prices - For Unforeseen Conditions During Repairs

All unit prices, unless otherwise noted, shall include all incidental work normally required in connection with the particular type of work involved and would include, but not necessarily be limited to costs of materials, material accessories, material waste, fabrication, labor, supervision, engineering, layout, transportation, rigging, insurances, overhead, and profit. All labor rates, unless otherwise noted, shall include, but not necessarily be limited to all fringe benefits, insurances, overhead, and profit.

Item	***Rate ($/Per)***
Carpenter Labor Rate	/H.R.

The undersigned agrees that if within the period of thirty (30) 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, 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 thirty (30) 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.

Submitted bid values are allowed three percent (3) per annum increase for award by the DOH made beyond ninety calendar (90) days. Cost increases for such periods shall be prorated monthly and calculated by the DOH.

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) _____

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

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.)

SUBCONTRACTOR IDENTIFICATION

(Provide additional forms for more subcontractors, as needed prior to contract execution.)

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

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.

N/A **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.

N/A **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.

N/A **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.

N/A **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.

N/A **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.

N/A **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.

X **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

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. Changes

(a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract including changes:
   (1) In the specifications (including drawings and designs);
   (2) In the method or manner of performance of the work;
   (3) Directing the acceleration in the performance of the work.

(b) Any other written order or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating (1) the date, circumstances and source of the order and (2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for a adjustment based on defective specifications, no proposal for any change under paragraph (b) above shall be allowed for any costs incurred more than 20 days (5 days for oral orders) before the Contractor gives written notice as required. In the case of defective specifications for which DOH is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause, or (2) the furnishing of a written notice under paragraph(b) of this clause, by submitting a written statement describing the general nature and the amount of the proposal. If the facts justify it, the Contracting Officer may extend the period for submission. The proposal may be included in the notice required under paragraph (b) above. No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(f) The Contractor's written proposal for equitable adjustment shall be submitted in the form of a lump sum proposal supported with an itemized breakdown of all increases and decreases in the contract in at least the following details:

(1) Direct Costs. Materials (list individual items, the quantity and unit cost of each, and the aggregate cost); Transportation and delivery costs associated with materials; Labor breakdowns by hours or unit costs (identified with specific work to be performed); Construction equipment exclusively necessary for the change; Costs of preparation and/ or revision to shop drawings resulting from the change; Worker's Compensation and Public Liability Insurance; Employment taxes under FICA and FUTA; and, Bond Costs when size of change warrants revision.

(2) Indirect Costs. Indirect costs may include overhead, general and administrative expenses, and fringe benefits not normally treated as direct costs.

a. Overhead on work performed by General Contractor for the General Contractor – 10 percent above Direct Costs.
b. Overhead on work performed by Subcontractor for the Subcontractor – 10 percent above Direct Costs.
c. Overhead on work performed by Subcontractor for General Contractor – 5 percent above Direct Costs

(3) Profit. The amount of profit shall be negotiated and may vary according to the nature, extent, and complexity of the work required by the change. Generally

a. Profit on Work Performed by General Contractor for General Contractor – 5 percent profit above Direct Costs
b. Profit on Work Performed by Subcontractor for Subcontractor – 5 percent profit above Direct Costs
c. Profit on Work Performed by Subcontractor for General Contractor – 2.5 percent above Direct Costs

The allowability of the direct and indirect costs shall be determined in accordance with the Contract Cost Principles and Procedures for Commercial Firms in Part 31 of the Federal Acquisition Regulation (48 CFR 1-31), as implemented by HUD Handbook 2210.18, in effect on the date of this contract. Equitable adjustments for deleted work shall include a credit for profit and may include a credit for indirect costs. On proposals covering both increases and decreases in the amount of the contract, the application of indirect costs and profit shall be on the net- change in direct costs for the Contractor or subcontractor performing the work

(g) The Contractor shall include in the proposal its request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.

(h) The Contracting Officer shall act on proposals within 30 days after their receipt, or notify the Contractor of the date when such action will be taken.

(i) Failure to reach an agreement on any proposal shall be a dispute under the clause entitled Disputes herein. Nothing in this clause, however, shall excuse the Contractor from proceeding with the contract as changed.

(j) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

29. 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.

30. 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.
31. 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.

32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. All bids shall remain in effect for thirty (30) calendar days.
39. 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.
40. 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.

41. 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 A

SECTION 00 01 15

LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

A. Drawings: Drawings consist of the Contract Drawings and other drawings listed on the Table of Contents page of the separately bound drawing set titled **'Project 5077 – 71-73 Worth Street, Bridgeport, CT, Connecticut Department of Housing, Community Development Block Grant, Disaster Recovery Program, Scattered Site Rehabilitation and Rebuilding Program, dated June 2016**, as modified by subsequent Addenda and Contract modifications.

B. List of Drawings: Drawings consist of the following Contract Drawings and other drawings of the type indicated.

SHEET NO.	TITLE
T-0.0	TITLE SHEET
A-1.0	FRAMING PLANS AND SECTIONS - 1
A-1.1	FRAMING PLANS AND SECTIONS - 2
A-2.0	ELEVATIONS AND PHOTOGRAPHS
A-3.0	DECK AND STAIR DETAILS

END OF SECTION

SECTION 00 31 26

EXISTING HAZARDOUS MATERIAL INFORMATION

1.1 EXISTING HAZARDOUS MATERIAL INFORMATION

A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for the Project. They provide Owner's information for Bidders' convenience. They are made available for Bidders' convenience and information, but are not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.

B. Asbestos, lead, PCB's, mold or other hazardous materials: Reports were prepared to investigate hazardous materials at the site and these reports are attached. It is the Contractor's responsibility to appropriately characterize, remove, and dispose of soil and hazardous materials at the site.

C. Related Requirements:
   1. Specification 02 41 19 "Selective Demolition" for notification requirements if materials suspected of containing hazardous materials are encountered.
   2. Specification 02 83 19.13 "Lead Based Paint Abatement" for requirements if materials suspected of containing lead materials.

D. Attachments:
   1. Hazardous Materials Inspection Report, prepared by Facility Support Services, dated December 2, 2014.
   2. Lead in Paint Results, prepared by Gilbertco Lead Inspections LLC, dated November 18, 2014**.**
   3. Lead in Paint Results, prepared by Gilbertco Lead Inspections LLC, dated December 16, 2014**.**

END OF SECTION

Facility Support Services, LLC

Environmental & Safety Consulting Engineers

Connecticut Department of Housing
Community Development Block Grant – Disaster Recovery
Owner Occupied Recovery and Rehabilitation Program

Hazardous Materials
Inspection Report

71-73 Worth Street
Bridgeport, Connecticut

PREPARED FOR:

Martinez Couch & Associates, LLC
1084 Cromwell Ave. Suite A-2
Rocky Hill, CT 06067

PREPARED BY:

Facility Support Services, LLC
2685 State Street
Hamden, CT 06517
Phone (203) 288-1281

December 2, 2014

FSS #22214-5077

SIGNATURES OF REPORT AUTHORS

The employees of Facility Support Services, LLC whose names appear below prepared this report. Requests for information on the content of this document should be directed to these individuals.

Kevin S. Bogue, LEP, CHMM
Project Manager
CTDPH Asbestos Inspector #000157

TABLE OF CONTENTS

TABLES

ATTACHMENTS

I. Introduction

Facility Support Services, LLC (FSS) was contracted by Martinez, Couch & Associates, LLC (MCA) to perform a limited scope hazardous materials survey of 71-73 Worth Street in Bridgeport, Connecticut (the "Site"). The purpose of this inspection was to identify the presence of asbestos, PCBs, mold, and lead paint in certain building materials proposed for removal/demolition that qualify for the repair/replacement of items damaged by the October 2012 Tropical Storm Sandy under the Connecticut Department of Housing (DOH), Community Development Block Grant – Disaster Recovery Owner Occupied Recovery and Rehabilitation Program. In addition, FSS performed radon testing as required for DOH funded projects.

FSS utilized best industry practices to identify all suspect materials associated with the structures. Any material that has not been identified during this inspection or discovered during renovation/demolition activities must be presumed to be hazardous until such time that samples of the material can be collected and analyzed.

II. Mold

FSS conducted sampling for mold on November 18, 2014. Testing for total spores in air was conducted for the following areas of 71-73 Worth Street in Bridgeport, Connecticut to identify concerns with indoor air quality related to mold and fungi:

- 1st Floor Bathroom
- Exterior
- 3rd Floor Hallway

The outside ambient air sample provided a background reference sample (collected from a location in the front yard). Mr. Kevin Bogue of FSS conducted the spore sampling utilizing an air sampling pump and sample media. Air was collected at a rate of 15.0 liters of air per minute. The samples were collected on Air-O-Cell type sampling cartridges located in line with the sampling pump, which ran for 10 minutes at each sampling location.

The spore samples were analyzed by EMSL Analytical of Wallingford, Connecticut for the identification and enumeration of spores (EMSL Method M001). EMSL is a State of Connecticut, Department of Public Health certified laboratory (Accreditation Number 165118). Analytical reports for mold are included in Attachment A.

The analysis for total spore counts is a direct microscopic examination and does not include culturing or growing fungi. Therefore, the results include both viable and non-viable spores. Spore trap results are reported in spores per cubic meter of air.

Table 1
Summary of Laboratory Analysis of Spore Types
71-73 Worth Street, Bridgeport, Connecticut

Sample Number & Location	Raw Count	Total Fungi (Count/m^3)	Spore Types Present
20141118_5077_MS1 1st Floor Bathroom	62	1,220	Ascospores, Aspergillus/Penicillium, Basidiospores, Cladosporium, Epicoccum, Ganoderma, Myxomycetes, Pithomyces
20141118_5077_MS2 Exterior	57	1,210	Alternaria, Ascospores, Aspergillus/Penicillium, Basidiospores, Cladosporium, Ganoderma, Myxomycetes, Rust
20141118_5077_MS3 3rd Floor	140	2,920	Ascospores, Aspergillus/Penicillium, Basidiospores, Cladosporium, Epicoccum, Ganoderma, Myxomycetes

The suite of mold spores in the outside sample versus the interior samples are similar. The primary mold species for all three samples was Ascospores.

Ascospores – All Ascospores belong to members of the Phylum Ascomycota, which encompasses a wide range of genera. They occur everywhere in nature. The pathogenic effects of this species depends on the genus and species.

In Connecticut, there are currently no regulatory standards directly governing mold/fungal spore concentrations. Although no standards for mold exist, some information regarding levels have been published, including the following:

Baxter, et al considers mold contamination present in a building when the total mold spore concentration per cubic meter is above 10,000. However in special cases, even low quantitative levels of certain particles or particle types (such as *Penicillium/Aspergillus* spore chains in an un-treated building) may be diagnostic and may indicate a hidden mold reservoir that merits further investigation.

FSS's investigation found total spore concentrations inside the 71-73 Worth Street residence of up to 2,920/m^3, which is below the 10,000/m^3 level noted above.

The American Conference of Government Industrial Hygienists (ACGIH) stated that indoor mold levels are generally less than 1/3 the outdoor level and that when indoor mold is at more than this level remedial action should be taken to find the source of the elevated counts and to clean it up. However, this is a general rule and may be inaccurate and unreliable method for screening buildings for mold. FSS's investigation found a total spore concentration in the interior samples at levels similar to the outside sample (1st floor sample) to higher than exterior levels (3rd floor sample).

FSS's mold spore count analysis indicates accelerated mold growth in the 3rd floor of the residence.

III. Asbestos

FSS conducted a limited scope asbestos inspection and bulk sampling on November 18, 2014 of suspect building materials that are proposed for renovations. The inspection was conducted by Kevin Bogue, a State of Connecticut licensed Asbestos Inspector. Mr. Bogue's Connecticut Asbestos Inspectors/Management Planner license is provided in Appendix B.

The following suspect materials were indentified during the inspection:

- Bathroom Sheetrock (1st floor)
- Bathroom Taping Compound (1st floor)
- White Plaster Skim Coat (1st floor hallway)
- Grey Plaster Base Coat (1st floor hallway)
- Roof Shingle (exterior)
- Sheetrock (angled wall in 3rd floor)
- Taping Compound along angled wall (3rd floor)
- Paper backed yellow fiberglass insulation (3rd floor)
- Sheetrock (3rd floor bathroom)
- Taping Compound (3rd floor bathroom)

In addition to the materials presented above, the roofing system could not be sampled due to access restrictions and safety issues. Therefore, the materials that encompass the roofing system should be assumed to contain asbestos.

This asbestos inspection was performed in accordance with the EPA, NESHAP regulations for building renovations and demolition, 40 CFR Part 61, Amended 11/20/1990. The bulk asbestos samples collected during this inspection were delivered under full chain of custody and analyzed by EMSL Analytical, Inc., via EPA/600/R-93/116. This is currently the approved EPA test method, which uses Polarized Light Microscopy (PLM). EMSL Analytical, Inc. is an accredited asbestos laboratory (NVLAP # 200700-0) and is a State of Connecticut approved public health laboratory for asbestos analysis. Copies of the laboratory analytical results can be found in Attachment C of this report.

Laboratory results have revealed that the asbestos content of the tested materials are below the 1% required to confirm a material as asbestos containing.

The roofing system could not be sampled due to access restrictions and safety issues. Therefore, the materials that encompass the roofing system should be assumed to contain asbestos.

IV. Radon

Initial radon testing was conducted by Mr. Kevin Bogue. Test results were obtained by using a passive activated charcoal device manufactured and analyzed by Radon Testing Corporation of America of Elmsford, New York. The test devices are

individually numbered and marked with a bar code for identification (RTCA 4 Pass Charcoal Canister, NRSB Device Code 10331).

A device was placed in the basement level of the residence on November 18, 2014. The sampling device was placed on table with a yellow "Do Not Disturb Test in Progress" warning sign placed beneath the test device. The homeowner was reminded to not open windows or to allow anyone to tamper with the test device. Testing time was approximately 72 hours.

The Radon canister was submitted to Radon Testing Corporation of America for analysis. The analytical result for the sample was reported to be 2.0 pCi/L (sample# 2333092) as shown on Table 2 below. The EPA action level established for Radon is 4.0 pCi/L. Analytical result reports are included in Attachment D.

Table 2
Summary of Laboratory Analysis of Radon
71-73 Worth Street, Bridgeport, Connecticut

Canister ID#	Location	Radon Concentration (pCi/L)
November 18-21, 2014		
2333092	Basement	2.0

V. PCBs

Following an inspection of accessible building materials proposed for renovations, no suspected PCB-containing materials were identified. The roofing system was not inspected for potential PCBs due to access limitations and safety concerns.

VI. Lead

The subject residential structure was built prior to 1978 (in 1899) and therefore the likelihood that lead painted surfaces are present is increased. As a residential structure built prior to 1978 the removal of lead painted materials where a child under 6 is housed, or may visit, would trigger the EPA Renovation, Repair and Painting (RRP) rule. Furthermore, adherence to the requirements of The Lead-Safe Housing Rule (US

Department of Housing and Urban development, HUD) are stipulated by the Connecticut Department of Housing (DOH) as part of the Community Development Block Grant – Disaster Recovery Owner Occupied Recovery and Rehabilitation Program.

A building wide XRF inspection was conducted by Maureen Monaco of Gilberto Lead Inspections, LLC (Gilbertco) utilizing a Scitec Map4 Portable X-Ray Fluoroscope Spectrum Analyzer with a Cobalt 57 source. The findings of the investigation determined several areas tested positive for lead based paint (>1.0 mg/cm^2):

- 1st Floor - Front Bedroom
  - Window Well/Trough (Side 1)
  - Window Jamb (Side 1)
- 1st Floor - Kitchen
  - Door Casing (Sides 2, 3)
  - Wall (Sides 1, 2, 3, 4)
  - Door Jamb (Side 2)
  - Window Sill/Stool (Side 4)
  - Window Trim (Side 4)
  - Window Stop (Side 4)
  - Door (Side 3)
  - Door Casing (Side 3)
- 1st Floor - Pantry
  - Door Casing (Side 1)
  - Window Trim (Side 3)
  - Window Sill/Stool (Side 3)
- 1st Floor - Front Bedroom
  - Door (Side 3)
- 1st Floor - Bathroom
  - Door (Side 4)
- 1st Floor - Hall outside Bathroom
  - Ceiling
  - Wall (Sides 1, 4)
- 2nd Floor - Kitchen
  - Wall (Sides 1, 2, 3, 4)
  - Ceiling
- 2nd Floor - Pantry
  - Cabinet (Side 3)
- Exterior
  - Door (Sides 1, 3)
  - Door Jamb (Side 3)
  - Threshold (Sides 1, 3)
  - Door Casing (Sides 1, 3)
  - Wall (Side 3)
  - Window Trim (Side 3)

    - Window Sill/Stool (Side 3)
    - Floor
- 3rd Floor – Front Bedroom
    - Window Well/Trough (Side 1)
    - Window Jamb (Side 1)
- 3rd Floor – Bedroom
    - Door Casing (Side 4)
    - Door (Side 4)
- Rear Stairs
    - Wall-green (Side 3)
    - Door (Side 3)
    - Door Casing (Side 3)

Non-Intact Materials

A copy of the Gilbertco Lead Inspection Report is provided in Attachment E. Following the HUD Lead-Safe Housing Guidelines, non-intact materials should undergo interim measures to abate the hazard. Non-intact lead containing materials have been identified as the following:

- 1st Floor - Front Bedroom
    - Window Well/Trough (Side 1)
    - Window Jamb (Side 1)
- 1st Floor - Kitchen
    - Door Casing (Sides 2, 3)
    - Wall (Sides 1, 2, 3, 4)
    - Door Jamb (Side 2)
    - Window Sill/Stool (Side 4)
    - Window Trim (Side 4)
    - Window Stop (Side 4)
- 1st Floor - Pantry
    - Door Casing (Side 1)
- 1st Floor - Hall outside Bathroom
    - Ceiling
    - Wall (Sides 1, 4)
- Exterior
    - Door (Side 3)
    - Door Jamb (Side 3)
    - Threshold (Sides 1, 3)
    - Door Casing (Sides 1, 3)
    - Wall (Side 3)
    - Window Trim (Side 3)
    - Window Sill/Stool (Side 3)
    - Floor
- 3rd Floor – Front Bedroom

- Window Well/Trough (Side 1)
- Window Jamb (Side 1)

Demolition Materials

When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute ground water. Toxicity is defined through a laboratory procedure called the Toxicity Characteristic Leaching Procedure (TCLP) (Method 1311). The TCLP helps identify wastes likely to leach concentrations of contaminants that may be harmful to human health or the environment. There are no areas that tested positive for lead (regardless of intactness) that are proposed for demolition.

VII. Conclusions & Recommendations

When the structure is renovated, all removed debris should be sent to an appropriate landfill for final disposal following all appropriate regulations. Any work involving lead-containing paints should be conducted under the EPA's RRP Renovation, Repair and Painting Rule. Any material discovered during renovation activities which have not been included in this survey must be presumed to contain asbestos, lead and PCBs until such time that the material can be evaluated and sampled.

Mold - Mold spore count analysis indicates accelerated mold growth in the 3rd floor of the residence. A mold abatement plan requiring special handling and disposal requirements for affected media are indicated by the sampling results.

Asbestos – No asbestos containing materials (>1% asbestos) were identified in sampled materials proposed for renovation or demolition. However, due to the limited access to the roof of the residence, roofing materials that have not been sampled must be assumed to contain asbestos if they are to be disturbed. Therefore, all roofing materials except for the top layer of roofing shingles should be considered as being positive for asbestos.

- Presumed ACM – Roofing materials (except top layer of shingles)

PCBs - No suspected PCB-containing materials were identified in proposed interior renovation materials, however, the roofing system was not inspected for potential PCBs due to access limitations and safety concerns. FSS recommends that the roofing

contractor be 40-hour Hazwoper trained and sample suspect materials encountered in the roofing system for PCBs prior to disposal, and dispose of the materials according to applicable federal and state regulations.

Radon – Levels of radon were identified in the basement of the residence at a level of 2.0 pCi/L, below the EPA action level of 4.0 pCi/L. No further work related to radon will be required.

Lead - Following the HUD Lead-Safe Housing Guidelines, the non-intact areas should undergo interim measures to abate the hazard. The following areas were non-intact as well as testing positive:

- 1st Floor - Front Bedroom
  - Window Well/Trough (Side 1)
  - Window Jamb (Side 1)
- 1st Floor - Kitchen
  - Door Casing (Sides 2, 3)
  - Wall (Sides 1, 2, 3, 4)
  - Door Jamb (Side 2)
  - Window Sill/Stool (Side 4)
  - Window Trim (Side 4)
  - Window Stop (Side 4)
- 1st Floor - Pantry
  - Door Casing (Side 1)
- 1st Floor - Hall outside Bathroom
  - Ceiling (Side 4)
  - Wall (Sides 1, 4)
- Exterior
  - Door (Side 3)
  - Door Jamb (Side 3)
  - Threshold (Sides 1, 3)
  - Door Casing (Sides 1, 3)
  - Wall (Side 3)
  - Window Trim (Side 3)
  - Window Sill/Stool (Side 3)
  - Floor (Side 1)
- 3rd Floor – Front Bedroom
  - Window Well/Trough (Side 1)
  - Window Jamb (Side 1)

There are no areas that tested positive for lead (regardless of intactness) that are proposed for demolition. Renovations to damaged walls and ceilings will encounter lead-based paint. These actions shall contain debris according to the Lead RRP Rule.

ATTACHMENTS

ATTACHMENT A

MOLD ANALYTICAL DATA

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Phone/Fax: 203-284-5948 / (203) 284-5978
http://www.EMSL.com / wallingfordlab@emsl.com

Order ID: 241404626
Customer ID: FSS93
Customer PO:
Project ID:

Attn: Kevin Bogue
Facility Support Services, LLC
2685 State Street
Hamden, CT 06517

Phone: (203) 288-1281
Fax: (203) 248-4409
Collected: 11/18/2014
Received: 11/19/2014
Analyzed: 11/24/2014

Proj: 22214-5077

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	241404626-0001			241404626-0002			241404626-0003		
Client Sample ID:	20141118_5077_MS1			20141118_5077_MS2			20141118_5077_MS3		
Volume (L):	150			150			150		
Sample Location:	1st floor bathroom			Exterior			3rd floor		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	-	-	-	1	20	1.6	-	-	-
Ascospores	16	340	27.9	14	300	24.8	42	890	30.5
Aspergillus/Penicillium	6	100	8.2	6	100	8.3	24	510	17.5
Basidiospores	11	230	18.9	13	270	22.3	33	700	24
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	7	100	8.2	4	80	6.6	7	100	3.4
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	3	60	4.9	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	5	100	8.2	2	40	3.3	11	230	7.9
Myxomycetes++	12	250	20.5	9	200	16.5	23	490	16.8
Pithomyces	2	40	3.3	-	-	-	-	-	-
Rust	-	-	-	8	200	16.5	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**62**	**1220**	**100**	**57**	**1210**	**100**	**140**	**2920**	**100**
Hyphal Fragment	8	200	16.4	8	200	16.5	13	270	9.3
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	21	-	-	21	-	-	21	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	2	-	-	-	-	-	2	-
Fibrous Particulate (1-4)	-	2	-	-	-	-	-	2	-
Background (1-5)	-	2	-	-	2	-	-	3	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.

Gloria V. Oriol, Laboratory Manager
or Other Approved Signatory

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT AIHA-LAP, LLC--EMLAP Lab 165118

Initial report from: 11/25/2014 17:23:36

For Information on the fungi listed in this report please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.
29 North Plains Hwy, Unit 4

Wallingford, CT 06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Chain of Custody

EMSL Order Number (*Lab Use Only*): 241404626

Company: Facilty Support Services, LLC	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments**
Street: 2685 State Street	Third Party Billing requires written authorization from third party
City: Hamden **State/Province:** CT	**Zip/Postal Code:** 06517 **Country:** United States
Report To (Name): Kevin Bogue	**Telephone #:** 203-288-1281
Email Address: kbogue.fss@snet.net	**Fax #:** **Purchase Order:**
Project Name/Number: 22214-5077	**Please Provide Results:** ☐ FAX ☑ E-mail ☐ Mail
U.S. State Samples Taken: CT	**Connecticut Samples:** Commercial (Residential)

Turnaround Time (TAT) Options* - Please Check

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

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

Asbestos

PCM - Air
☐ NIOSH 7400
☐ w/ 8hr. TWA

TEM– Air ☐ 4-4.5hr TAT(AHERA ONLY)
☐ AHERA 40 CFR, Part 763
☐ NIOSH 7402
☐ EPA Level II
☐ ISO 10312

TEM - Water
Fibers ≥10µm ☐ Waste ☐ Drinking
All Fiber Sizes ☐ Waste ☐ Drinking

PLM - Bulk
☐ PLM EPA 600/R-93/116
☐ PLM EPA NOB (<1%)
☐ NYS 198.1 (friable-NY)
☐ NYS 198.6 (non-friable-NY)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
Point Count w/ Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

TEM - Dust
☐ Microvac – ASTM D 5755
☐ Wipe-ASTM D6480

TEM - Bulk
☐ TEM EPA NOB
☐ NYS NOB 198.4 (non-friable-NY)
☐ Chatfield SOP

Soil/Rock/Vermiculite
☐ PLM CARB 435 – A (0.25% sensitivity)
☐ PLM CARB 435 – B (0.1% sensitivity)
☐ TEM CARB 435 – B (0.1% sensitivity)
☐ EPA Reg. 1 Screening Protocol (Qualitative)

Other:

Lead (Pb)

Flame Atomic Absorption
☐ Chips SW846-7000B or AOAC 974.02
☐ Soil SW846-7000B/7420
☐ Air NIOSH 7082
☐ Wastewater SM3111B or SW846-7000B/7420
☐ ASTM Wipe SW846-7000B/7420
☐ non ASTM Wipe SW846-7000B/7420
☐ TCLP SW846-1311/7420/SM 3111B

ICP
☐ Air NIOSH 7300 Modified
☐ non ASTM Wipe SW846-6010B or C
☐ ASTM Wipe SW846-6010B or C
☐ Soil SW846-6010 B or C
☐ Waste Water SW846-6010B or C
☐ TCLP SW846-6010B or C

Graphite Furnace Atomic Absorption
☐ Soil SW846-7421 ☐ Wastewater EPA 200.9
☐ Air NIOSH 7105 ☐ Drinking Water EPA 200.9

Other: ☐

Materials Science

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

Other: ☐

Microbiology

Wipe and Bulk Samples
☐ Mold & Fungi – Direct Examination
☐ Mold & Fungi Culture (Genus Only)
☐ Mold & Fungi Culture (Genus & Species)
☐ Bacterial Count & ID (Up to Three Types)
☐ Bacterial Count & ID (Up to Five Types)
☐ MRSA
☐ *Pseudomonas aeruginosa*

Water Samples
☐ Total Coliform & E.coli (P/A)
☐ Fecal Coliform (SM 9222D)
☐ Sewage Screen
☐ Heterotrophic Plate Count (SM 9215)

Air Samples
☒ Mold & Fungi (Spore Trap)
☐ Mold & Fungi Culture (Genus Only)
☐ Mold & Fungi (Genus & Species)
☐ Bacterial Culture & ID (Up to Three Types)
☐ Bacterial Culture & ID (Up to Five Types)
☐ Endotoxin Testing

Real Time Q-PCR (See Analytical Guide for Code)
Code:

Legionella
☐ Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4

Other: ☐

RECEIVED NOV 19 2014 By 17:10

IAQ

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

Other: ☐

****Comments/Special Instructions:**

Client Sample #'s	MS1 - MS3		**Total # of Samples:** 3
Relinquished (Client):	Kevin Bogue	**Date:** 11/18/14	**Time:** 5:00 pm
Received (Lab):		**Date:**	**Time:**

Analysis Completed in Accordance with EMSL's Terms and Conditions located in the Analytical Price Guide

1 of 2

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

EMSL Analytical, Inc.
29 North Plains Hwy, Unit 4

Wallingford, CT 06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

Chain of Custody

EMSL Order Number (*Lab Use Only*):

241404626

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
20141118_5077_MS1	1st Floor Bathroom	150 l	11/18/14 2:38-2:48
20141118_5077_MS2	exterior	150 l	11/18/14 3:08-3:18
20141118_5077_MS3	3rd Floor	150 l	11/18/14 3:40-3:50

RECEIVED
NOV 19 2014
By 12:14

*Comments/Special Instructions:

22214-5077
FSS

Analysis Completed in Accordance with EMSL's Terms and Conditions located in the Analytical Price Guide

2 of 2

ATTACHMENT B

RADON ANALTICAL DATA

PC1411240186

RTCA RADON TESTING CORPORATION OF AMERICA

Site Radon Inspection Report

Date : 11/24/2014

Mr. Christopher Hudacek
FACILITY SUPPORT SVCS., LLC
2685 State Street
Hamden, CT 06517-

Client: Unknown
Test Location: 71-73 Worth St
Bridgeport, CT 06604-

Individual Canister Results

Canister ID# :	2333092	Test Start :	11/18/2014 @ 10:00
Canister Type :	Charcoal Canister 3 inch	Test Stop :	11/21/2014 @ 10:04
Location :	Basement	Received:	11/24/2014 @ 13:12
Radon Level :	2.0 pCi/L	Analyzed:	11/25/2014 @ 10:40

Error for Measurement is: ± 0.3 pCi/L

The reported results indicate that radon levels in the building tested are below the United States Environmental Protection Agency (EPA) action level of 4.0 picoCuries per liter of air (pCi/L). The EPA recommends retesting if your living patterns change and you begin occupying a lower level of the building, such as a basement or if major remodeling is done.

General radon information may be obtained by consulting the EPA booklet: A Citizen's Guide to Radon (www.epa.gov/radon/pubs/citguide.html). To request a copy or for further information, please contact your state health department. The EPA maintains a radon information website, including copies of its publications, at www.epa.gov/iaq/radon.

For New Jersey clients: Please see the attached guidance document entitled Radon Testing and Mitigation: The Basics for further information.

For New York clients: If the radon level of one or more testing devices is equal to or exceeds 20 pCi/L please contact the New York State Department of Health, Bureau of Environmental Radiation Protection, for technical advice and assistance at 518-402-7556 or toll free1-800-458-1158.

PLEDGE OF ASSURED QUALITY

All procedures used for generating this report are in complete accordance with the current EPA protocols for the analysis of radon in air (EPA 402-R-92-004). The analytical results relate only to the samples tested, in the condition received by the lab, and that calculations were based upon the information supplied by client. RTCA and its personnel do not assume responsibility or liability, collectively and individually, for analysis results when detectors have been improperly handled or placed by the consumer, nor does RTCA and its personnel accept responsibility for any financial or health consequences of subsequent action or lack of action, taken by the customer or it's consultants based on RTCA-provided results.

National Radon Safety Board NRSB Certified Radon Professionals

Andreas C. George
Radon Measurement Specialist
NJ MES 11089

Dante Galan
Laboratory Director

NRSB ARL0001
NYS ELAP ID: 10806
PADEP ID: 0346
NJDEP ID: NY933
NJ MEB 90036
FL DOH RB1609
IL RNL2000201

(914)345-3380
FAX (914)345-8546

2 Hayes Street, Elmsford, NY 10523
www.rtca.com

ATTACHMENT C

FSS LISENSURE

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED
BY THIS DEPARTMENT AS A

ASBESTOS CONSULTANT-INSP/MGMT PLANNER

KEVIN S. BOGUE

CERTIFICATE NO
000157

CURRENT THROUGH
08/31/15

VALIDATION NO.
03-928515

SIGNATURE

COMMISSIONER

ATTACHMENT D

ASBESTOS LABORATORY ANALYTICAL DATA

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4, Wallingford, CT 06492
Phone/Fax: 203-284-5948 / (203) 284-5978
http://www.EMSL.com wallingfordlab@emsl.com

EMSL Order:	241404625
CustomerID:	FSS93
CustomerPO:	
ProjectID:	

Attn: **Kevin Bogue**
Facility Support Services, LLC
2685 State Street

Hamden, CT 06517

Project: **22214-5077 (WORTH)**

Phone:	(203) 288-1281
Fax:	(203) 248-4409
Received:	11/19/14 5:10 PM
Analysis Date:	11/25/2014
Collected:	11/18/2014

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

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**		**% Type**
20141118_5077_S1 A *241404625-0001*	1st floor bathroom - sheetrock	Gray Non-Fibrous Homogeneous	2% <1%	Cellulose Glass	98%	Non-fibrous (other)	**None Detected**
20141118_5077_S1 B *241404625-0002*	1st floor bathroom - sheetrock	Gray Non-Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
20141118_5077_S2 A *241404625-0003*	1st floor bathroom - taping compound	White Non-Fibrous Homogeneous			60% 40%	Ca Carbonate Non-fibrous (other)	**None Detected**
20141118_5077_S2 B *241404625-0004*	1st floor bathroom - taping compound	White Non-Fibrous Homogeneous			45% 55%	Ca Carbonate Non-fibrous (other)	**None Detected**
20141118_5077_S3 A *241404625-0005*	1st floor hallway - plaster skim coat (white)	White Non-Fibrous Homogeneous	<1%	Cellulose	100%	Non-fibrous (other)	**None Detected**
20141118_5077_S3 B *241404625-0006*	1st floor hallway - plaster skim coat (white)	White Non-Fibrous Homogeneous	<1%	Cellulose	100%	Non-fibrous (other)	**None Detected**
20141118_5077_S3 C *241404625-0007*	1st floor hallway - plaster skim coat (white)	White Non-Fibrous Homogeneous	<1%	Cellulose	100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Erin Guzowski (6) *Lauren Brennan (12)*
Kristin Lopez (10)

Gloria V. Oriol, Laboratory Manager
or other approved signatory

Initial report from 11/25/2014 13:11:25

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4, Wallingford, CT 06492
Phone/Fax: 203-284-5948 / (203) 284-5978
http://www.EMSL.com wallingfordlab@emsl.com

EMSL Order:	241404625
CustomerID:	FSS93
CustomerPO:	
ProjectID:	

Attn: **Kevin Bogue**
Facility Support Services, LLC
2685 State Street

Hamden, CT 06517

Project: **22214-5077 (WORTH)**

Phone:	(203) 288-1281
Fax:	(203) 248-4409
Received:	11/19/14 5:10 PM
Analysis Date:	11/25/2014
Collected:	11/18/2014

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

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**% Type**
20141118_5077_S4 A *241404625-0008*	1st floor hallway - plaster base coat (grey)	Gray Non-Fibrous Homogeneous			35% Quartz 65% Non-fibrous (other)	**None Detected**
20141118_5077_S4 B *241404625-0009*	1st floor hallway - plaster base coat (grey)	Gray Fibrous Homogeneous	<1% <1%	Cellulose Synthetic	30% Quartz 70% Non-fibrous (other)	**None Detected**
20141118_5077_S4 C *241404625-0010*	1st floor hallway - plaster base coat (grey)	Gray Fibrous Homogeneous	<1%	Cellulose	25% Quartz 75% Non-fibrous (other)	**None Detected**
20141118_5077_S5 A *241404625-0011*	Exterior - roof shingle	Black Fibrous Homogeneous	5%	Cellulose	95% Non-fibrous (other)	**None Detected**
20141118_5077_S5 B *241404625-0012*	Exterior - roof shingle	Black Fibrous Homogeneous	15%	Cellulose	85% Non-fibrous (other)	**None Detected**
20141118_5077_S5 C *241404625-0013*	Exterior - roof shingle	White/Black Fibrous Homogeneous	25%	Cellulose	75% Non-fibrous (other)	**None Detected**
20141118_5077_S6 A *241404625-0014*	3rd floor - angled walls- sheetrock	White Fibrous Homogeneous	3% <1%	Cellulose Glass	97% Non-fibrous (other)	**None Detected**

Analyst(s)

Erin Guzowski (6) *Lauren Brennan (12)*
Kristin Lopez (10)

Gloria V. Oriol, Laboratory Manager
or other approved signatory

Initial report from 11/25/2014 13:11:25

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4, Wallingford, CT 06492
Phone/Fax: 203-284-5948 / (203) 284-5978
http://www.EMSL.com wallingfordlab@emsl.com

EMSL Order: 241404625
CustomerID: FSS93
CustomerPO:
ProjectID:

Attn: **Kevin Bogue**
Facility Support Services, LLC
2685 State Street

Hamden, CT 06517

Project: **22214-5077 (WORTH)**

Phone: (203) 288-1281
Fax: (203) 248-4409
Received: 11/19/14 5:10 PM
Analysis Date: 11/25/2014
Collected: 11/18/2014

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

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
20141118_5077_S6 B *241404625-0015*	3rd floor - angled walls- sheetrock	White Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (other)	**None Detected**
20141118_5077_S6 C *241404625-0016*	3rd floor - angled walls- sheetrock	White Fibrous Homogeneous	2% Cellulose	30% Gypsum 68% Non-fibrous (other)	**None Detected**
20141118_5077_S7 A *241404625-0017*	3rd floor - paper on yellow insulation	Brown/Black Fibrous Homogeneous	65% Cellulose 5% Glass	30% Non-fibrous (other)	**None Detected**
20141118_5077_S7 B *241404625-0018*	3rd floor - paper on yellow insulation	Brown/Black Fibrous Homogeneous	3% Glass 65% Cellulose	32% Non-fibrous (other)	**None Detected**
20141118_5077_S7 C *241404625-0019*	3rd floor - paper on yellow insulation	Brown/Black Fibrous Homogeneous	60% Cellulose 5% Glass	35% Non-fibrous (other)	**None Detected**
20141118_5077_S8 A *241404625-0020*	3rd floor - angled walls- taping compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
20141118_5077_S8 B *241404625-0021*	3rd floor - angled walls- taping compound	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Erin Guzowski (6) *Lauren Brennan (12)*
Kristin Lopez (10)

Gloria V. Oriol, Laboratory Manager
or other approved signatory

Initial report from 11/25/2014 13:11:25

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4, Wallingford, CT 06492
Phone/Fax: 203-284-5948 / (203) 284-5978
http://www.EMSL.com wallingfordlab@emsl.com

EMSL Order: 241404625
CustomerID: FSS93
CustomerPO:
ProjectID:

Attn: **Kevin Bogue**
Facility Support Services, LLC
2685 State Street

Hamden, CT 06517

Project: **22214-5077 (WORTH)**

Phone: (203) 288-1281
Fax: (203) 248-4409
Received: 11/19/14 5:10 PM
Analysis Date: 11/25/2014
Collected: 11/18/2014

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

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**		**% Type**
20141118_5077_S8C *241404625-0022*	3rd floor - angled walls- taping compound	White Non-Fibrous Homogeneous	<1%	Cellulose	55% 45%	Ca Carbonate Non-fibrous (other)	**None Detected**
20141118_5077_S9A *241404625-0023*	3rd floor bathroom - sheetrock	White Non-Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
20141118_5077_S9B *241404625-0024*	3rd floor bathroom - sheetrock	White Non-Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
20141118_5077_S9C *241404625-0025*	3rd floor bathroom - sheetrock	White Non-Fibrous Homogeneous	<1%	Cellulose	100%	Non-fibrous (other)	**None Detected**
20141118_5077_S10A *241404625-0026*	3rd floor bathroom - taping compound	White Fibrous Homogeneous	3%	Cellulose	97%	Non-fibrous (other)	**None Detected**
20141118_5077_S10B *241404625-0027*	3rd floor bathroom - taping compound	White Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
20141118_5077_S10C *241404625-0028*	3rd floor bathroom - taping compound	White Non-Fibrous Homogeneous			50% 50%	Ca Carbonate Non-fibrous (other)	**None Detected**

Analyst(s)

Erin Guzowski (6) *Lauren Brennan (12)*
Kristin Lopez (10)

Gloria V. Oriol, Laboratory Manager
or other approved signatory

Initial report from 11/25/2014 13:11:25

EMSL Analytical, Inc.
29 North Plains Hwy
Unit 4
Wallingford, CT 06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 241404625

Company : Facility Support Services, LLC	**EMSL-Bill to:** ☐ Different ☑ Same If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 2685 State Street	
City: Hamden **State/Province:** CT	**Zip/Postal Code:** 06517 **Country:** United States
Report To (Name): Kevin Bogue	**Telephone #:** 203-288-1281
Email Address: KBogue.FSS@SNET.NET	**Fax #:** 203-248-4409 **Purchase Order:**
Project Name/Number: 22214-5077 (Worth)	**Please Provide Results:** ☐ FAX ☑ E-mail ☐ Mail
U.S. State Samples Taken: CT	**Connecticut Samples:** ☐ Commercial ☒ Residential

Turnaround Time (TAT) Options* – Please Check

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

**For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ **4-4.5hr TAT (AHERA only)**
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ TEM Qual. via Filtration Technique
- ☐ TEM Qual. via Drop-Mount Technique

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group** **Filter Pore Size (Air Samples):** ☐ **0.8µm** ☐ **0.45µm**

Samplers Name: Kevin Bogue **Samplers Signature:** Kevin Bogue

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
	SEE ATTACHED		

RECEIVED
NOV 19 2014
By 17:10

Client Sample # (s): S1A - S10C **Total # of Samples:** 28

Relinquished (Client): Kevin Bogue **Date:** 11/19/14 **Time:** 5:10

Received (Lab): **Date:** **Time:**

Comments/Special Instructions:

Page 1 of 3 pages

241404625

FACILITY SUPPORT SERVICES, LLC

Asbestos Sampling Log

CLIENT: Facility Support Services DATE: 11/18/14

LOCATION: 22214-5077 SAMPLED BY: Kevin Bogue

SAMPLE ID	LOCATION	DESCRIPTION
20141118-5077-S1A	1st Floor Bathroom	sheetrock
S1B	↓	↓
20141118-5077-S2A	1st Floor Bathroom	Taping Compound
S2B	↓	↓
20141118-5077 S3A	1st Floor Hallway	plaster skim coat (white)
S3B	↓	↓
S3C	↓	↓
20141118-5077-S4A	1st Floor Hallway	plaster base coat (grey)
S4B	↓	↓
S4C	↓	↓
20141118-5077-S5A	exterior	Roof Shingle
S5B	↓	↓
S5C	↓	↓
20141118-5077-S6A	3rd Floor	Angled walls - sheetrock
S6B	↓	↓
S6C	↓	↓
20141118-5077-S7A	3rd Floor	paper on yellow Insulation
S7B	↓	↓
S7C	↓	

RECEIVED
NOV 19 2014
By

2 of 3

2685 STATE ST. HAMDEN, CT 06517
PH: 203-288-1281 FAX: 203-248-4409

241404625

FACILITY SUPPORT SERVICES, LLC

Asbestos Sampling Log

CLIENT: Facility Support Services DATE: 11/18/14

LOCATION: 22214-5077 SAMPLED BY: Kevin Bogue

SAMPLE ID	LOCATION	DESCRIPTION
20141118-5077-S8A	3rd Floor	Angled walls - taping compound
S8B	↓	↓
S8C	↓	↓
20141118-5077-S9A	3rd Floor Bathroom	Sheetrock
S9B	↓	↓
S9C	↓	↓
20141118-5077-S10A	3rd Floor Bathroom	Taping compound
S10B	↓	↓
S10C	↓	↓

RECEIVED
NOV 19 2014
By 17:10

3 of 3

2685 STATE ST. HAMDEN, CT 06517
PH: 203-288-1281 FAX: 203-248-4409

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4, Wallingford, CT 06492
Phone/Fax: 203-284-5948 / (203) 284-5978
http://www.EMSL.com wallingfordlab@emsl.com

EMSL Order: 241404661
CustomerID: FSS93
CustomerPO:
ProjectID:

Attn: **Kevin Bogue**
Facility Support Services, LLC
2685 State Street

Hamden, CT 06517

Project: **22214-5077 (WORTH ST.)**

Phone: (203) 288-1281
Fax: (203) 248-4409
Received: 11/21/14 4:45 PM
Analysis Date: 11/28/2014
Collected: 11/21/2014

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

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
20141121_5077_S1 A *241404661-0001*	2nd floor hallway-white plaster skim coat	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
20141121_5077_S1 B *241404661-0002*	2nd floor hallway-white plaster skim coat	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
20141121_5077_S1 C *241404661-0003*	2nd floor hallway-white plaster skim coat	White Non-Fibrous Homogeneous		55% Ca Carbonate 45% Non-fibrous (other)	**None Detected**
20141121_5077_S2 A *241404661-0004*	2nd floor hallway-grey plaster base coat	Gray/Tan Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
20141121_5077_S2 B *241404661-0005*	2nd floor hallway-grey plaster base coat	Gray/Tan Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (other)	**None Detected**
20141121_5077_S2 C *241404661-0006*	2nd floor hallway-grey plaster base coat	Gray Non-Fibrous Homogeneous	<1% Cellulose	30% Quartz 70% Non-fibrous (other)	**None Detected**

Analyst(s)

Erin Guzowski (4)
Kristin Lopez (2)

Gloria V. Oriol, Laboratory Manager
or other approved signatory

Initial report from 12/01/2014 09:56:40

OrderID: 241404661

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(Lab Use Only)*: 24140466

EMSL Analytical, Inc.
29 North Plains Hwy, Unit 4

Wallingford, CT 06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

Company : Facilty Support Services, LLC	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 2685 State Street	
City: Hamden **State/Province:** CT	**Zip/Postal Code:** 06517 **Country:** United States
Report To (Name): Kevin Bogue	**Telephone #:** 203-288-1281
Email Address: kbogue.fss@snet.net	**Fax #:** **Purchase Order:**
Project Name/Number: 22214-5077 (Heath St.)	**Please Provide Results:** ☐ Fax ☑ Email ☐ Mail
U.S. State Samples Taken: CT	**CT Samples:** ☐ Commercial/Taxable ☒ Residential/Tax Exempt

Turnaround Time (TAT) Options* – Please Check

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

**For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PLM - Bulk (reporting limit)	TEM – Bulk
☒ PLM EPA 600/R-93/116 (<1%)	☐ TEM EPA NOB – EPA 600/R-93/116 Section 2.5.5.1
☐ PLM EPA NOB (<1%)	☐ NY ELAP Method 198.4 (TEM)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2
☐ NIOSH 9002 (<1%)	☐ TEM Qualitative via Filtration Prep Technique
☐ NY ELAP Method 198.1 (friable in NY)	☐ TEM Qualitative via Drop Mount Prep Technique
☐ NY ELAP Method 198.6 NOB (non-friable-NY)	**Other**
☐ OSHA ID-191 Modified	☐
☐ Standard Addition Method	

☐ **Check For Positive Stop – Clearly Identify Homogenous Group** **Date Sampled:** 11/21/14

Samplers Name: Kevin Bogue **Samplers Signature:** Kevin Bogue

Sample #	HA #	Sample Location	Material Description
20141121_5077_S1A	1	2nd Floor Hallway	white plaster skim coat
_S1B	1	↓	↓
_S1C	1	↓	↓
20141121_5077_S2A	2	2nd Floor Hallway	grey plaster base coat
_S2B	2	↓	↓
_S2C	2	↓	↓

RECEIVED
NOV 21 2014
By 16:45

Client Sample # (s): S1A - S2C **Total # of Samples:** 6

Relinquished (Client): Kevin Bogue **Date:** 11:15 am **Time:**

Received (Lab): **Date:** **Time:**

Comments/Special Instructions:

Page 1 of 1 pages

ATTACHMENT E

LEAD ANALYTICAL DATA

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

LEAD INSPECTION AND TESTING SUMMARY FORM

This lead inspection and testing summary form must be completed and sent to the property owner of the property in accordance with Section 19a-111-3 (d) of the regulations of Connecticut State Agencies concerning Lead Poisoning Prevention and Control. A Comprehensive Lead Inspection is one performed to satisfy CGS 19a-111 (epidemiological investigation) and CGS 19a-110(d) (on-site inspection). Bare soil areas, dust and water are required to be tested for the presence of lead as part of a comprehensive lead inspection.

PROPERTY INSPECTED/TESTED

(Check): Residence ☑ Child Day Care Center/Group Day Care Home ☐ Name: _____ Family Day Care Home ☐ Name: _____

(Check One): Comprehensive Lead Inspection ☐ Limited Testing ☑

Street Address: 71 - 73 Worth Street Apt.# 1,2,3 Floor: 1st,2nd, 3rd

City/Town: Bridgeport Zip Code: 06604 Telephone: _____

If Apartment, Number of Units: 3 Year Property Built: 1899

PROPERTY OWNER

Name: Rosanna Nadal

Street Address: 10 Beal Street City: Stamford

State: CT Zip Code: 06902 Telephone: 203-554-3401

INSPECTING ENTITY

A. If Consultant Contractor:

Name: Gilbertco Lead INspections LLC

Street Address: 287 Main Street

City: Ansonia State: CT Zip Code: 06401

Consultant License Number: CC270

Inspector's Name: Maureen Monaco Telephone: 1-800-959-2985

Inspector's Certification Number: IR 1172

B. If Code Enforcement Agency:

Department Name: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Inspector's Name: _____ Telephone: _____

Date of Inspector's Initial Training: ____/____/____ Date of Latest Refresher Training: ____/____/____

INSPECTION INFORMATION **Beginning and End Date(s) of Inspection:** 11 / 18 / 14

For each day that the inspection was conducted consent was given by an adult occupant of the dwelling unit to enter and inspect all areas of the dwelling that are under the control of that individual or to which that individual has legitimate access.
☑ Yes ☐ No

Name of person 18 years of age or older who granted consent: Rosanna Nadal Age: 18+ Date: 11/18/14

Name of person 18 years of age or older who granted consent: ______ Age:___ Date: ______

A. Were Lead-Based Surfaces Identified? (Check One) ☐ Yes ☐ No
If yes, complete the tables below. Data in tables may not indicate all identified lead-based surfaces.

EXTERIOR Lead-Based Surfaces	Foundation	Siding &/or Trim	Stairs &/or Stair Components	Porch &/or Porch Components	Doors &/or Trim	Windows &/or Trim	Garage &/or Garage Components
Deteriorated	☐	☑	☐	☑	☑	☑	☐
Intact	☐	☑	☐	☑	☑	☑	☐

(X = positive location)

INTERIOR Lead-Based Surfaces	Floors	Baseboards	Walls	Ceilings	Stairs &/or Stair Components	Doors &/or Trim	Windows &/or Trim	Closet/ Cabinet Components
Deteriorated	☐	☐	☑	☑	☐	☑	☑	☐
Intact	☐	☐	☑	☑	☐	☑	☑	☐

(X = positive location)

Were rooms, areas or components inaccessible during inspection? (Check One) ☐ Yes ☐ No
List any inaccessible locations: Basement, exterior front porch, soffits

B. Indicate Potential Lead Hazards Identified:

(Check All That Apply)
Was drinking water tested for lead?
☐ Yes ☑ No
Was dust tested for lead?
☐ Yes ☑ No
Was bare soil tested for lead?
☐ Yes ☑ No ☐ N/A If yes, complete the adjacent table.

Lead Hazard Locations	Floors (dust)	Window Sills (dust)	Window Wells (dust)	Soil	Water	Paint (XRF)	Paint Chip
(Enter highest result for each)						<9.9	

Per section 19a-111-4(a) and 19a-111-2(e) of the Lead Poisoning Prevention and Control Regulations:

A lead abatement plan **is required for this property:** ☑ Yes ☐ No
A lead management plan is required for this property: ☑ Yes ☐ No

A lead hazard remediation **plan is required for this property:** ☐ Yes ☐ No
A lead management plan is required for this property: ☐ Yes ☐ No

Inspector's Signature: [signature] Date: 11 / 18 / 2014

The federal Residential Lead-Based Paint Hazard Reduction Act, 42 U.S.C. 4852d, requires sellers and landlords of most residential housing built before 1978 to disclose all available records and reports concerning lead-based paint and/or lead-based paint hazards, including the test results contained or referenced in this notice, to purchasers and tenants at the time of sale or lease or upon lease renewal. This disclosure must occur even if hazard reduction or abatement has been completed. Failure to disclose these test results is a violation of the U.S. Department of Housing and Urban Development and the U.S. Environmental Protection Agency regulations at 24 CFR Part 35 and 40 CFR Part 745 and can result in a fine of up to $11,000 per violation. To find out more information about your obligations under federal lead-based paint requirements, call 1-800-424-LEAD.

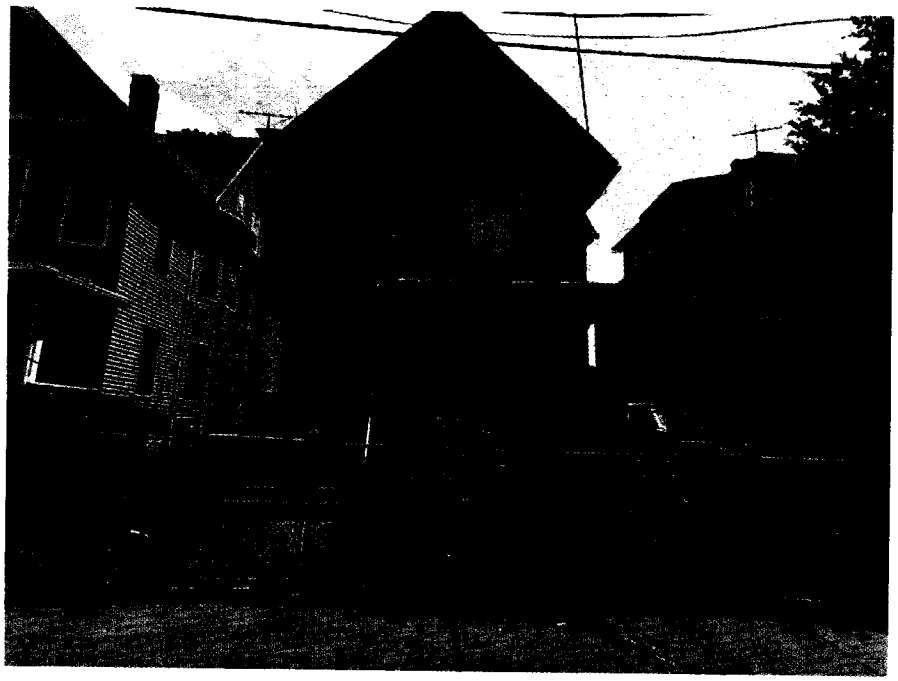
I have received a copy of this summary report from my landlord/property manager and have been informed that I can obtain further information about the testing results from the report by contacting the property owner listed above.

Resident's Signature: ______ Date: ___/___/___

1-7-14

LEAD BASED PAINT INSPECTION
REPORT OF FINDINGS
OF:

71- 73 WORTH STREET
BRIDGEPORT, CONNECTICUT



DATE:

November 18, 2014

PREPARED BY:
GILBERTCO LEAD INSPECTIONS LLC
287 MAIN STREET
ANSONIA, CONNECTICUT 06401

GILBERTCO
LEAD INSPECTIONS, LLC

"LEAD BASED PAINT SPECIALIST"

November 18, 2014

Job 9928-1118

Kevin Bogue, LEP, CHMM
Facility Support Services, LLC
2685 State Street
Hamden, Connecticut 06517

Re: Lead Based Paint Inspection: 71-73 Worth Street, Bridgeport, Connecticut

Gilbertco Lead Inspections LLC performed a limited XRF inspection for the presence of lead based paint at 71-73 Worth Street, Bridgeport, Connecticut. The inspection was requested by Facility Support Services in response to acceptance in to the State of Connecticut Department of Housing Community Block Grant Disaster Recovery Program.

The site inspected consists of a three story, three family home built about 1899. The home is in fair repair and enjoys fair housekeeping. The exterior is has some newer vinyl siding on the third floor and painted siding on the second and third floors. A few windows have been replaced with vinyl replacements. There is a child under the age of six currently residing on the second floor.

In accordance with Manufacturers Performance Characteristic Sheet, the RMD LPA-1 - XRF spectrum analyzer was used in the "Quick" assaying mode This enables the equipment to accurately determine whether the result is "Positive", above the 1.0 mg/cm2 action level or "Negative", below the action level regardless of precision or operator bias. In accordance with the above guidance, values of 0.9 mg/cm2 through 1.1 mg/cm2 are considered "Inconclusive", meaning the value level of lead in paint was so close to the 1.0 mg/cm2 action level that further analysis by XRF would not result in a "Positive" or "Negative" answer. Only laboratory analysis of the paint film can determine actual values in this range. Chip sampling of inconclusive was not included in the scope of this report, therefore, any results above 0.9 mg/cm2 are considered positive. Results are arranged floor plan style with the substrate and condition noted. Orientation of rooms places side 'one' as street side, with side 'two' to the left, side 'three' opposite, and wall 'four' to the right. Rooms were tested in a clockwise pattern.

In regards to the above mentioned property, several areas and most windows were found to have a lead based paint hazards. A lead based paint hazard is "any condition that causes exposure from lead-contaminated dust, lead contaminated soil, or lead-contaminated paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects...". (The Residential Lead Based Paint Hazard Reduction Act of 1992 – Title X). Several areas were found to have lead based paint but are currently in an intact condition. These areas should be placed on a lead monitoring and maintenance plan (attached). In April 2010, a new EPA regulation requires that any contractor who disturbs more than six square feet of painted surface per room or does window replacement must be certified as a Renovate Right Contractor. Homeowners are allowed to do their own renovation but are not exempt from providing renovation notices or posting informational signs. Further information regarding Renovate Right may be obtained at www.epa.gov/lead/pubs/renovation or by calling the National Lead Information Center at 1-800-424-LEAD (5323).

Lead in dust was not included in the scope of this report. Only laboratory analysis can insure that no lead dust hazards remain after renovations or from everyday use of the home.

Residential properties receiving more than $25,000 in CDBG-DR assistance require abatement of lead based paint hazards. There is a child under six in residence and therefore notification to the local and state health departments will be made and a formal abatement plan will be written. No work will commence until the plan is approved by the local health department.

Although soil was not tested for lead, it can be presumed positive unless proven otherwise. Vegetable plants should not be planted near the perimeter of the house or in water runoff areas. Children should not be allowed to play in bare soil areas adjacent to the house. Asphalt, bushes, mulch, or good quality grass covering are acceptable deterrents. There is a bare soil area exposed on the right rear side of the home.

This lead inspection report should be disclosed to future tenants and /or buyers in accordance with Title X (copy enclosed).

Please feel free to call if any questions arise,

Maureen Monaco
Director of Operations
Consultant Contractor #270
Lead Inspector Risk Assessor #1172
Lead Abatement Supervisor #2383

CERTIFICATION
LEAD IN PAINT RESULTS

AGENCY:	GILBERTCO LEAD INSPECTIONS LLC 287 MAIN STREET ANSONIA, CONNECTICUT 06401
PROJECT ADDRESS:	71- 73 WORTH STREET BRIDGEPORT, CONNECTICUT
PROJECT NUMBER:	1118
TEST DATE:	NOVEMBER 18, 2014
REQUIREMENTS:	CHAPTER 7- HUD GUIDELINES LEAD INSPECTION- SURFACE BY SURFACE
INSTRUMENTATION:	LPA-1 SERIAL NUMBER L7-643 (PROTEC) FLUOROSCOPE SPECTRUM ANALYZER (XRF) COBALT 57 SOURCE
REPORT MEDIUM:	MG PB/CM2 (MILLIGRAMS OF LEAD PER SQUARE CENTIMETER)
CALIBRATION:	TO MEASURE LEAD K-SHELL EMISSIONS. FACTORY CALIBRATED WITH HUD APPROVED REFERENCE STANDARDS. CALIBRATION FIELD CHECKED HOURLY AS RECOMMENDED BY MANUFACTURER
OPERATORS CERTIFICATION:	LEAD CONSULTANT CONTRACTOR-CC270 LEAD INSPECTOR RISK ASSESSOR- IR 1172 LEAD ABATEMENT SUPERVISOR- 2383 LEAD PLANNER/PROJECT DESIGNER -2152 MT(ASCP)- BS- Medical Technology CLS- Clinical Laboratory Scientist

I hereby certify to the best of my knowledge and capabilities that this report reflects the true lead content of the surfaces tested in this report on this date.

Maureen Mraw 11/18/2014

73 Worth Street, First Floor, Bridgeport, Connecticut

November 18, 2014

Reading	Room #	Room Name	Side	Component	Condition	Substrate	mg/cm2	Decision
1	1	Front BR	2	Door	Intact	Wood	0	Negative
2	1	Front BR	2	Door Jamb	Defective	Wood	0.1	Negative
3	1	Front BR	2	Door Casing	Defective	Wood	0	Negative
4	1	Front BR	2	Wall	Intact	Plaster	0.2	Negative
5	1	Front BR	3	Wall	Intact	Plaster	0	Negative
6	1	Front BR	3	Door	Intact	Wood	0.4	Negative
7	1	Front BR	4	Wall	Intact	Dry wall	0	Negative
8	1	Front BR	4	Baseboard	Intact	Wood	0.3	Negative
9	1	Front BR	4	Ceiling	Defective	Dry wall	0.1	Negative
10	1	Front BR	1	Window Sill/stool	Intact	Wood	0.3	Negative
11	1	Front BR	1	Window Sash	Intact	Wood	0.4	Negative
12	1	Front BR	1	Window Trim	Intact	Wood	0.3	Negative
13	1	Front BR	1	Window Apron	Intact	Wood	0.1	Negative
14	1	Front BR	1	Window Jamb	Intact	Wood	0	Negative
15	**1**	**Front BR**	**1**	**Window Well/trough**	**Defective**	**Wood**	**9.9**	**Positive**
16	**1**	**Front BR**	**1**	**Window Jamb**	**Defective**	**Wood**	**9.9**	**Positive**
17	1	Front BR	1	Window Sash	Defective	Wood	0.5	Negative
18	1	Front BR	1	Floor	Intact	Wood	-0.2	Negative
19	2	Foyer	1	Front entry Door	Intact	Wood	0.1	Negative
20	2	Foyer	1	Door Casing	Intact	Wood	0.1	Negative
21	2	Foyer	2	Wall	Intact	Dry wall	0	Negative
22	2	Foyer	2	Baseboard	Intact	Wood	0.1	Negative
23	2	Foyer	4	Door Jamb	Intact	Wood	-0.1	Negative
24	2	Foyer	4	Door Casing	Intact	Wood	0.2	Negative
25	2	Foyer	4	Wall	Intact	Dry wall	-0.1	Negative
26	2	Foyer	3	Wall	Intact	Dry wall	-0.1	Negative
27	2	Foyer	4	Door	Intact	Wood	0	Negative
28	2	Foyer	4	Door Jamb	Defective	Wood	0.1	Negative
29	2	Foyer	4	Door Casing	Defective	Wood	-0.2	Negative
30	3	Dining Room	1	Wall	Defective	Dry wall	0	Negative
31	3	Dining Room	1	Door Casing	Defective	Wood	0	Negative
32	3	Dining Room	1	Door Jamb	Defective	Wood	0	Negative
33	3	Dining Room	1	Wall	Intact	Dry wall	-0.1	Negative
34	3	Dining Room	1	Window Sill/stool*	Intact	Wood	0.1	Negative
35	3	Dining Room	1	Window Trim*	Defective	Wood	0.3	Negative
36	3	Dining Room	1	Window Apron*	Intact	Wood	0	Negative
				*vinyl sash				
37	3	Dining Room	4	Wall	Intact	Dry wall	0	Negative
38	3	Dining Room	4	Baseboard	Intact	Wood	0.3	Negative
39	3	Dining Room	4	Floor	Intact	Wood	0	Negative
40	3	Dining Room	4	Window Sash	Intact	Wood	-0.2	Negative
41	3	Dining Room	2	Door	Intact	Wood	0.3	Negative
42	3	Dining Room	2	Door Jamb	Intact	Wood	0.1	Negative

43	3	Dining Room	2	Door Casing	Intact	Wood	0.3	Negative
44	3	Dining Room	2	Wall	Intact	Dry wall	0.3	Negative
45	3	Dining Room	2	Ceiling	Intact	Dry wall	0.2	Negative
46	3	Dining Room	2	Cabinet	Intact	Wood	0.3	Negative
47	3	Dining Room	3	Wall	Intact	Plaster	0	Negative
48	3	Dining Room	3	Door Casing	Intact	Wood	0.3	Negative
49	3	Dining Room	3	Door Jamb	Defective	Wood	0.1	Negative
50	**4**	**Kitchen**	**3**	**Door Casing**	**Defective**	**Wood**	**2.2**	**Positive**
51	**4**	**Kitchen**	**1**	**Wall**	**Defective**	**Dry wall**	**9.9**	**Positive**
52	**4**	**Kitchen**	**2**	**Wall**	**Defective**	**Dry wall**	**9.9**	**Positive**
53	**4**	**Kitchen**	**3**	**Wall**	**Defective**	**Dry wall**	**9.9**	**Positive**
54	**4**	**Kitchen**	**4**	**Wall**	**Defective**	**Dry wall**	**7.3**	**Positive**
55	**4**	**Kitchen**	**4**	**Wall**	**Defective**	**Wood**	**1.8**	**Positive**
56	**4**	**Kitchen**	**3**	**Wall**	**Defective**	**Wood**	**1**	**Inconclusive**
57	**4**	**Kitchen**	**2**	**Wall**	**Defective**	**Wood**	**1.3**	**Positive**
58	**4**	**Kitchen**	**2**	**Door Casing**	**Defective**	**Wood**	**1.5**	**Positive**
59	**4**	**Kitchen**	**2**	**Door Jamb**	**Defective**	**Wood**	**1.7**	**Positive**
60	**4**	**Kitchen**	**4**	**Window Sill/stool***	**Defective**	**Wood**	**2**	**Positive**
61	**4**	**Kitchen**	**4**	**Window Trim***	**Defective**	**Wood**	**1.4**	**Positive**
62	**4**	**Kitchen**	**4**	**Window Stop***	**Defective**	**Wood**	**1.6**	**Positive**
				***vinyl sash**				
63	4	Kitchen	4	Floor	Defective	Wood	-0.2	Negative
64	4	Kitchen	4	Ceiling	Intact	Dry wall	0.3	Negative
65	**4**	**Kitchen**	**3**	**Door**	**Intact**	**Wood**	**1.2**	**Positive**
66	**4**	**Kitchen**	**3**	**Door Casing**	**Intact**	**Wood**	**1.6**	**Positive**
67	5	Pantry	1	Door	Intact	Wood	0.7	Negative
68	5	Pantry	1	Door Jamb	Intact	Wood	0.6	Negative
69	**5**	**Pantry**	**1**	**Door Casing**	**Defective**	**Wood**	**9.4**	**Positive**
70	**5**	**Pantry**	**1**	**Door Casing**	**Defective**	**Wood**	**3**	**Positive**
71	5	Pantry	2	Wall	Intact	Dry wall	0.2	Negative
72	5	Pantry	3	Wall	Intact	Dry wall	0.1	Negative
73	5	Pantry	4	Wall	Intact	Dry wall	-0.1	Negative
74	**5**	**Pantry**	**3**	**Window Trim ***	**Intact**	**Wood**	**2.8**	**Positive**
75	**5**	**Pantry**	**3**	**Window Sill/stool***	**Intact**	**Wood**	**3**	**Positive**
				***vinyl sash**				
76	5	Pantry	1	Wall	Intact	Dry wall	-0.1	Negative
77	5	Pantry	4	Closet Shelf	Intact	Wood	0	Negative
78	**6**	**Front BR**	**3**	**Door**	**Intact**	**Wood**	**1**	**Inconclusive**
79	6	Front BR	3	Door Jamb	Defective	Wood	0.6	Negative
80	6	Front BR	3	Door Casing	Defective	Wood	0.1	Negative
81	6	Front BR	3	Wall	Intact	Dry wall	0	Negative
82	6	Front BR	4	Wall	Intact	Dry wall	0	Negative
83	6	Front BR	1	Wall	Intact	Dry wall	-0.2	Negative
84	6	Front BR	2	Wall	Intact	Dry wall	-0.1	Negative

85	6	Front BR	1	Baseboard	Defective	Wood	0.1	Negative
86	6	Front BR	1	Closet Door	Intact	Wood	0.2	Negative
87	6	Front BR	1	Clo Dr Csng	Defective	Wood	0.1	Negative
88	6	Front BR	1	Closet Shelf	Intact	Wood	-0.1	Negative
89	6	Front BR	1	Shelf Support	Intact	Wood	0	Negative
90	6	Front BR	1	Wall	Intact	Dry wall	0.1	Negative
91	6	Front BR	1	Window Sill/stool	Intact	Wood	0.1	Negative
92	6	Front BR	1	Window Trim	Intact	Wood	0.1	Negative
93	6	Front BR	1	Window Apron	Intact	Wood	0.4	Negative
94	6	Front BR	1	Window Sash	Intact	Wood	0.1	Negative
95	7	Bathroom	4	Door	Intact	Wood	1	Inconclusive
96	7	Bathroom	4	Door Jamb	Intact	Wood	0	Negative
97	7	Bathroom	4	Door Casing	Intact	Wood	0	Negative
98	7	Bathroom	4	Wall	Defective	Dry wall	-0.2	Negative
99	7	Bathroom	1	Wall	Defective	Dry wall	-0.3	Negative
100	7	Bathroom	3	Wall	Defective	Dry wall	0	Negative
101	7	Bathroom	2	Window Trim	Defective	Wood	0.2	Negative
102	7	Bathroom	3	Baseboard	Defective	Wood	-0.1	Negative
103	7	Bathroom	3	Ceiling	Defective	Dry wall	-0.3	Negative
104	8	Rear BR	1	Door	Intact	Wood	0.1	Negative
105	8	Rear BR	1	Door Jamb	Intact	Wood	0.1	Negative
106	8	Rear BR	1	Door Casing	Intact	Wood	0.1	Negative
107	8	Rear BR	1	Wall	Defective	Dry wall	-0.2	Negative
108	8	Rear BR	2	Wall	Defective	Dry wall	0	Negative
109	8	Rear BR	3	Wall	Defective	Dry wall	-0.1	Negative
110	8	Rear BR	4	Wall	Defective	Dry wall	0.2	Negative
111	8	Rear BR	4	Baseboard	Intact	Wood	0.3	Negative
112	8	Rear BR	4	Closet Door	Intact	Wood	-0.1	Negative
113	8	Rear BR	4	Clo Dr Csng	Defective	Wood	0.1	Negative
114	8	Rear BR	4	Closet Shelf	Intact	Wood	0.1	Negative
115	8	Rear BR	4	Shelf Support	Intact	Wood	0	Negative
116	8	Rear BR	3	Window Sill	Intact	Wood	0	Negative
117	8	Rear BR	3	Window Sash	Defective	Wood	0	Negative
118	8	Rear BR	3	Window Trim	Defective	Wood	0.2	Negative
119	8	Rear BR	3	Window Jamb	Defective	Wood	0.2	Negative
120	8	Rear BR	3	Window Sash	Defective	Wood	-0.1	Negative
121	8	Rear BR	3	Window Apron	Defective	Wood	0.3	Negative
122	8	Rear BR	3	Baseboard	Intact	Wood	0.1	Negative
123	8	Rear BR	3	Floor	Intact	Wood	-0.2	Negative
124	8	Rear BR	3	Ceiling	Intact	Dry wall	-0.2	Negative
125	9	Hall outside bath	4	Ceiling	Defective	Dry wall	9.9	Positive
126	9	Hall outside bath	4	Wall	Defective	Dry wall	9.9	Positive
127	9	Hall outside bath	2	Wall	Defective	Dry wall	9.9	Positive

Reading	Room #	Room Name	Side	Component	Condition	Substrate	mg/cm2	Decision
175	15	Front stairs/entr	2	Wall	Intact	Dry wall	0.1	Negative
176	15	Front stairs/entr	1	Wall	Intact	Dry wall	0.3	Negative
177	15	Front stairs/entr	4	Wall	Intact	Dry wall	0.1	Negative
178	15	Front stairs/entr	4	Baseboard	Intact	Wood	0.2	Negative
179	15	Front stairs/entr	4	Floor	Intact	Wood	-0.1	Negative
180	15	Front stairs/entr	4	Stair Railing	Intact	Wood	0.1	Negative
181	15	Front stairs/entr	4	Stair Spindle	Intact	Wood	0.2	Negative
182	15	Front stairs/entr	4	Newel Post	Intact	Wood	0.1	Negative
183	16	Front Bedroom	4	Wall	Intact	Dry wall	-0.1	Negative
184	16	Front Bedroom	3	Wall	Intact	Dry wall	0	Negative
185	16	Front Bedroom	1	Wall	Intact	Dry wall	0.3	Negative
186	16	Front Bedroom	1	Window Trim	Intact	Wood	0.3	Negative
187	16	Front Bedroom	1	Window Sill /stool	Intact	Wood	0	Negative
188	16	Front Bedroom	2	Window Sill /stool	Intact	Wood	-0.2	Negative
189	16	Front Bedroom	2	Ceiling	Defective	Plaster	0.3	Negative
190	16	Front Bedroom	3	Door	Intact	Wood	0.2	Negative
191	16	Front Bedroom	3	Door Jamb	Intact	Wood	0.1	Negative
192	16	Front Bedroom	3	Door Casing	Intact	Wood	0.2	Negative
1	1	Living Room	1	Wall	Intact	Dry wall	0	Negative
2	1	Living Room	2	Wall	Intact	Dry wall	0	Negative
3	1	Living Room	2	Ceiling	Intact	Dry wall	-0.1	Negative
4	1	Living Room	3	Wall	Intact	Dry wall	0	Negative
5	1	Living Room	4	Wall	Intact	Dry wall	0	Negative
6	1	Living Room	2	Door Casing	Intact	Wood	0	Negative
7	2	Kitchen	1	Wall	Intact	Dry wall	9.9	Positive
8	2	Kitchen	2	Wall	Intact	Dry wall	9.9	Positive
9	2	Kitchen	3	Wall	Intact	Dry wall	9.9	Positive
10	2	Kitchen	4	Wall	Intact	Dry wall	9.9	Positive
11	2	Kitchen	4	Wall	Intact	Wood	0.5	Negative
12	2	Kitchen	4	Window Sill/stool	Intact	Wood	0.4	Negative
13	2	Kitchen	4	Window Trim	Intact	Wood	0.7	Negative
14	2	Kitchen	4	Ceiling	Intact	Dry wall	9.9	Positive
15	2	Kitchen	3	Door Casing	Intact	Wood	0.4	Negative
16	3	Pantry	2	Wall	Intact	Dry wall	0.1	Negative
17	3	Pantry	4	Wall	Intact	Dry wall	0.1	Negative
18	3	Pantry	4	Closet Shelf	Intact	Wood	-0.2	Negative
19	3	Pantry	3	Cabinet	Intact	Wood	2.4	Positive
20	4	Bedroom	4	Wall	Intact	Dry wall	-0.1	Negative
21	4	Bedroom	1	Wall	Intact	Dry wall	-0.2	Negative
22	4	Bedroom	2	Wall	Intact	Dry wall	0	Negative

23	4	Bedroom	2	Window Trim	Intact	Wood	0	Negative
24	4	Bedroom	2	Floor	Intact	Wood	-0.1	Negative
25	4	Bedroom	3	Wall	Intact	Dry wall	0	Negative
26	4	Bedroom	3	Baseboard	Intact	Wood	0.1	Negative
27	4	Bedroom	3	Door	Intact	Wood	0.4	Negative
28	4	Bedroom	3	Door Jamb	Intact	Wood	0.5	Negative
29	5	Bathroom	4	Door	Intact	Wood	0.2	Negative
30	5	Bathroom	4	Door Jamb	Defective	Wood	-0.1	Negative
31	5	Bathroom	4	Door Casing	Intact	Wood	0.1	Negative
32	5	Bathroom	4	Wall	Intact	Dry wall	0.1	Negative
33	5	Bathroom	1	Wall	Intact	Dry wall	0	Negative
34	5	Bathroom	3	Wall	Intact	Dry wall	-0.1	Negative
35	5	Bathroom	3	Baseboard	Intact	Wood	-0.1	Negative
36	5	Bathroom	3	Ceiling	Intact	Dry wall	0	Negative
37	6	Rear Bedroom	1	Wall	Intact	Dry wall	-0.1	Negative
38	6	Rear Bedroom	2	Wall	Intact	Dry wall	0	Negative
39	6	Rear Bedroom	3	Wall	Intact	Dry wall	-0.4	Negative
40	6	Rear Bedroom	4	Wall	Intact	Dry wall	0	Negative
41	6	Rear Bedroom	4	Closet Door	Intact	Wood	-0.2	Negative
42	6	Rear Bedroom	4	Closet Dr Csng	Intact	Wood	-0.1	Negative
43	6	Rear Bedroom	4	Ceiling	Intact	Dry wall	-0.2	Negative
44	6	Rear Bedroom	4	Window Trim	Intact	Wood	0	Negative
45	7	Exterior	3	Door	Defective	Wood	9.9	Positive
46	7	Exterior	3	Door Jamb	Defective	Wood	9.9	Positive
47	7	Exterior	3	Threshold	Defective	Wood	9.9	Positive
48	7	Exterior	3	Door Casing	Defective	Wood	9.9	Positive
49	7	Exterior	3	Wall	Defective	Wood	9.9	Positive
50	7	Exterior	3	Post/column	Defective	Wood	0.5	Negative
51	7	Exterior	3	Post/column	Defective	Wood	0.7	Negative
52	7	Exterior	3	Window Trim	Defective	Wood	9.9	Positive
53	7	Exterior	3	Window Sill/stool	Defective	Wood	9.9	Positive
54	7	Exterior	3	Bilco Door	Defective	Metal	0.5	Negative
55	7	Exterior	2	Wall	Defective	Metal	9.9	Positive
56	7	Exterior	1	Floor	Defective	Wood	9.9	Positive
57	7	Exterior	1	Door	Intact	Wood	9.9	Positive
58	7	Exterior	1	Door Casing	Defective	Wood	9.9	Positive
59	7	Exterior	1	Door Casing	Defective	Wood	9.9	Positive
60	7	Exterior	1	Threshold	Defective	Wood	9.9	Positive

Reading	Room #	Room Name	Side	Component	Condition	Substrate	mg/cm2	Decision
128	10	Front BR	1	Wall	Intact	Dry wall	-0.3	Negative
129	10	Front BR	2	Wall	Intact	Dry wall	-0.5	Negative
130	10	Front BR	3	Wall	Intact	Dry wall	-0.1	Negative
131	10	Front BR	4	Wall	Intact	Dry wall	0	Negative
132	10	Front BR	4	Ceiling	Intact	Dry wall	0.1	Negative
133	10	Front BR	1	Window Sill/stool	Defective	Wood	-0.2	Negative
134	10	Front BR	1	Window Sash	Defective	Wood	-0.2	Negative
135	**10**	**Front BR**	**1**	**Window Well/trough**	**Defective**	**Wood**	**9.9**	**Positive**
136	**10**	**Front BR**	**1**	**Window [illegible]**	**Defective**	**Wood**	**9.9**	**Positive**
137	10	Front BR	1	Baseboard	Intact	Wood	0	Negative
138	10	Front BR	1	Door	Intact	Wood	0.2	Negative
139	10	Front BR	1	Door Jamb	Intact	Wood	-0.3	Negative
140	10	Front BR	1	Door Casing	Intact	Wood	-0.1	Negative
141	11	Living Rm	1	Wall	Intact	Dry wall	-0.2	Negative
142	11	Living Rm	2	Wall	Intact	Dry wall	-0.1	Negative
143	11	Living Rm	4	Wall	Intact	Dry wall	-0.3	Negative
144	11	Living Rm	3	Wall	Intact	Dry wall	0	Negative
145	11	Living Rm	3	Ceiling	Intact	Dry wall	-0.2	Negative
146	11	Living Rm	3	Window Sill/stool	Defective	Wood	0.1	Negative
147	11	Living Rm	3	Window Sash	Defective	Wood	0	Negative
148	11	Living Rm	3	Window Casing	Defective	Wood	-0.2	Negative
149	11	Living Rm	3	Door Casing	Intact	Wood	0.3	Negative
150	**12**	**Bathroom**	**4**	**Door Casing**	**Intact**	**Wood**	**4.6**	**Positive**
151	12	Bathroom	4	Door Casing	Intact	Wood	-0.1	Negative
152	**12**	**Bathroom**	**4**	**Door**	**Intact**	**Wood**	**4.9**	**Positive**
153	12	Bathroom	4	Door Casing	Intact	Wood	-0.2	Negative
154	12	Bathroom	1	Wall	Intact	Dry wall	-0.2	Negative
155	12	Bathroom	2	Wall	Intact	Dry wall	-0.1	Negative
156	12	Bathroom	3	Wall	Intact	Dry wall	-0.1	Negative
157	12	Bathroom	4	Wall	Intact	Dry wall	0.2	Negative
158	12	Bathroom	2	Window Trim	Intact	Wood	0	Negative
159	12	Bathroom	2	Ceiling	Intact	Dry wall	-0.1	Negative
160	12	Bathroom	2	Cabinet	Intact	Wood	-0.2	Negative
161	13	Rear Bedroom	1	Door	Intact	Wood	0	Negative
162	13	Rear Bedroom	1	Door Jamb	Intact	Wood	0	Negative
163	13	Rear Bedroom	1	Door Casing	Intact	Wood	0.2	Negative
164	13	Rear Bedroom	1	Wall	Intact	Dry wall	0.3	Negative
165	13	Rear Bedroom	2	Wall	Intact	Dry wall	-0.2	Negative
166	13	Rear Bedroom	3	Wall	Intact	Dry wall	0	Negative
167	13	Rear Bedroom	4	Wall	Intact	Dry wall	0.1	Negative
168	13	Rear Bedroom	4	Ceiling	Intact	Dry wall	-0.2	Negative

169	14	Rear Stairs	3	Wall -yellow	Intact	Dry wall	0.1	Negative
170	14	Rear Stairs	3	Wall -green	Intact	Dry wall	9.9	Positive
171	14	Rear Stairs	3	Wall -green	Intact	Dry wall	9.9	Positive
172	14	Rear Stairs	3	Wall -yellow	Intact	Dry wall	0	Negative
173	14	Rear Stairs	3	Door	Intact	Wood	2.2	Positive
174	14	Rear Stairs	3	Door Casing	Intact	Wood	2.1	Positive

GILBERTCO
LEAD INSPECTIONS, LLC

"LEAD BASED PAINT SPECIALIST"

December 16, 2014

Kevin Bogue, LEP, CHMM
Facility Support Services, LLC
2685 State Street
Hamden, Connecticut 06517

RE: 71-73 Worth Street, Bridgeport, Connecticut

Gilbertco Lead Inspections LLC performed a surface to surface lead inspection at 71-73 Worth Street, Bridgeport on November 18, 2014 in anticipation of the home undergoing renovations using Storm Sandy Disaster Recovery Funds distributed by CT DOH. Subsequently, Gilbertco was asked to collect samples to complete a comprehensive lead inspections because a child under six is in residence on the second floor. We were met at the site by Paul from Martinez Couch and Associates on December 12, 2014.

Prerenovation lead in dust results obtained from December 12, 2014 testing showed several areas did not meet lead safe criteria as specified by CT- DPH and CGS 19a-111. A Lead Abatement plan has been written and submitted to the Bridgeport Health Department which requires lead dust sampling in all area where remediation or abatement activity will occur. Prior to renovation, the homeowner or tenant should be instructed on how to clean for lead in dust . Methods include use of a disposable swiffer and wet cleaning with detergent with a good surfactant such as TSP or Dawn dish soap. Disposable gloves and wipes should be used. Windows should remain closed until abatement is completed. Removal of shoes before entering the apartment and use of a door mat is encouraged.

A surface composite soil sample was obtained from the rear side of the house on December 12, 2014. This surface composite soil sample taken from the drip line showed a lead in soil level of 26,400 ppm. This sample is determined by EPA, CT-DPH, and HUD standards to be hazardous and in need of abatement. The exterior of the home is exhibiting extensive peeling and a copious amount of paint chips were visible around the entire perimeter of the home. Abatement may require soil removal or permanent covering such as asphalt to eliminate the hazard.

287 Main Street
Ansonia, CT 06401
203-732-2615 - FAX 866-437-8191
Toll Free In CT Only 1-800-959-2985

A first draw water sample was obtained from the kitchen faucet of the second floor apartment. Drinking water collected exhibited a concentration of less than 5 µg/L of lead and therefore fell within permissible limits as established by CT- DPH. The home is services by public water.

A copy of these additional findings has been forwarded to Bridgeport Health Department.

Please feel free to cal if you have any questions,

Maureen Monaco
Consultant Contractor #270
Lead Inspector Risk Assessor #1172

LEAD IN DUST DATA PAGE

Lead in Dust- 73 Worth Street, 2nd Floor, Bridgeport, CT December 12, 2014

Prerenovation

Sample	Location	Component	Sample Size (l x w)	Results µ/ft2	Notes
1	Front Bedroom	Window Sill	3 x 12	92 x 4 = 368	*Unacceptable*
2	Front Bedroom	Floor	12 x 12	10.2 x 1 = 10.2	Acceptable
3	Living Room	Window Sill	3 x 12	52 x 4 = 208	Acceptable
4	Living Room	Floor	12 x 1 2	<10 x 1 = <10	Acceptable
5	Kitchen	Window Sill	3 x 12	<10 x 4 = <40	Acceptable
6	Kitchen	Floor	12 x 12	<10x 1 = <10	Acceptable
7	Left Bedroom	Window Sill	3 x 12	55.5 x 4 = 222	Acceptable
8	Left Bedroom	Floor	12 x 12	<10 x 1 = <10	Acceptable
9	Bath	Window Sill	3 x 12	<10 x 4 = <40	Acceptable
10	Bath	Floor	12 x 12	<10 x 1 = <10	Acceptable
11	Rear Bedroom	Window Sill	3 x 12	106 x 4 = 424	*Unacceptable*
12	Rear Bedroom	Floor	12 x 12	< 10 x 1 = <10	Acceptable
13	Front Entry	Floor	12 x 12	214 x 1 = 214	*Unacceptable*
14	Rear Entry	Floor	12 x 12	34.6 x 1= 34.6	Acceptable
15	Open blank			<10	Acceptable
16	Closed blank			<10	Acceptable

Reoccupancy Criteria: CGS 19a-111-4(e)(2):

Floors- 40 µg/ft2 Window Sills- 250 µg/ft2 Window Wells- 400 µg/ft2

Analysis Report

Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

Customer: Gilbertco Lead Inspections LLC (3813)
Address: 287 Main Street
Ansonia, CT 06401

Attn:

Project: MCA
Location: 73 Worth 2nd Fl
Number: 9928-73

Order #: 116636

Matrix	Wipe
Received	12/15/14
Analyzed	12/15/14
Reported	12/15/14

PO Number:

Sample ID / Parameter	Cust. Sample ID	Location / Method	Sample Date	Area	Total	Conc.	RL*
116636-001 Lead	1	Front BR WDS / EPA 7000B / 3050B	12/12/14	0.250 ft2	92.0 µg/wipe	**368 µg/ft2**	40.0 µg/ft2
116636-002 Lead	2	Front BR Fl / EPA 7000B / 3050B	12/12/14	1.00 ft2	10.2 µg/wipe	**10.2 µg/ft2**	10.0 µg/ft2
116636-003 Lead	3	LR WDS / EPA 7000B / 3050B	12/12/14	0.250 ft2	52.0 µg/wipe	**208 µg/ft2**	40.0 µg/ft2
116636-004 Lead	4	LR Fl / EPA 7000B / 3050B	12/12/14	1.00 ft2	<10.0 µg/wipe	**<10.0 µg/ft2**	10.0 µg/ft2
116636-005 Lead	5	K WDS / EPA 7000B / 3050B	12/12/14	0.250 ft2	<10.0 µg/wipe	**<40.0 µg/ft2**	40.0 µg/ft2
116636-006 Lead	6	K Fl / EPA 7000B / 3050B	12/12/14	1.00 ft2	<10.0 µg/wipe	**<10.0 µg/ft2**	10.0 µg/ft2
116636-007 Lead	7	Left BR WDS / EPA 7000B / 3050B	12/12/14	0.250 ft2	55.5 µg/wipe	**222 µg/ft2**	40.0 µg/ft2
116636-008 Lead	8	Left BR Fl / EPA 7000B / 3050B	12/12/14	1.00 ft2	<10.0 µg/wipe	**<10.0 µg/ft2**	10.0 µg/ft2
116636-009 Lead	9	Bath WDS / EPA 7000B / 3050B	12/12/14	0.250 ft2	<10.0 µg/wipe	**<40.0 µg/ft2**	40.0 µg/ft2
116636-010 Lead	10	Bath Fl / EPA 7000B / 3050B	12/12/14	1.00 ft2	<10.0 µg/wipe	**<10.0 µg/ft2**	10.0 µg/ft2
116636-011 Lead	11	Rear BR WDS / EPA 7000B / 3050B	12/12/14	0.250 ft2	106 µg/wipe	**424 µg/ft2**	40.0 µg/ft2
116636-012 Lead	12	Rear BR Fl / EPA 7000B / 3050B	12/12/14	1.00 ft2	<10.0 µg/wipe	**<10.0 µg/ft2**	10.0 µg/ft2
116636-013 Lead	13	Front Entry Fl / EPA 7000B / 3050B	12/12/14	1.00 ft2	214 µg/wipe	**214 µg/ft2**	10.0 µg/ft2

Minimum Total Reporting Limit: 10.0 µg/wipe. EPA Clearance Std: 40 µg/ft² for floors, 250 µg/ft² for interior window sills, and 400 µg/ft² for window troughs. All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. The analysis data reported relates only to the samples as submitted.

Accrediting bodies: AIHA-LAP, LLC 100527, VELAP/NELAC 460135 - Call laboratory for current national and state certifications.

Analysis Report

Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

Customer: Gilbertco Lead Inspections LLC (3813)
Address: 287 Main Street
Ansonia, CT 06401

Attn:

Project: MCA
Location: 73 Worth 2nd Fl
Number: 9928-73

Order #: 116636

Matrix	Wipe
Received	12/15/14
Analyzed	12/15/14
Reported	12/15/14

PO Number:

Sample ID / Parameter	Cust. Sample ID	Location / Method	Sample Date	Area	Total	Conc.	RL*
116636-014	14	Rear Entry Fl	12/12/14				
Lead		EPA 7000B / 3050B		1.00 ft2	34.6 µg/wipe	**34.6 µg/ft2**	10.0 µg/ft2
116636-015	15	Open Blank	12/12/14				
Lead		EPA 7000B / 3050B			<10.0 µg/wipe		10.0 µg/wipe
116636-016	16	Closed Blank	12/12/14				
Lead		EPA 7000B / 3050B			<10.0 µg/wipe		10.0 µg/wipe

Analyst: IH
116636-12/15/14 10:32 PM

Reviewed By: **Mohammed Eltilib**
Metals Team Leader

Minimum Total Reporting Limit: 10.0 µg/wipe. EPA Clearance Std: 40 µg/ft² for floors, 250 µg/ft² for interior window sills, and 400 µg/ft² for window troughs. All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. The analysis data reported relates only to the samples as submitted.

Accrediting bodies: AIHA-LAP, LLC 100527, VELAP/NELAC 460135 - Call laboratory for current national and state certifications.

116636

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SCHNEIDER LABORATORIES GLOBAL, INC.

SLG

2512 West Cary Street, Richmond, Virginia 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475
www.slabinc.com e-mail: info@slabinc.com

Submitting Co.	Gilbertco LLC	Lab WO#		Phone	1-800-959-2985
	287 Main St	Acct #	3813	Fax / Email	1-866-437-8191
	Ansonia CT 06401	**State of Collection	CT	**Cert. Required	☒ Yes ☐ No
Project Name:	MCA	Special Instructions [include requests for special reporting or data packages]			
Project Location:	73 Worth 2nd Fl				
Project Number:	9928-73				
PO Number:					

Turn Around Time
- ☐ 2 hours*
- ☐ Same day*
- ☒ 1 business day*
- ☐ 2 business day*
- ☐ 3 business days*
- ☐ 5 business days*
- ☐ Full TCLP (10d)
- ☐ Weekend*

* not available for all tests

Schedule rush organics, multi-metals & weekend tests in advance.

Matrix / Sample Type (Select ONE)

All samples on form should be of SAME matrix type. Use additional forms as needed.

- ☐ Air ☐ Solid
- ☐ Aqueous ☐ Waste
- ☐ Bulk ☐ Wastewater
- ☐ Hi-Vol Filter (PM10) ☐ Water, Drinking
- ☐ Hi-Vol Filter (TSP) ☐ Compliance
- ☐ Oil ☒ Wipe
- ☐ Paint ☐ Wipe, Composite
- ☐ Sludge ☐ ______
- ☐ Soil ☐

Tests / Analytes (Select ALL that Apply)

Asbestos Air / Fiber Counts
- ☐ PCM (NIOSH 7400)
- ☐ TEM (AHERA)
- ☐ TEM (EPA Level II)
- ☐ ______

Miscellaneous Tests
- ☐ Total Dust (NIOSH 0500)
- ☐ Resp. Dust (NIOSH 0600)
- ☐ Silica - FTIR (NIOSH 7602)
- ☐ Silica - XRD (NIOSH 7500)
- ☐ Mold Direct Exam

Asbestos Bulk / Asb ID
- ☐ PLM (EPA 600/R-93/116)
- ☐ PLM (EPA Point Count)
- ☐ PLM (Qualitative only)
- ☐ NYELAP 198.1/.4/.6
- ☐ CAELAP (EPA Interim)
- ☐ TEM (Chatfield)
- ☐ ______

FOR ASBESTOS AIR:
TYPE OF RESPIRATOR USED: ______

Metals-Total Conc.
- ☒ Lead
- ☐ RCRA Metals
- ☐ ______
- ☐ ______

Metals-Extract
- ☐ TCLP / Lead
- ☐ TCLP / RCRA Metals
- ☐ TCLP / Full (w/ organics)

Others
- ☐ ______

Sample #	Date Sampled**	Time Sampled**	Sample Identification (Employee, SSN, Bldg, Material, Type[1])	Wiped Area (ft²)	pH / Temp *	Time[2] Start	Time[2] Stop	Flow Rate[3] Start	Flow Rate[3] Stop	Total[4] Air
1	12-12		Front BR WDS	3x12						
2	12-12		Front BR FL	12x12						
3	12-12		LR WDS	3x12						
4	12-12		LR FL	12x12						
5	12-12		K WDS	3x12						
6	12-12		K Fl	12x12						
7	12-12		Left BR WDS	3x12						
8	12-12		Left BR Fl	12x12						
9	12-12		Bath WDS	3x12						
10	12-12		Bath Fl	12x12						
11	12-12		Rear BR WDS	3x12						
12	12-12		Rear BR FL	12x12						

[1]Type: Area, Blank, Personal, Excursion [2]Beginning/End of Sample Period [3]Pump Calibration in Liters/Minute [4]Volume in Liters (time in min * flow in L/min)

Sampled by	Relinquished to lab by		Sample Disposal
NAME M Monaco	NAME M Monaco	73 Worth 2nd fl	If samples over req. weight (Refer to Fee Schedule)
SIGNATURE [signature]	SIGNATURE [signature]	[signature]	☐ Return to Sender (Shipping fees) ☐ Disposal by lab ($60 fee)
DATE/TIME 12-12-14	DATE/TIME 12-12-14		Shipping Methods: ☐ FX ☐ UPS ☐ USM ☐ HD ☐ DB WB:

☐ Sample return requested ☐ Ambient temp ☐ Ice C ☐R ☐S ☐X ☐ Receive a physical copy of report.

* Temperature taken with IR Gun A. **Required. *Chain-of-Custody documentation continued internally within lab. Terms and conditions page 2.*

12-15-14

SCHNEIDER LABORATORIES GLOBAL, INC.
2512 West Cary Street, Richmond, Virginia 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475
www.slabinc.com e-mail: info@slabinc.com

WO Label

Submitting Co.	Gilbertco LLC	Lab WO#		Phone	1-800-959-2985
	287 Main St	Acct #	3813	Fax / Email	1-866-437-8191
	Ansonia CT 06401	**State of Collection	CT	**Cert. Required	☒ Yes ☐ No

Project Name:	MCA
Project Location:	23 Worth 2nd Fl
Project Number:	9928-73
PO Number:	

Special Instructions [include requests for special reporting or data packages]

Turn Around Time
- ☐ 2 hours*
- ☐ Same day*
- ☒ 1 business day*
- ☐ 2 business day*
- ☐ 3 business days*
- ☐ 5 business days*
- ☐ Full TCLP (10d)
- ☐ Weekend*

* not available for all tests

Schedule rush organics, multi-metals & weekend tests in advance.

Matrix / Sample Type (Select ONE)

All samples on form should be of SAME matrix type. Use additional forms as needed.

- ☐ Air
- ☐ Aqueous
- ☐ Bulk
- ☐ Hi-Vol Filter (PM10)
- ☐ Hi-Vol Filter (TSP)
- ☐ Oil
- ☐ Paint
- ☐ Sludge
- ☐ Soil
- ☐ Solid
- ☐ Waste
- ☐ Wastewater
- ☐ Water, Drinking
- ☐ Compliance
- ☒ Wipe
- ☐ Wipe, Composite
- ☐ ______
- ☐ ______

Tests / Analyses (Select ALL that Apply)

Asbestos Air / Fiber Counts
- ☐ PCM (NIOSH 7400)
- ☐ TEM (AHERA)
- ☐ TEM (EPA Level II)
- ☐ ______

Miscellaneous Tests
- ☐ Total Dust (NIOSH 0500)
- ☐ Resp. Dust (NIOSH 0600)
- ☐ Silica - FTIR (NIOSH 7602)
- ☐ Silica - XRD (NIOSH 7500)
- ☐ Mold Direct Exam

Asbestos Bulk / Asb ID
- ☐ PLM (EPA 600/R-93/116)
- ☐ PLM (EPA Point Count)
- ☐ PLM (Qualitative only)
- ☐ NYELAP 198.1/.4/.6
- ☐ CAELAP (EPA Interim)
- ☐ TEM (Chatfield)
- ☐ ______

FOR ASBESTOS AIR:
TYPE OF RESPIRATOR USED: ______

Metals-Total Conc.
- ☒ Lead
- ☐ RCRA Metals
- ☐ ______
- ☐ ______

Metals-Extract
- ☐ TCLP / Lead
- ☐ TCLP / RCRA Metals
- ☐ TCLP / Full (w/ organics)

Others
- ☐ ______

Sample #	Date Sampled**	Time Sampled**	Sample Identification (Employee, SSN, Bldg, Material, Type¹)	Wiped Area (ft²)	pH / Temp *	Time² Start	Time² Stop	Flow Rate³ Start	Flow Rate³ Stop	Total⁴ Air
13			Front Entry Fl	12x12						
14			Rear Entry Fl	12x12						
			open blank							
			closed blank							

¹Type: A=area B=blank P=personal E=excursion ²Beginning/End of Sample Period ³Pump Calibration in Liters/Minute ⁴Volume in Liters [time in min * flow in L/min]

Sampled by	Relinquished to lab by		Sample Disposal
NAME M Monaco	NAME M Monaco	12-15-14	☐ Return to Sender (shipping fees) ☐ Disposal by lab ($50 fee)
SIGNATURE M Monaco	SIGNATURE M Monaco	[signature]	**Shipping Methods** ☐ FX ☐ UPS ☐ USM ☐ HD ☐ DB
DATE/TIME 12-12-14	DATE/TIME 12-12-12		WB: ______

☐ Sample return requested ☐ Ambient temp ☐ Ice Ci ☐R ☐S ☐X ☐ Receive a physical copy of report.

* Temperature taken with IR Gun A. **Required. *Chain-of-Custody documentation continued internally within lab. Terms and conditions page 2.*

Analysis Report

Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

Customer: Gilbertco Lead Inspections LLC (3813)
Address: 287 Main Street
Ansonia, CT 06401

Attn:

Project: MCA
Location: 73 Worth 2nd Fl
Number: 9928-73

Order #: 116638

Matrix	Drinking Water
Received	12/15/14
Reported	12/16/14

PO Number:

Sample ID / Parameter	Cust. Sample ID	Location / Method	Result	RL*	Units	Analysis Date	Analyst
116638-001	73	Kitchen Sink					
Metals Analysis							
Lead		EPA 200.9 Rev 2.2	**< 5.00**	5.00	µg/L	12/16/14	SA

116638-12/16/14 07:05 PM

Reviewed By: **Mohammed Eltilib**
Metals Team Leader

Certifications

Paramater	Method	Matrix	CA	CT	NJ	RI	VA
Lead	EPA 200.9 Rev 2.2	Drinking Water	X	X	X	X	X

Key

State	Regulatory Agency - Lab ID	Certificate Number
CA	CA ELAP	2078
CT	CT DPH	PH-0118
NJ	NJDEP	NLC13001
RI	RIDOH	LAO00084
VA	Virginia DCLS/DEQ - 460135	7579

'X' indicates that the analyte is accredited.

If your state is not listed above, call laboratory for accreditation/certification information.

All internal QC parameters were met. Unusual sample conditions, if any, are described. Surrogate Spike results designated with "D" indicate that the analyte was diluted out. "MI" indicates matrix interference. Concentration and *Reporting Limit (RL) based on areas provided by client. Values are reported to three significant figures. PPM = mg/kg | PPB = µg/kg. The analysis data reported relates only to the samples as submitted.

Accrediting bodies: AIHA-LAP, LLC 100527, VELAP/NELAC 460135.

116638

V:\116\116638

SCHNEIDER LABORATORIES GLOBAL, INC.

2512 West Cary Street, Richmond, Virginia 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475
www.slabinc.com e-mail: info@slabinc.com

Submitting Co.	Gilberteo LLC	Lab WO#		Phone	1-800-959-2985
	287 Main St	Acct #	3813	Fax / Email	1-866-437-8191
	Ansonia CT 06401	**State of Collection	CT	**Cert. Required	☑ Yes ☐ No

Project Name:	MCA
Project Location:	73 Worth 2nd fl
Project Number:	9928-73
PO Number:	

Special Instructions [include requests for special reporting or data packages]

Turn Around Time

- ☐ 2 hours*
- ☐ Same day*
- ☑ 1 business day*
- ☐ 2 business day*
- ☐ 3 business days*
- ☐ 5 business days*
- ☐ Full TCLP (10d)
- ☐ Weekend*

* not available for all tests

Schedule rush organics, multi-metals & weekend tests in advance.

Matrix / Sample Type (Select ONE)

All samples on form should be of SAME matrix type. Use additional forms as needed.

- ☐ Air
- ☐ Aqueous
- ☐ Bulk
- ☐ Hi-Vol Filter (PM10)
- ☐ Hi-Vol Filter (TSP)
- ☐ Oil
- ☐ Paint
- ☐ Sludge
- ☐ Soil
- ☐ Solid
- ☐ Waste
- ☐ Wastewater
- ☑ Water,Drinking
- ☐ Compliance
- ☐ Wipe
- ☐ Wipe, Composite
- ☐ _____
- ☐ _____

Tests / Analytes (Select ALL that Apply)

Asbestos Air / Fiber Counts

- ☐ PCM (NIOSH 7400)
- ☐ TEM (AHERA)
- ☐ TEM (EPA Level II)
- ☐ _____

Miscellaneous Tests

- ☐ Total Dust (NIOSH 0500)
- ☐ Resp. Dust (NIOSH 0600)
- ☐ Silica - FTIR (NIOSH 7602)
- ☐ Silica - XRD (NIOSH 7500)
- ☐ Mold Direct Exam

Asbestos Bulk / Asb ID

- ☐ PLM (EPA 600/R-93/116)
- ☐ PLM (EPA Point Count)
- ☐ PLM (Qualitative only)
- ☐ NYELAP 198.1/.4/.6
- ☐ CAELAP (EPA Interim)
- ☐ TEM (Chatfield)
- ☐ _____

FOR ASBESTOS AIR:

TYPE OF RESPIRATOR USED: _____

Metals-Total Conc.

- ☑ Lead
- ☐ RCRA Metals
- ☐ _____
- ☐ _____

Metals-Extract

- ☐ TCLP / Lead
- ☐ TCLP / RCRA Metals
- ☐ TCLP / Full (w/ organics)

Others

- ☐ _____

Sample #	Date Sampled**	Time Sampled**	Sample Identification (Employee, SSN, Bldg, Material, Type[1])	Wiped Area (ft²)	pH / Temp *	Time[2] Start	Time[2] Stop	Flow Rate[3] Start	Flow Rate[3] Stop	Total[4] Air
73	12-12		Kitchen ~~Faucet~~ Sink							

[1]Type: A=area B=blank P=personal S=source [2]Beginning/End of Sample Period [3]Pump Calibration in Liters/Minute [4]Volume in Liters (time in min * flow in L/min)

Sampled by

NAME M Monaco
SIGNATURE M Monaco
DATE/TIME 12-12-14

Relinquished to lab by

NAME M Monaco
SIGNATURE M Monaco
DATE/TIME 12-12-14

12-15-14

☐ Sample return requested ☐ Ambient temp ☐ Ice Cl ☐R ☐S ☐X

☐ Receive a physical copy of report.

Sample Disposal

If samples over ref. weight (Refer to Fee Schedule)

☐ Return to Sender (Shipping fees)
☐ Disposal by lab ($50 fee)

Shipping Methods

☐ FX ☐ UPS ☑ USM
☐ HD ☐ DB

WB: _____

* Temperature taken with IR Gun A. **Required. Chain-of-Custody documentation continued internally within lab. Terms and conditions page 2.

Analysis Report

Schneider Laboratories Global, Inc

2512 W. Cary Street • Richmond, Virginia • 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475

Customer: Gilbertco Lead Inspections LLC (3813)
Address: 287 Main Street
Ansonia, CT 06401

Attn:

Project: MCA
Location: 73 Worth 2nd Fl
Number: 9928-73

Order #: 116637

Matrix	Soil
Received	12/15/14
Analyzed	12/16/14
Reported	12/16/14

PO Number:

Sample ID / Parameter	Cust. Sample ID	Location / Method	Sample Date	Weight / Total µg	Conc. % by Wt.	RL	Conc.
116637-001	73	Composite Soil	12/12/14	548 mg			
Lead		EPA 7000B / 3050B		14500 µg	2.64 %	912 mg/kg	26400 mg/kg

Sample weight represents dry weight used for analysis. Note applies to all samples in work order.

Analyst: MHB
116637-12/16/14 06:05 PM

Reviewed By: **Sultan Al-Johani**
Analyst

Minimum reporting limit: 10.0 µg. EPA Soil Std for bare residential soil: 400 mg/kg by wt in play areas; 1200 mg/kg by wt in bare soil in the remainder of the yard based on an avg of all other samples collected. EPA does not distinguish between lead-contaminated soil and soil-lead hazards. Concentration and Reporting Limit (RL) based on weights provided by client. All internal QC parameters were met. Unusual sample conditions, if any, are described. Values are reported to three significant figures. PPM = mg/kg | PPB = µg/kg. The analysis data reported relates only to the samples as submitted.

Accrediting bodies: AIHA-LAP, LLC 100527, VELAP/NELAC 460135 - Call laboratory for current national and state certifications.

SCHNEIDER LABORATORIES GLOBAL, INC.

2512 West Cary Street, Richmond, Virginia 23220-5117
804-353-6778 • 800-785-LABS (5227) • Fax 804-359-1475
www.slabinc.com e-mail: info@slabinc.com

116637
V:\116\116637

Submitting Co.	Gilbertco LLC	Lab WO#		Phone	800-959-2985
	287 Main St	Acct #	3813	Fax / Email	866-437-8191
	Ansonia CT06401	**State of Collection	CT	**Cert. Required	☑ Yes ☐ No
Project Name:	MCA	Special instructions [include requests for special reporting or data packages]			
Project Location:	73 North 2nd fl				
Project Number:	9928-73				
PO Number:					

Turn Around Time
- ☐ 2 hours*
- ☐ Same day*
- ☑ 1 business day*
- ☐ 2 business day*
- ☐ 3 business days*
- ☐ 5 business days*
- ☐ Full TCLP (10d)
- ☐ Weekend*

* not available for all tests

Schedule rush organics, multi-metals & weekend tests in advance.

Matrix / Sample Type (Select ONE)

All samples on form should be of SAME matrix type. Use additional forms as needed.

- ☐ Air
- ☐ Aqueous
- ☐ Bulk
- ☐ Hi-Vol Filter (PM10)
- ☐ Hi-Vol Filter (TSP)
- ☐ Oil
- ☐ Paint
- ☐ Sludge
- ☑ Soil
- ☐ Solid
- ☐ Waste
- ☐ Wastewater
- ☐ Water,Drinking
- ☐ Compliance
- ☐ Wipe
- ☐ Wipe, Composite
- ☐ _____
- ☐

Tests / Analytes (Select ALL that Apply)

Asbestos Air / Fiber Counts
- ☐ PCM (NIOSH 7400)
- ☐ TEM (AHERA)
- ☐ TEM (EPA Level II)
- ☐ _____

Miscellaneous Tests
- ☐ Total Dust (NIOSH 0500)
- ☐ Resp. Dust (NIOSH 0600)
- ☐ Silica - FTIR (NIOSH 7602)
- ☐ Silica - XRD (NIOSH 7500)
- ☐ Mold Direct Exam

Asbestos Bulk / Asb ID
- ☐ PLM (EPA 600/R-93/116)
- ☐ PLM (EPA Point Count)
- ☐ PLM (Qualitative only)
- ☐ NYELAP 198.1/.4/.6
- ☐ CAELAP (EPA Interim)
- ☐ TEM (Chatfield)
- ☐ _____

FOR ASBESTOS AIR:
TYPE OF RESPIRATOR USED: _____

Metals-Total Conc.
- ☑ Lead
- ☐ RCRA Metals
- ☐ _____
- ☐ _____

Metals-Extract
- ☐ TCLP / Lead
- ☐ TCLP / RCRA Metals
- ☐ TCLP / Full (w/ organics)

Others
- ☐ _____

Sample #	Date Sampled**	Time Sampled**	Sample Identification (Employee, SSN, Bldg, Material, Type[1])	Wiped Area (ft²)	pH / Temp *	Time[2] Start	Time[2] Stop	Flow Rate[3] Start	Flow Rate[3] Stop	Total[4] Air
73			Composite 50:1							

[1]Type: A=area B=blank P=personal E=excursion [2]Beginning/End of Sample Period [3]Pump Calibration in Liters/Minute [4]Volume in Liters (time in min * flow in L/min)

Sampled by
NAME M Monaco
SIGNATURE M Monaco
DATE/TIME 12-12-14

Relinquished to lab by
NAME M Monaco
SIGNATURE M Monaco
DATE/TIME 12-12-14

12-15-14

☐ Sample return requested ☐ Ambient temp ☐ Ice Cl ☐ R ☐ S ☐ X

☐ Receive a physical copy of report.

Sample Disposal
If samples over reg. weight (Refer to Fee Schedule)
- ☐ Return to Sender (Shipping fees)
- ☐ Disposal by lab (fee fee)

Shipping Methods
- ☐ FX ☐ UPS ☐ USPS
- ☐ HD ☐ DS

WB: _____

* Temperature taken with IR Gun A. **Required. *Chain-of-Custody documentation continued internally within lab. Terms and conditions page 2.*

SECTION 01 10 00

SUMMARY OF WORK

General Conditions

The following provisions are intended to supplement and complement each other and shall, where possible, be thus interpreted. If, however, any provision of the Project Documents irreconcilably conflicts with one or more of the following provisions, the provision imposing the greater duty or obligation on the Contractor shall govern. Where referenced herein, MCA shall mean Martinez Couch and Associates, LLC.

1. Contractor shall supply all materials (except where indicated), labor, tools, equipment, and supplies required to complete the total Project in accordance with the drawings, specifications and other Contract Documents. Prior to beginning Work, Contractor shall list any deficiencies in scope and report to the MCA.

2. Contractor shall provide all coordination of all Work with Owner, Owner Vendors, DOH, and DOH Agencies as required for project completion.

3. Contractor will develop a comprehensive logistics plan for all activities that affect the Owner.

4. Contractor shall, at MCA's request be responsible for submitting Construction Report's (CR's) for the periodic increments specified by MCA, indicating subcontractors, total number of people working, description of Work completed, including total hours worked, and any major deliveries.

5. Contractor shall secure and pay for a dumpster for all refuse and waste material. The dumpster location will be determined by the Property Owner or MCA.

6. If required for the Project (as reasonably determined by Owner) Contractor shall erect and maintain dust-barriers to separate living areas from areas of construction.

7. In the event of a required utility shutdown, Contractor will diligently schedule work with the Owner. Contractor will give the Owner Project Manager at least three (3) days advance notice of any proposed utility shutdown.

8. Contractor shall comply with all of the legal regulations, including, but not limited to, OSHA safety regulations and regulations of municipal, city, local, and other government agencies having jurisdiction concerning the Work. Contractor shall give all notices and comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the Work. If Contractor performs any Work that is contrary to such laws, ordinances, codes, rules, and regulations, it shall make all changes to comply therewith and bear all costs arising therefrom.

9. All permits, required for any part of Contractor's Work, including those to be obtained in the Owner's name, shall be procured and paid for by Contractor.

10. Contractor to secure and pay for temporary sanitary facilities for use during construction period.

11. Contractor shall dispose of offsite all materials, surfaces, and finishes for demolition or replacement per contract specification requirements and all local, state, and federal requirements. Report of onsite materials tested are included in Section 00 31 26

PROJECT SCOPE

1 ENVIRONMENTAL

1.1 Provide all necessary work, labor and materials required for Division 02 83 19.13 – Lead Based Paint Abatement.

1.1.1 All demolition materials associated with lead abatement work shall be characterized and disposed per the lead abatement plan.

1.1.2 Proper characterization and disposal of all waste materials shall be completed by the contractor utilizing the Toxicity Characteristic Leaching Procedure (TCLP), SW-846 Test Method 3111.

1.1.3 All sampling, analysis, and report documents will be submitted to MCA prior to final payment. All hazardous waste disposal manifests shall be furnished to MCA signed by the licensed receiving facility documenting cradle to grave status of waste.

1.1.4 Payment will not be certified for waste disposal without receipt of all hazardous waste manifests signed by the receiving facility.

2 SELECTIVE DEMOLITION

2.1 Remove and dispose offsite all materials to complete front porch replacement.

2.1.1 All demolition materials associated with lead abatement work shall be disposed per the Lead Abatement Plan

3 CONCRETE

2.2 Furnish and install all materials to complete project work as indicated on and in accordance with drawings and specifications for;

2.2.1 Front porch column sonotube supports

4 EXTERIOR ROUGH CARPENTRY/ EXTERIOR FINISH CARPENTRY

4.1 Furnish and install all materials to complete work as indicated on and in accordance with drawings and specifications. All drawings shown are schematic layouts. Contractor to field verify dimensions

4.1.1 Front Porch Replacement

4.1.2 Replaced rotted wood at building face

4.2 Detach, salvage, and reinstall all trims, casings, and associated materials required to complete work.

4.3 Furnish and install railings and balusters as indicated on drawings.

4.4 All framing members shall be supported by appropriate metal hangers and brackets by Simpson Strongtie or approved equal.

5 ARCHITECTURAL WOODWORK/EXTERIOR FINISH CARPENTRY

5.1 Furnish and install all materials in accordance with drawings and specifications.

5.1.1 Front Porch Replacement

6 FINISHES

6.1 Detach, salvage and reinstall any building materials required to complete work.

6.2 All no pressured treated wood will be primed and painted. Color to be selected by owner.

6.2.1 Pine Wainscoat bead board ceiling

6.2.2 Tongue and grove board decking

6.2.3 Pine Trim

6.2.4 Wood lattice

6.3 Prime, paint and stain all finished surfaces where indicated on drawings and as required to patch and repair building components damaged by construction

7 GUTTERS, DOWNSPOUTS, AND ACCESSORIES

7.1 Furnish and Install Gutters and spouts on front porch roofs.

8 SITE WORK

8.1 Any and all finishes, site features, or other property of the owner if damaged by the contractor during project work shall be restored or replaced by the contractor at no cost to the owner or the Connecticut Department of Housing.

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements: Not Used

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:

a. Application for Payment forms with continuation sheets.
b. Submittal schedule.
c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to MCA at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

a. Project name and location.
b. Name of MCA.
c. MCA's project number.
d. Contractor's name and address.
e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703 or EJCDC Document C-620. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:

a. Related Specification Section or Division.
b. Description of the Work.
c. Change Orders (numbers) that affect value.
d. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.

a. Include separate line items under principal subcontracts for project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

5. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
6. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

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

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

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by MCA.

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

B. Payment Application Times: Submit Application for Payment to MCA by the 7th day of the month. The period covered by each Application for Payment is one month in accordance with Section 2 of the general conditions section of this document.

1. Submit draft copy of Application for Payment 10 days prior to due date for review by MCA.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

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

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

E. Stored Materials: No payment will be made for stored materials (either on-site or off-site).

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

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

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

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. MCA reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit executed waivers of lien on forms acceptable to MCA.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Products list (preliminary if not final).
5. Submittal schedule (preliminary if not final).
6. Copies of building permits.
7. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
8. Certificates of insurance and insurance policies.
9. Performance and payment bonds.

I. Application for Payment at Substantial Completion: After MCA issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

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

1. General coordination procedures.
2. Coordination drawings.
3. Requests for Information (RFIs).

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Requirements:
1. Section 01 77 00 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

A. RFI: Request from, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 ACTION SUBMITTALS

A. Coordination drawings. See paragraph 1.7 of this section.

1.5 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.

2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1.6 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

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

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.7 REQUESTS FOR INFORMATION (RFIs)

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

1. MCA will return RFIs submitted to MCA by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Contract
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: AIA Document G716 or Software-generated form with substantially the same content as indicated above, acceptable to MCA.

1. Attachments shall be electronic files in Adobe Acrobat PDF format.

D. MCA’s Action: MCA will review each RFI, determine action required, and respond. Allow seven working days for MCA’s response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.

1. The following Contractor-generated RFIs will be returned without action:

a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for approval of Contractor's means and methods.
d. Requests for coordination information already indicated in the Contract Documents.
e. Requests for adjustments in the Contract Time or the Contract Sum.
f. Requests for interpretation of MCA's actions on submittals.
g. Incomplete RFIs or inaccurately prepared RFIs.

2. MCA's action may include a request for additional information, in which case MCA's time for response will date from time of receipt of additional information.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly Use CSI Log Form 13.2B. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of MCA.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date MCA's response was received.

F. On receipt of MCA's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify MCA within seven days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and MCA of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including MCA, within three days of the meeting.

B. Preconstruction Conference: MCA will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and MCA, but no later than 10 days after a notice to proceed.

1. Conduct the conference to review responsibilities and personnel assignments.

2. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, MCA, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:

    a. Tentative construction schedule.
    b. Phasing.
    c. Critical work sequencing and long-lead items.
    d. Designation of key personnel and their duties.
    e. Lines of communications.
    f. Procedures for processing field decisions and Change Orders.
    g. Procedures for RFIs.
    h. Procedures for testing and inspecting.
    i. Procedures for processing Applications for Payment.
    j. Distribution of the Contract Documents.
    k. Submittal procedures.
    l. Preparation of record documents.
    m. Use of the premises and existing building.
    n. Work restrictions.
    o. Working hours.
    p. Owner's occupancy requirements.
    q. Responsibility for temporary facilities and controls.
    r. Procedures for moisture and mold control.
    s. Procedures for disruptions and shutdowns.
    t. Construction waste management and recycling.
    u. Parking availability.
    v. Office, work, and storage areas.
    w. Equipment deliveries and priorities.
    x. First aid.
    y. Security.
    z. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and MCA, but no later than 90 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, MCA and its consultants, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

a. Preparation of record documents.
b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
c. Submittal of written warranties.
d. Requirements for preparing operations and maintenance data.
e. Requirements for delivery of material samples, attic stock, and spare parts.
f. Requirements for demonstration and training.
g. Preparation of Contractor's punch list.
h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
i. Submittal procedures.
j. Coordination of separate contracts.
k. Owner's partial occupancy requirements.
l. Installation of Owner's furniture, fixtures, and equipment.
m. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

D. Progress Meetings: Conduct progress meetings at intervals required for contract work.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner, Owner's Commissioning Authority and MCA and its consultants, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Deliveries.
4) Off-site fabrication.
5) Access.
6) Site utilization.
7) Temporary facilities and controls.
8) Progress cleaning.

9) Quality and work standards.
10) Status of correction of deficient items.
11) Field observations.
12) Status of RFIs.
13) Status of proposal requests.
14) Pending changes.
15) Status of Change Orders.
16) Pending claims and disputes.
17) Documentation of information for payment requests.

4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

   a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Requirements:

1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require MCA's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require MCA's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

D. Martinez Couch & Associates LLC (MCA) is the Project Manager and for this project. MCA will provide technical consultation, review all project materials, and provide project management. All references to MCA in this specification and in all other specifications means Martinez Couch & Associates, LLC of Rocky Hill, Connecticut.

1.4 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by MCA and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.

2. Format: Arrange the following information in a tabular format:

a. Scheduled date for first submittal.
b. Specification Section number and title.
c. Submittal category: Action; informational.
d. Name of subcontractor.
e. Description of the Work covered.
f. Scheduled date for MCA final release or approval.
g. Scheduled date of fabrication.
h. Scheduled dates for purchasing.
i. Scheduled dates for installation.
j. Activity or event number.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. MCA's Digital Data Files: Electronic digital data files of the Contract Drawings will not be provided by MCA for Contractor's use in preparing submittals.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. MCA reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on MCA's receipt of submittal. No extension of the Contract

Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. MCA will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 21 days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by MCA's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to MCA and to MCA's consultants, allow 21 days for review of each submittal. Submittal will be returned to MCA before being returned to Contractor.

D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.

    a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by MCA.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to MCA**,** containing the following information:

    a. Project name.
    b. Date.
    c. Name and address of MCA.
    d. Name of Construction Manager.
    e. Name of Contractor.
    f. Name of firm or entity that prepared submittal.
    g. Names of subcontractor, manufacturer, and supplier.
    h. Category and type of submittal.
    i. Submittal purpose and description.
    j. Specification Section number and title.
    k. Specification paragraph number or drawing designation and generic name for each of multiple items.
    l. Drawing number and detail references, as appropriate.
    m. Location(s) where product is to be installed, as appropriate.
    n. Related physical samples submitted directly.

o. Indication of full or partial submittal.
p. Transmittal number, numbered consecutively.
q. Submittal and transmittal distribution record.
r. Other necessary identification.
s. Remarks.

E. Paper Submittals: Place a permanent label or title block on each submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Engineer.
3. Include the following information for processing and recording action taken:
a. Project name.
b. Date.
c. Name of Engineer.
d. Name of Construction Manager.
e. Name of Contractor.
f. Name of subcontractor.
g. Name of supplier.
h. Name of manufacturer.
i. Submittal number or other unique identifier, including revision identifier.
1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
j. Number and title of appropriate Specification Section.
k. Drawing number and detail references, as appropriate.
l. Location(s) where product is to be installed, as appropriate.
m. Other necessary identification.
4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Engineer will discard submittals received from sources other than Contractor.
a. Transmittal Form for Paper Submittals: Provide locations on form for the following information:
1) Project name.
2) Date.
3) Destination (To:).
4) Source (From:).
5) Name and address of Engineer.
6) Name of Contractor.
7) Name of firm or entity that prepared submittal.
8) Names of subcontractor, manufacturer, and supplier.
9) Category and type of submittal.
10) Submittal purpose and description.
11) Specification Section number and title.

12) Specification paragraph number or drawing designation and generic name for each of multiple items.
13) Drawing number and detail references, as appropriate.
14) Indication of full or partial submittal.
15) Transmittal number numbered consecutively.
16) Submittal and transmittal distribution record.
17) Remarks.
18) Signature of transmitter.

F. Options: Identify options requiring selection by MCA.

G. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by MCA on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from MCA's action stamp.

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from MCA's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Submit electronic submittals via email as PDF electronic files to mranando@martinezcouch.com and recouch@martinezcouch.com

a. MCA will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

    a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
    b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Standard color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

    a. Wiring diagrams showing factory-installed wiring.
    b. Printed performance curves.
    c. Operational range diagrams.
    d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:

    a. PDF electronic file.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

    a. Identification of products.
    b. Schedules.
    c. Compliance with specified standards.

d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
3. Submit Shop Drawings in the following format:

a. PDF electronic file.
b. Three opaque copies of each submittal. MCA will retain two copies; remainder will be returned.

D. Samples: When requested by MCA Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

a. Generic description of Sample.
b. Product name and name of manufacturer.
c. Sample source.
d. Number and title of applicable Specification Section.
e. Specification paragraph number and generic name of each item.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: When requested by MCA Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. MCA will return submittal with options selected.

6. Samples for Verification: When requested by MCA Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

    a. Number of Samples: Submit three sets of Samples. MCA will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.

        1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:

    a. PDF electronic file.

F. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."

G. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."

H. Maintenance Data: Comply with requirements of contract documents

I. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of MCAs and owners, and other information specified.

J. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

K. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

L. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

M. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

N. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

O. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

P. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

Q. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

R. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

S. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

T. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

U. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to MCA.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to MCA.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 MCA'S ACTION

A. Action Submittals: MCA will review each submittal, make marks to indicate corrections or revisions required, and return it. MCA will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:

1. Approved
2. Approved As Noted
3. Approved As Noted/Confirm
4. Approved As Noted/Resubmit.
5. Not Approved
6. Comments Attached
7. Receipt Acknowledged

B. Informational Submittals: MCA will review each submittal and will not return it, or will return it if it does not comply with requirements. MCA will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from MCA.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may be returned by the MCA without action.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

A. General: During the construction period various types of services are necessary to record or support the construction process, which are not an integral part of the final construction. Provide temporary facilities and controls in accordance with the Contract Documents.

B. Scope of Work includes but is not limited to:
1. Layout and measurements.
2. Staging areas.
3. Rubbish removal.
4. Safety, protection and security.
5. Temporary toilets.
6. Water Service
7. Site Fence
8. Temporary scaffolding, ladders, stairs, hoists, etc.
9. Temporary closures
10. Labor disputes
11. Temporary light and power
12. Temporary heat
13. Ventilation and Humidity Control

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. Ladders, scaffolds, planks, hoists and similar items required for a specific item of work shall be part of that Scope of Work

1.3 QUALITY ASSURANCE

A. Codes: Comply with applicable Building Code and Standards.

B. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

C. Standards: Comply with the State and Local Board of Health, Environmental Protection Agency, Fire Department and other applicable standards.

D. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

E. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.4 SUBMITTALS

A. Refer to Section 01 33 00 or certain individual items of this section.

1.5 PRODUCT HANDLING

A. Maintain temporary facilities and controls in proper safe condition throughout progress of the Work.

1.6 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Requirements:

1. Section 01 10 00 "Summary" for work restrictions and limitations on utility interruptions.

PART 2 - PRODUCTS AND EXECUTION

2.1 TEMPORARY FACILITIES INSTALLATION

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Martinez Couch and Associates, testing agencies, and authorities having jurisdiction.

B. Layout and Measurements:
1. Use of Data Furnished: Boring, and survey data made available to the Contractor is for information only, and the Contractor shall use his own judgment as to the actual conditions. He is warned that reliance on the information presented is at his own risk, and neither the Owner, State, nor the MCA and his consultants will be liable for errors relating to such data.
2. Additional Data Required By Contractor: The Contractor may make borings or drive test pits he requires to verify the conditions at the site at his own expense. The location and size of such exploratory holes will be subject to approval by the MCA.

3. Protection of Survey: Land monuments, bench marks, survey points and other such references shall be protected from damage unless and until their removal is authorized. If they are disturbed, they shall be replaced in their proper positions.
4. Measurements: Take measurements of the work and be responsible for it.
   a. Discrepancies: Thoroughly examine the drawings and specifications, carefully checking the figured dimensions, before commencing work, and report to the MCA if any discrepancy, error, or defect appears.
   b. Dimensions: If figured dimensions are lacking on the drawings, the MCA will supply them.

C. Staging Area:
1. Scope: Access and staging areas for purposes of this Contract shall be confined to areas as directed by MCA within the property boundary.
2. Location of Apparatus: The locations of material, apparatus, equipment, fixtures, piping outlets, etc., are not specified. The actual location shall be as directed or as required to suit the conditions at the time of installation. Before installation, the Contractor shall consult the MCA and ascertain the actual location.
3. Provide temporary storage sheds if necessary, and other storage facilities on the job site for the storage of materials that may be subject to weather damage when interior or covered space is not available.
4. Provide for adequate timber bridging and planking or other suitable means as required for legal egress, and for the safeguarding of existing paving, walks and curbs, structures and utilities from damage due to construction vehicle traffic. Safeguard existing conditions from damage during construction. Repair or replace the damaged existing surroundings within the designated access and staging areas which is needed to remain in place and which is damaged by operations under this Contract.
5. Do not encumber the premises nor overload the structures beyond their allowable design live load with his/her apparatus, storage of materials and the operation of his/her workmen, and shall be confined within the limits designated by MCA.

D. Rubbish Removal:
1. Clean-up debris, rubbish and old materials resulting from the Work on a daily basis.
2. Cleaning Responsibility: Remove from the work area of building and site debris, resulting from the work daily or as often as necessary if it interferes with the work or staging area under the contract or presents a fire hazard. No rubbish or debris shall be dropped from a height of more than 6 feet, or thrown out of windows or openings without a chute. An adequate number of cleaning personnel shall be provided during working hours, who shall keep areas within and adjacent to the building free from dust and loose dirt by sweeping and wet mopping.
3. Rubbish Disposal: Furnish containers at central collection locations as designated by MCA on the site to receive construction debris. Cost of containers, removal and disposal charges shall be paid by the Contractor. Containers shall be removed as often as necessary to minimize interference with work in progress.
4. Clean the site around the building and maintain it clean and free from food and beverage containers, waste and other debris. Provide and rigidly enforce the use of waste receptacles by construction personnel. Burning of refuse is not permitted.
5. Salvage Materials: Construction salvage materials, not indicated items elsewhere to be returned to the Owner, shall become the property of the Contractor and shall be

taken from the premises. Storage of materials and equipment on the site, other than for this project, will not be permitted.

E. Safety, Protection and Security:

1. Provide safety and protection in accordance with Contract Documents.

2. Protection: Protection shall be maintained for the duration of the Project and shall include:
   a. Weather Protection: Arrange to provide protection against rain, wind, storms, frost, heat and other weather conditions, so as to maintain work, materials, apparatus and fixtures free from injury or damage. At the end of each day's work items likely to be damaged shall be covered. Remove snow and ice for the proper protection and/or execution of the construction work.
   b. Protection of Finished or Existing Work: Provide protection for the finished work. Finished or Existing floors that will remain shall be protected from traffic or construction work by covering with materials approved by the finish manufacturer. Finished construction and materials shall be protected from rain, snow and windstorm damage throughout the construction period.
   c. Fire Protection: Maintain fire-fighting equipment for the duration of construction in accordance with the requirements of the Fire Department and the Insurance Underwriters and subject to approval of the Owner's insurance agent. .Provide fire extinguishers as required by the local Fire Department and the Building Code. Coordinate with existing firefighting equipment in existing building.
   d. Volatile Liquids: Bulk storage of volatile liquids shall be outside the building at designated location. Only as much volatile liquid shall be allowed within the building at any given time as is needed for that day's operation.
   e. Vermin and Rodent Control: Prevent the infestation and multiplication of vermin and rodents, and, if necessary, employ an exterminator to rid the premises of them if there is evidence that they exist.
   f. Dust Protection: Prevent the nuisance of dust to the surrounding areas, and provide coverings or water sprinkling materials and equipment as required for such dust prevention for the work.
   g. Structural Alterations: Do not permit endangering work by excavation or otherwise and shall not cut or alter the work without the consent of the Structural MCA. Written instruction shall be obtained from the Structural MCA's representatives before cutting beams or other structural members, arches, lintels, etc.

3. Protection of Adjacent Property:
   a. Scope: Take necessary precautions to protect public and private property on or adjacent to the job site, including utilities, street signs, light standards, hydrants, pavements and walks, planting and natural features, against damage or injury including settlement or collapse.
   b. Building Damage: Should damage result to structures or property, the Contractor shall correct or repair it without undue delay and to the complete satisfaction of MCA. No "Waiver of Responsibility" for incomplete,

inadequate or defective adjoining work will be accepted unless otherwise stated by the MCA.

c. Excavation Damage: Maintain the existing and adjoining structures safety. Concrete or rock excavation in the proximity of the adjoining structures shall be done by line drilling. Existing footings and foundation work exposed shall be underpinned as directed by MCA. Prevent damage to pipes, conduits, wires, cables or structures above or below ground.

d. Site Damage: Repair and restoration of existing roads, pavements, walks, curbs, manholes, hydrants, light standards, street signs, catch basins, railings and plantings, and other construction or surfaces required due to the work under this contract shall be included in the work under the Contract even if not specifically called for in the various sections of the Specifications. Repair and restoration work shall match existing work. Costs incurred in repair work, including permits, bonds and supervision by public authorities, shall be borne by the Contractor causing the damage.

4. Welding & Cutting:

a. Handling of Welding Materials: The handling and storage of welding materials, acetylene and oxygen tanks, burners, and other equipment required for the execution of welding and cutting work at the job shall be subject to the approval of the Building Department and Fire Marshal.

b. Welding Standards: Work shall be performed in accordance with the standard specifications of the American Welding Society.

c. Fire Protection: Welders shall take precautions required to prevent fires as a result of his/her operations. When welding tools or torches are in used, the Contractor shall have available, in the immediate vicinity of the work, a fire extinguisher of the $C0_2$ type. The fire extinguisher shall be provided and maintained by the Installer. Fuel for cutting and heating torches shall be gas only, and shall be contained in Underwriters Laboratory listed containers. Storage of gas shall be in locations approved by the Fire Department. Provide fireproofed tarpaulins where applicable at welding and cutting operations.

d. Power: The Owner will not provide power for electric welders.

5. Tree Protection: Trees identified by the Owner or MCA to remain must be protected by the Contractor during the construction period. Avoid driving vehicles or storing materials within the tree root area and excavating in the root area unless accepted by the Owner or MCA.

6. Security: The Contractor shall secure his/her tools, materials and assemblies. Claims shall not be made against the Owner or MCA for equipment or tool losses or damage to installed assemblies.

F. Temporary Toilets:

1. Chemical Toilets: The Contractor shall provide and maintain temporary enclosed and weatherproof chemical toilets located on the site. Use of the owner's toilets by construction personnel within occupied areas of the building is not permitted.

2. Cleaning of Toilets: Toilets shall be maintained in a clean and sanitary condition and shall conform to the requirements of the local Department of Health and Labor requirements. Toilets shall be pumped and cleaned a minimum of once per week.

G. Water Service:
1. Water shall be available for the various trades as coordinated with the property Owner. Prevent freeze-ups. Have water available for the various trades during the normal working periods and for fire prevention purposes.
2. Cost: the Contractor shall pay the cost of water.

H. Temporary Scaffolding, Ladders, Stairs, Hoists, Etc.:
1. Scope: Coordinate the installation and maintenance and safety of temporary stairs, ladders, ramps, scaffolds, runways, sidewalk bridges, fences, derricks, hoists, chutes, and other such operational facilities as may be needed for the proper execution of the work. Apparatus, equipment and construction shall meet the requirements of the Labor Law and other State and local Building Department Requirements.
2. Scaffolding: Coordinate the location, erection, maintenance and removal of scaffolding and other temporary facilities as required for the proper installation of the work.
3. Hoists and/or Crane: (for General Use) Coordinate and maintain the use of conventional construction hoists of sufficient size and capacity to raise materials and equipment and give access to construction levels.

I. Site Fence:
1. Location: A site fence shall be installed by the Contractor at the construction site perimeter and adjacent staging areas if required by the contract documents. New construction work, including trailer and staging shall be contained within the site fence.
2. Type:
   a. Woven Wire Mesh: 6'-0" high with gates and required bracing.
   b. Maintain fence and gates during entire construction period in a neat and orderly way free of graffiti or unauthorized signs.

J. Temporary Closures:
1. Take special precautions against damage to materials and work installed in cold or freezing weather, by providing adequate special heat and/or covering to prevent damage by the elements.
2. Temporary Partitions: (adjacent to occupied areas) after relocation of occupancy from spaces requiring access, provide temporary partitions to isolate occupied areas from work areas. Temporary partitions shall be of gypsum board on suitable studs and shall not interfere with the emergency exit requirements of occupied areas.
3. Exterior partitions shall be suitably weather protected insulated and otherwise sealed off to prevent dirt and weather infiltration.
4. Interior partitions shall be suitably sealed to limit noise and dirt infiltration.

K. Labor Disputes:

1. Notifications: Immediately notify the MCA of actual or impending labor disputes that may affect or is affecting the schedule of the Work. Take appropriate measures to eliminate or minimize the effect of such labor dispute on the schedule, including but not limited to, such measures as: promptly seeking appropriate injunctive relief; filing appropriate charges with the National Labor Relations Board under the applicable provisions of the Labor Management Relations Act of 1947, as amended; filing appropriate damage actions; taking such measures as establishing a reserved gate, where appropriate; seek other sources or supply or service; and other measures that may be appropriately utilized to limit or eliminate the effect of the labor dispute.

2. Damage - Time Extension: To the extent the Contractor fails to promptly initiate measures that are appropriate, no extension of time for completion shall be allowed. In addition, any delay impact on any Contractor's schedule or on the schedule for the Project, which is a direct result of such failure, shall be considered as a Contractor caused delay under applicable provisions of the Contract. The rights and remedies provided in this paragraph are in addition to other rights or remedies provided by law or under this Contract. The Contractor shall include this clause in every Contract, together with a requirement that Sub-Subcontractors include a substantially similar clause in each lower tier subcontract.

L. Temporary Light and Power:

1. Scope: The Contractor shall provide labor, materials, tools, appliances, and equipment and perform operations necessary for the complete execution of a separate system of temporary electric light and power throughout the project suitable for supplying electrical energy for illumination and for power tools and equipment. Such system shall be installed and maintained in place as needed and removed promptly as its necessity ceases to exist. Maintaining shall and include energizing and de-energizing the electrical systems each working day, and turning on and off of lights daily.

2. Lighting Standards: The minimum temporary lighting to be provided, and maintained in each room and changed as needed when interior walls are being erected as directed by OSHA standards. Temporary lighting must be maintained for twenty-four (24) hours a day, and seven (7) days a week at stairs and corridors below ground. In other spaces, temporary lighting and power shall be energized approximately thirty (30) minutes before the starting time and after the quitting time of the latest stopping unless otherwise directed by code.

3. Wiring Standards: Temporary wiring and equipment shall conform to the requirements of the National Electrical Code, regulations of the Building Code.

4. Energy Costs: The Contractor shall pay the Electric Utility bills, as they become due, for electric energy used for temporary lighting and power to perform work in the building.

5. Other Costs: The Contractor shall be responsible for the other costs in connection with providing and maintaining the temporary electrical power system.

M. Temporary Heat:
1. Scope of Enclosed Building Protection: Prior to the winter weather, protection as required to accomplish the following:
2. To protect the finish work.
3. If the heat not available from existing heating plant, the Contractor is responsible to provide sufficient heat so that the work can be accomplish in accordance with the Contract.
4. Cost: If the other than existing plant used for heat the Contractor shall pay for temporary heat equipment, safety provisions and fuel charges.
5. Damage Due to Lack of or Improperly Operated Temporary Heat: Maintain heat to prevent damage due to frost and freezing during the period when temporary heat is needed. Prevent damage due to defective equipment or the use of equipment, including but not limited to damage such a stains, smudges, soot or fire, and repair damage in a manner satisfactory to the Owner and MCA.

N. Ventilation and Humidity Control (Where necessary for project work): Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.

2.2 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:
1. Maintain support facilities until MCA schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will not be permitted to use permanent facilities.

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Construction personnel shall park offsite. Vehicle parking onsite shall only be for work vehicles and limited to paved areas. All damage to site surfaces by contractor vehicles shall be repaired at contractors expense and no additional compensation.

2.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 011000 "Summary."

B. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

C. Barricades and Warning Signs: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs.

D. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

E. Prohibit smoking in construction areas.

F. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

2.4 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard, replace, or clean stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use temporary dehumidifiers or permanent HVAC system, if available to control humidity.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

    a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
    b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to MCA.
    c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

2.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 "Closeout Procedures."

END OF SECTION

SECTION 01 73 00

EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.
4. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 ACTION SUBMITTALS

A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

1.5 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify MCA of locations and details of cutting and await directions from MCA before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:

a. Primary operational systems and equipment.
b. Mechanical systems piping and ducts.
c. Control systems.
d. Communication systems.
e. Electrical wiring systems.
f. Operating systems of special construction.

3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in MCA's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to MCA for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to MCA according to requirements in Section 01310 "Project Management and Coordination."

E. Surface and Substrate Preparation: Comply with manufacturer's written recommendations for preparation of substrates to receive subsequent work.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Engineer promptly

B. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and

duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by MCA.

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Emergency Vehicle Access - Contractor must maintain emergency vehicle access at all times to all units/residential units.

G. Disturbances/Repairs - If during the course of installation the Contractor breaks a utility (water, sewer, telephone, cable, electricity), it is the Contractor's responsibility to repair the utility within a period that will not exceed disruption of services for more than 6-hours.

H. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

I. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

J. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by MCA.

2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

K. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

L. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 01100 "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

G. Cutting: Where authorized by MCA, cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.7 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

    a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 01500 "Temporary Facilities and Controls." Section 01524 "Construction Waste Management."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components.

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

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

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.
5. Repair of the Work.

B. Related Requirements:
1. Section 017300 "Execution" for progress cleaning of Project site.

1.3 ACTION SUBMITTALS

A. Product Data: For cleaning agents.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 15 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by MCA. Label with manufacturer's name and model number where applicable.
5. Submit test/adjust/balance records.
6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 15 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
6. Advise Owner of changeover in heat and other utilities.
7. Participate with Owner and MCA in conducting inspection and walkthrough.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements, including touchup painting.
10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, MCA will either proceed with inspection or notify Contractor of

unfulfilled requirements. MCA will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by MCA, that must be completed or corrected before certificate will be issued.

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

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of MCA's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by MCA. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements if applicable.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, MCA will either proceed with inspection or notify Contractor of unfulfilled requirements. MCA will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

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

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use an form acceptable to MCA. Present format to be used to MCA for approval.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of MCA.

d. Name of Contractor.
e. Page number.

4. Submit list of incomplete items in the following format:

a. MS Excel electronic file. MCA will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of MCA for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
d. Remove tools, construction equipment, machinery, and surplus material from Project site.
e. Remove snow and ice to provide safe access to building.
f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
h. Sweep concrete floors broom clean in unoccupied spaces.
i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
k. Remove labels that are not permanent.
l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.

1) Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report on completion of cleaning.

p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
q. Leave Project clean and ready for occupancy.

C. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including DPH General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 REFERENCES

A. American National Standards Institute (ANSI/ASSE)

B. State of Connecticut Department of Housing (CT DOH)

C. State of Connecticut Department of Energy and Environmental Protection (CT DEEP)

D. State of Connecticut Department of Public Health (CT DPH)

E. Occupational Safety and Health Administration (OSHA)

1.3 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

B. Related Requirements:

1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 017300 "Execution" for cutting and patching procedures.
3. Section 311000 "Site Clearing" for site clearing and removal of above- and below-grade improvements not part of selective demolition.

1.4 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse or storage.

C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.5 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.6 PREINSTALLATION MEETINGS

A. Pre-demolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.7 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.

B. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Use of elevator and stairs.

C. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.

1.8 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

1.9 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Notify MCA of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. Hazardous materials will be removed by Owner before start of the Work.
2. If suspected hazardous materials are encountered, do not disturb; immediately notify MCA and Owner. Hazardous materials will be removed by Owner under a separate contract.

D. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.

1. Hazardous material remediation is specified elsewhere in the Contract Documents.
2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.

E. Storage or sale of removed items or materials on-site is not permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.10 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties. Notify warrantor before proceeding. Existing warranties include the following:

B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

1.11 COORDINATION

A. All phasing of selective demolition and new construction activities is the sole responsibility of the contractor.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
   1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
   2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 PREPARATION

A. Site Access and Temporary Controls – Conduct selective demolition and debris removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent properties.

B. Temporary Facilities – Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent properties.

C. Temporary Shoring – Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Contractor will arrange to shut off indicated services/systems.
2. Arrange to shut off utilities with utility companies.
3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

    a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
    c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
    d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
    e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
    f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
    g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
4. Cover and protect furniture, furnishings, and equipment that have not been removed.
5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."

B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.

7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Work in Historic Areas: Selective demolition may be performed only in areas of Project that are not designated as historic.

D. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area indicated on Drawings.
5. Protect items from damage during transport and storage.

E. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

F. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by MCA, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch (19 mm) at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.

D. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

E. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See Division 7 for new roofing requirements.

1. Remove existing roof membrane, flashings, copings, and roof accessories.
2. Remove existing roofing system down to substrate.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction. and recycle or dispose of them according to Section 017419 "Construction Waste Management and Disposal."

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

3.8 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.9 SELECTIVE DEMOLITION SCHEDULE

A. Remove: As indicated on drawings.

B. Remove and Salvage: As indicated on drawings.

C. Remove and Reinstall: As indicated on drawings.

D. Existing to Remain: As indicated on drawings.

E. Dismantle: As indicated on drawings.

END OF SECTION

SECTION 02 83 19.13

LEAD BASED PAINT ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. "Abatement Plan for, 71-73 Worth Street, Bridgeport CT" prepared by Gilbertco Lead Inspections, LLC.

PART 2 - PRODUCTS

2.1 All products in accordance with "Abatement Plan for, 71-73 Worth Street, Bridgeport CT"

PART 3 - EXECUTION

3.1 All work, labor, and materials in accordance with "Abatement Plan for, 71-73 Worth Street, Bridgeport CT"

END OF SECTION

AMENDED LEAD-BASED PAINT ABATEMENT PLAN
73 WORTH STREET, BRIDGEPORT, CONNECTICUT
MARCH 9, 2016

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 PROJECT DESCRIPTION

A. The Connecticut Department of Housing through the CDBG-DR Owner Occupied Rehabilitation and Rebuilding Program is undertaking a lead-based paint abatement project located at 73 Worth Street, Bridgeport, CT. The site is a three story, multi-family residential home constructed about 1899. This phase of the abatement will include demolition of the front porch. The demolition will include removal and disposal of the structure, the foundation, pillars, slabs, attached steps, railings, and fill material.

B. The interior and exterior of the dwelling have been comprehensively tested for lead-based paint. Toxic levels of lead-based paint were identified on various components and surfaces. There are no known lead-based paint orders or notices of violation on the inspected building. There were children under the age of six (6) years old residing in the building at the time of the inspection.

C. Under federal regulation 24 CFR 35, Subpart J, Rehabilitation, this property is required to be abated of lead hazards due to the level of funding provided. Lead-based paint abatement will be utilized throughout the interior and interim controls will be utilized on the exteriors. All interior and exterior work specified in the Scope of Work must be performed by a State of Connecticut Licensed Lead Abatement Contractor.

D. All lead-based paint abatement and interim 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 (US EPA), The State of Connecticut Department of Public Health (DPH) Lead Poisoning Prevention and Control Regulations, The State of Connecticut Department of Energy and Environmental Protection (DEEP) Hazardous Waste Disposal regulations and the Department of Labor Occupational Safety and Health Administration (OSHA) Lead in Construction Final Rule 29 CFR 1926.62.

1.3 SCOPE OF WORK

Key: PS- Paint Stabilization
BAR- Barriers
RESACC- Restricted Access
REM- Paint Removal
REP- Replace with new
LENCAP- Liquid Encapsulate
RENCAP- Rigid Encapsulate
DCU- Dust Clean-up

Room Name	Component	Abatement Method	Comments
All interior rooms- all three floors	Window Sill, Window Troughs, Floors	DCU	To meet reoccupancy criteria
Front Porch	All including footing and supports	REP	
Exterior	Soil – see attached chart	Excavate top two inches of soil	Entire property to be abated, remove top two inches of soil, rototill, retest, bring in new clean soil . New soil must be under 200 ppm
Exterior	Garage	LENCAP	Garage door casing

1.4 SITE EXAMINATION

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

B. The Lead Abatement Contractor shall, as a part of their bid, notify MCA 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 Lead Abatement 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 Lead Abatement Contractor shall immediately notify MCA.

1.5 LEAD PLANNER/PROJECT DESIGNER INFORMATION

A. Name of Planner/Project Designer: Maureen Monaco
Certificate # 2152
Consultant Contractor #270
Address: 287 Main Street
City: Ansonia State: Connecticut Zip: 06401
Telephone Number: (800) 959-2985

1.6 INSPECTION REPORT INFORMATION

A. Inspector Name: Maureen Monaco
Title: Lead Inspector/Risk Assessor
Certificate Number: 001172
Firm Name: Gilbertco LLC
Consultant Contractor #270
Telephone Number: (800) 959-2985

1.7 OWNER INFORMATION

A. Name: Rosanna Nadal

B. Address: 10 Beal Street
City Stamford State: Connecticut
Home Telephone: 203-554-34??

1.8 CONTRACTOR INFORMATION

A. Company Name: State of Connecticut Licensed Lead Abatement Contractor to be retained following acceptance of plan. Will go out to bid
Contractor License Number: Not applicable at this time
Contact Person: Not applicable at this time
Address: Not applicable at this time
City: *NIA* State: *NIA* Zip: *NIA*
Telephone Number: *NIA*

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 Stai1dard 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-l l l Lead Poisoning Prevention and Control Regulations.

4. US-EPA

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

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 Lead Abatement 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 Lead Abatement Contractor shall extend full cooperation to Owner in all matters involving the use of Owner's facilities. At no time shall the Lead Abatement 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 Lead Abatement Contractor shall provide electricity, water and potable sanitary facilities for this project.

B. The Lead Abatement 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 Lead Abatement 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.

1.12 BUILDING OCCUPANCY

A. The homeowner or tenants need not be relocated at the time of the lead-based paint abatement work.

1.13 NOTIFICATION TO CONNECTICUT STATE HISTORIC PRESERVATION

A. Notification to the Historic Preservation Office has been made by MCA and recommendations and guidance is being adhered to.

1.14 NOTIFICATIONS

A. The Lead Abatement Contractor shall notify the Owner and Martinez Couch and Associates a minimum of five (5) days prior to work at the site.

B. The Lead Abatement Contractor shall make notifications to the local Police Department and Fire Department regarding the project if deemed necessary.

C. 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 Martinez Couch and Associates.

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

E. 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:

1. A summary of the nature, scope and results (including clearance results) of hazard reduction activities.

2. A contact name, address and telephone for more information.

3. 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.

F. Each notice shall be provided in the occupants' primary language or in the language of the occupants' contract or lease.

G. The Owner shall provide each notice to the occupants by:

I . Posting and maintaining it in centrally located common areas and distributing it to any dwelling unit if necessary because the head of household is a person with a known disability.

2. Distributing it to each occupied dwelling unit affected by hazard reduction activities or serviced by common areas in which hazard reduction has taken place.

H. The Contractor shall have all adult occupant sign the Pre-Renovation Disclosure Form. A signed copy of the disclosure form shall be submitted to Martinez Couch and Associates and their consultant with written notice of the start date.

1.15 EPA RENOVATE, REPAIR AND PAINTING 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, common areas or exteriors are EPA certified renovators or trained by a certified EPA renovator. Renovators can become certified by successfully attending all 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 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.

E. The Contractor must assume that all painted surfaces contain toxic levels of lead-based paint unless inspected by a licensed lead inspector/risk assessor or tested with an EPA approved lead testing kit and proven otherwise. Surfaces requiring Lead Abatement as described in Section 1.3 of this plan are known surfaces painted with lead-based paint. In addition some surfaces may contain intact lead-based paint and therefore are not addressed in this Lead-Based Paint Abatement Plan.

F. The Contractor is required to ensure renovators minimize lead paint/dust exposure by performing activities in a lead safe manner, see Sections 4.1, 4.2 and 4.4 in this document, including posting of lead warning signs in plain view of the occupants.

G. The Contractor shall ensure all sub-contractors performing renovation activities on known or 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 MCA and the consultant with 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 Certified Renovator.

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

1.16 INSURANCE

A. The contractors shall carry per the contract general conditions, specified elsewhere, all insurance including but not limited to the following:

1. Workman's Compensation

2. Lead Abatement Liability Insurance

3. Manufacturer's and Contractor's Liability Insurance

1.17 CONTRACT ASSIGNMENT

A. The contractor shall not assign this contract without written consent Martinez Couch and Associates. A request for written consent shall be approved by MCA and the building owner.

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.

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 Lead Abatement 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. 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.

C. The Lead Abatement 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 ample supply of drying towels. Wash water shall be tested for proper disposal.

D. All equipment used by workers inside the work area shall be wet wiped or bagged for later decontamination before removal from work area.

E. The Lead Abatement Contractor is responsible for using safe procedures to avoid electrical hazards. All temporary electrical wiring will be protected by GFI's.

3.2 ABATEMENT AREA PREPARATION.

Exterior

1. Cover all shrubbery, plantings, stoops, etc. with opaque tarps, in order to prevent damage.

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-foot buffer zone between abatement operations and the warning tape. Maintain barriers for protection of public and adjacent property

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 6-mil polyethylene sheeting on the ground and/or porch floors. The sheeting shall extend a minimum of ten feet from the foundation of the building. The sheeting shall be secured to the foundation utilizing duct tape.

5. The edges of the sheeting shall be weighted to avoid blowing or lifting.

6. Provide and maintain fire prevention equipment.

7. Electrical disconnect must be performed by a licensed electrician.

Interior

1. Cover windows and doors within demolition areas with impermeable plastic to prevent dust from entering home.

3.3 LEAD ABATEMENT PROCEDURES

1. The abatement contractor will keep the structure adequately wet at all time during demolition to prevent visible dust and debris emissions

2. The Lead Abatement Contractor shall immediately place components into an 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. The abatement contractor may collect and characterize waste stream. Metal components shall be recycled at an approved recycling facility.

A. Soil Abatement Procedures

1. Complete all necessary work in each area prior to commencing abatement of soil in that area.

2. Where soil is to be removed, 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. Manually remove soil to a depth of two inches. Lightly mist to reduce dust.
   d. Place soil in appropriate waste container.
   e. Apply replacement soil as specified. New soil must be under 200 ppm of lead.

3. Where ground cover is to be applied, perform the following
   a. Where grass seed is to be planted, utilize K31 Fescue or equivalent heart seed.
   b. Prepare soil for planting by lightly raking or loosening soil.
   c. Apply seed at manufacturer's recommended covering rate.
   d. Cover with straw mulch and water
   e. Install temporary caution tap around planted areas.
   f. Caution tape may be removed by owner once grass is established.

3.4 DISPOSAL OF WASTE MATERIALS

A. The Contractor shall perform the following:

1. Work with MCA to see that waste is disposed of according to local, state and federal law and regulations and at the minimum practical cost. Contractor must dispose of non-hazardous waste generated in the performance of this Contract at their cost. Contractor must provide invoices to substantiate hazardous waste disposal costs. Costs will consist of hazardous waste container fees and hazardous waste disposal fees.

2. 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, analysis and report writing shall be the responsibility the Abatement Contractor. The contractor may collect and analyze his own waste stream.

3. All secondary waste materials generated during abatement, 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 Lead Abatement Contractor. Results shall be furnished to MCA.

4. The Lead Abatement Contractor shall comply with the requirements for small quantity generators (generates between 1OOkg and 1000 kg of hazardous waste in a month or accumulates no more than 1OOOkg of hazardous waste on-site at any one time; stores waste for no greater than 90 days).

5. The Contractor shall ensure that all hazardous waste generated is sent off-site to permitted hazardous waste treatment, storage, or disposal facilities (TSDF).

6. The Lead Abatement Contractor shall use DEEP permitted transporters for transport of hazardous waste.

7. The Lead Abatement Contractor shall apply for a temporary EPA identification number. Hazardous waste manifests must be utilized which bear this I.D. number.

8. The Lead Abatement 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.

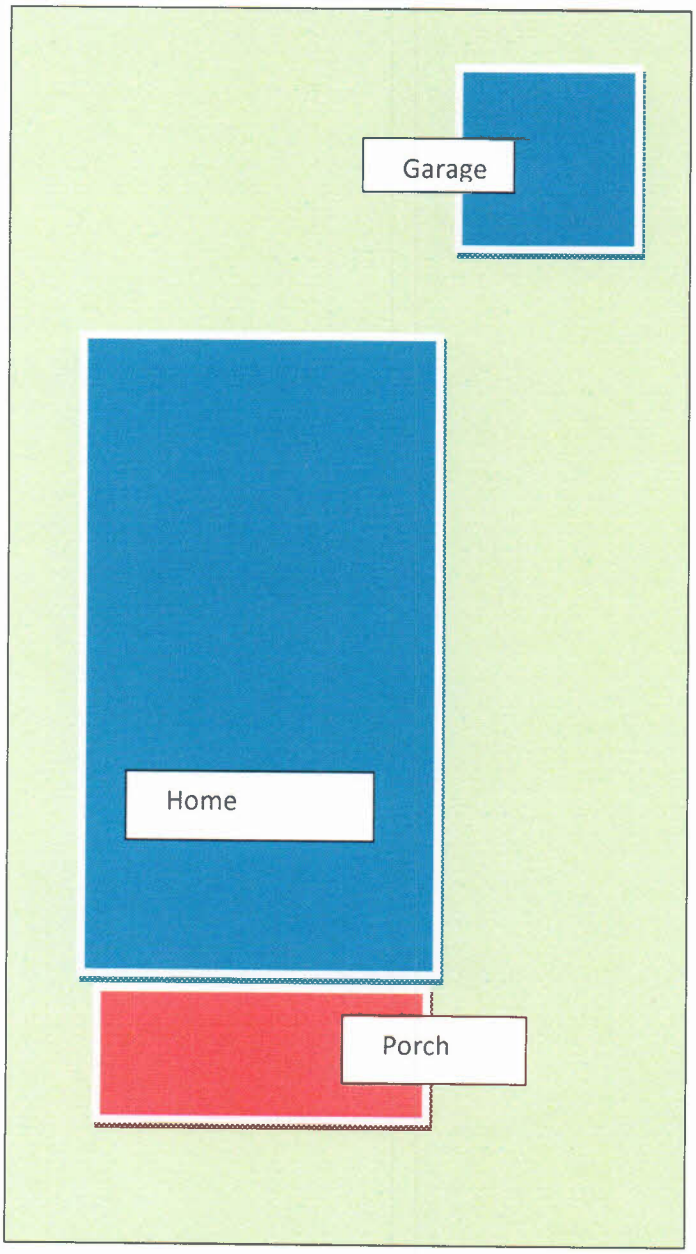
9. The Lead Abatement Contractor shall furnish disposal manifests for hazardous waste signed by a treatment or disposal facility certifying the amount of lead containing materials prior to final payment.

10. The Lead Abatement 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.

11. The Lead Abatement 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.

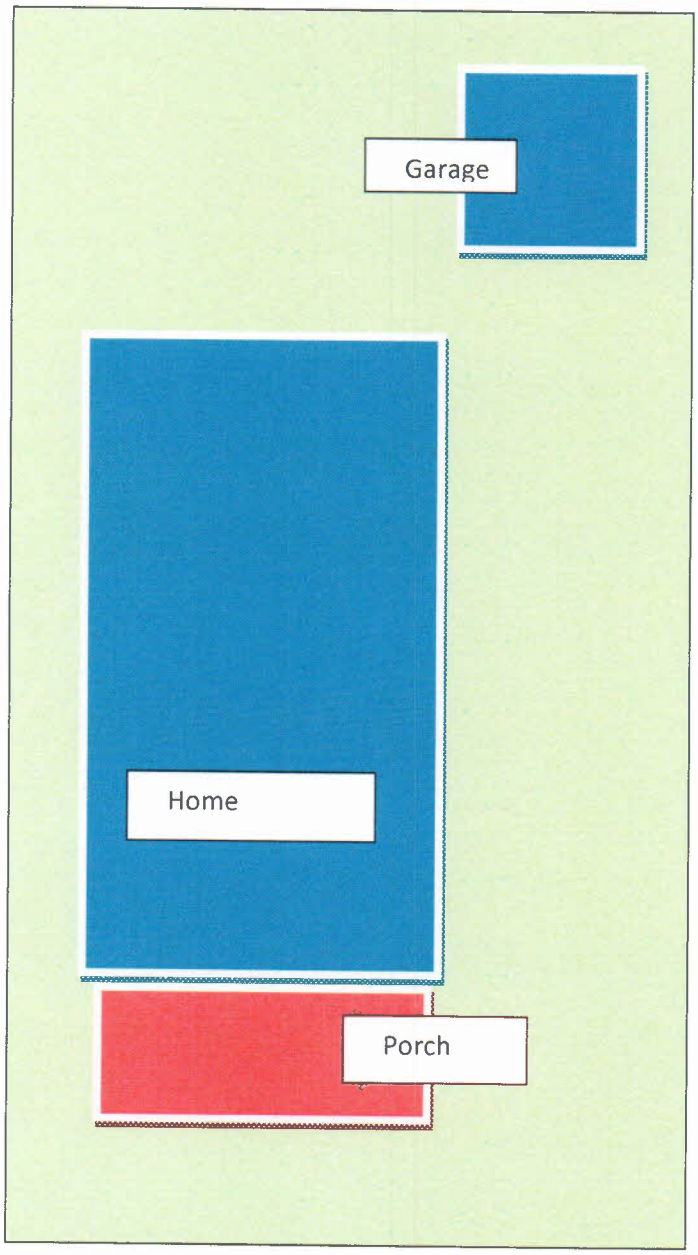
12. The Lead Abatement Contractor must provide written notification to local fire departments and/or police regarding the location, nature, and duration of the lead-removal project, and regarding the type and quantity of hazardous waste that may be stored at the site.

13. The Lead Abatement 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.



Porch to be demolished and removed

All soil to be abated



Porch to be demolished and removed

All soil to be abated

SECTION 03 30 53

MISCELLANEOUS CAST IN PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. CT DOT Form 816 Standard Specifications for Roads, Bridges, and Incidental Construction.

1.2 SUMMARY

A. Section includes miscellaneous cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes.

B. Related Requirements:

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Design Mixtures: For each concrete mixture.

1.4 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.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. Comply with the following sections of ACI 301 unless modified by requirements in the Contract Documents:

1. "General Requirements."
2. "Formwork and Formwork Accessories."

3. "Reinforcement and Reinforcement Supports."
4. "Concrete Mixtures."
5. "Handling, Placing, and Constructing."
6. "Lightweight Concrete."

B. Comply with ACI 117.

2.2 STEEL REINFORCEMENT

A. Epoxy-Coated Welded Wire Fabric: Per CT DOT 816 Section M.06.01.

B. Epoxy-Coated Reinforcement Bars: Per CT DOT 816 Section M.06.01.

C. Epoxy-Coated Joint Dowel Bars: Per CT DOT 816 Section M.06.01.

D. Tie Bars: ASTM A 615/A 615M, Grade 60, deformed.

E. Hook Bolts: ASTM A 307, Grade A, internally and externally threaded. Design hook-bolt joint assembly to hold coupling against pavement form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.

F. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement bars, welded wire fabric, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete, and as follows:

1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.
2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer coated wire bar supports.

G. Epoxy Repair Coating: Repair per A780 Annex 2 and CT DOT Form 816 Section 6.02 requirements.

2.3 REINFORCEMENT ACCESSORIES

A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.

B. Epoxy-Coated Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, ASTM A 775/A 775M epoxy coated.

C. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A 775/A 775M.

D. Zinc Repair Material: ASTM A 780/A 780M.

E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.
3. For zinc-coated reinforcement, use galvanized wire or dielectric-polymer-coated wire bar supports.

2.4 CONCRETE MATERIALS

A. General: Use the same brand and type of cementitious material (includes aggregate, water, air-entrained admixture, and chemical admixtures) from the same manufacturer throughout the Project.

B. Concrete for posts, miscellaneous concrete pads, and any concrete items not associated with foundation shall conform to the requirements of Section 6.01 and M.03 of the State of Connecticut Department of Transportation “Standard Specifications for Roads, Bridges and Incidental Construction”, Form 816, as amended and including the current supplemental specifications and the details included on the plans.

2.5 CURING MATERIALS

A. Cotton Mats: cotton cloth weighing approximately 6.3 oz./sq. yd. dry or burlap (or jute) covering weighing approximately 6.7 oz./sq. yd.dry.

B. Waterproof Paper: waterproof paper in conformance with AASHTO C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. Liquid Membrane-Forming Curing Compound: AASHTO M Type 2 Class B or water soluble linseed oil-based compound conforming to AASHTO M Type 2.

E. White Polyethylene Sheeting (Film): White film conforming to AASHTO M 171.

2.6 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

1. Apply epoxy repair coating to uncoated or damaged surfaces of epoxy-coated reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

E. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inchoverlap to adjacent mats.

2.7 CONCRETE MIXING

A. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.

1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.
3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

A. Design, construct, erect, brace, and maintain formwork according to ACI 301.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:

1. Class A, 1/8 inch for smooth-formed finished surfaces.
2. Class B, 1/4 inch for rough-formed finished surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

1. Install keyways, reglets, recesses, and the like, for easy removal.
2. Do not use rust-stained steel form-facing material.

F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

H. Do not chamfer exterior corners and edges of permanently exposed concrete.

I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement

3.2 EMBEDDED ITEM INSTALLATION

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR-RETARDER INSTALLATION

A. Install, protect, and repair vapor retarders according to ASTM E 1643; place sheets in position with longest dimension parallel with direction of pour.

1. Lap joints 6 inches and seal with manufacturer's recommended adhesive or joint tape.

B. Bituminous Vapor Retarders: Place, protect, and repair bituminous vapor retarder according to manufacturer's written instructions.

3.4 STEEL REINFORCEMENT INSTALLATION

A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Install welded-wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

F. Epoxy-Coated Reinforcement: Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M. Use epoxy-coated steel wire ties to fasten epoxy-coated steel reinforcement.

G. Zinc-Coated Reinforcement: Repair cut and damaged zinc coatings with zinc repair material according to ASTM A 780/A 780M. Use galvanized-steel wire ties to fasten zinc-coated steel reinforcement.

3.5 CONCRETE PLACEMENT

A. Comply with ACI 301 for placing concrete.

B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

C. Do not add water to concrete during delivery, at Project site, or during placement.

D. Consolidate concrete with mechanical vibrating equipment according to ACI 301.

E. Equipment Bases and Foundations:

1. Coordinate sizes and locations of concrete bases with actual equipment provided.
2. Construct concrete bases 4 inches high unless otherwise indicated; and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
3. Minimum Compressive Strength: 4000 psi at 28 days.
4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.

5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base, and anchor them into structural concrete substrate.
6. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
7. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.6 MISCELLANEOUS CONCRETE ITEM INSTALLATION

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

C. Equipment Bases and Foundations:

1. Coordinate sizes and locations of concrete bases with actual equipment provided.
2. Construct concrete bases 4 inches high unless otherwise indicated, and extend base not less than 6 inches in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
3. Minimum Compressive Strength: 4000 psi at 28 days.
4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete substrate.
6. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
7. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

3.7 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 301 for hot-weather protection during curing.

B. 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 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.

C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

D. Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

   a. Water.
   b. Continuous water-fog spray.
   c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.8 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect or Engineer. Remove and replace concrete that cannot be repaired and patched to Architect or Engineer's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding

agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect or Engineer.

D. Perform structural repairs of concrete, subject to Architect or Engineer's approval, using epoxy adhesive and patching mortar.

E. Repair materials and installation not specified above may be used, subject to Architect or Engineer's approval.

END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Dimensional Lumber.

B. Wall, Floor, and Roof Sheathing.

C. Miscellaneous Lumber.

D. Related Accessories.

1.2 REFERENCES

A. American Forest and Paper Association (AF&PA).

B. American Lumber Standard Committee (ALSC).

C. American National Standards Institute (ANSI/ASSE).

D. ASTM International (ASTM).

E. American Wood Preservers Association (AWPA).

F. Douglas Fir Protection Association (DFPA).

G. National Fire Protection Association (NFPA).

H. National Lumber Grades Authority (NLGA).

I. Northeastern Lumber Manufacturers Association (NeLMA).

J. Occupational Safety and Health Administration (OSHA).

K. Underwriters Laboratories (UL).

L. West Coast Lumber Inspection Bureau (WCLIB).

M. Western Wood Products Association (WWPA).

PART 2 PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp

on end or back of each piece.

3. Provide dressed lumber, as per local and national governing industry standards.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

C. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 DIMENSION LUMBER FRAMING

A. Non-Load-Bearing Interior Partitions: As per local and national governing industry standards.

1. Application: Interior partitions not indicated as load-bearing.
2. Species: Douglas Fir North, NLGA
3. Grade. No. 2
4. Minimum Properties
   a. Modulus of Elasticity – 1,700,000 PSI
   b. Extreme Fiber in Bending – 875 PSI
   c. Horizontal Shear – 95 PSI
   d. Tension Parallel to Grain – 825 PSI
   e. Compression Perpendicular to Grain – 385 PSI
   f..Compression Parallel to Grain – 1,050 PSI

B. Framing Other Than Non-Load-Bearing Interior Partitions: As per local and national governing industry standards.

1. Application: Framing other than interior partitions.
2. Species:
   a. Hem-fir (north).
   b. Southern pine.
   c. Douglas fir-larch.
   d. Mixed southern pine.
   e. Douglas fir-larch (north).
   f. Spruce-pine-fir (south).

2.3 WALL, FLOOR, AND ROOF SHEATHING

A. Sheathing: As per local and national governing industry standards.

1. Application: Wall sheathing.
   a. Plywood shall be nominal 5/8” thick, Exterior grade CDX with a minimum of 4 inner plies
2. Application: Subflooring.
3. Application: Roof decking.

a. Plywood shall be nominal 3/4” thick, exterior grade CDX.

4. Material: Match existing materials or comply with final install product instructions, specified industry standards and recommendations application.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
   1. Blocking.
   2. Nailers.
   3. Cants.
   4. Furring.
   5. Grounds.

B. For items of dimension lumber size, provide lumber per local and national governing industry standards.

C. For concealed boards, provide lumber per local and national governing industry standards. following species and grades:
   1. Mixed southern pine.
   2. Eastern softwoods.
   3. Northern species.
   4. Western woods.

2.5 FASTENERS

A. General: Provide fasteners as per local and national governing industry standards.

PART 3 EXECUTION

3.1 INSTALLATION, GENERAL

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

D. Do not splice structural members between supports unless otherwise indicated.

E. Comply with, specified industry standards and recommendations for installation of all applications.

END OF SECTION

SECTION 06 10 63

EXTERIOR ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Exterior dimension lumber.
   2. Exterior dimension timber.
   3. Exterior posts.
   4. Plywood Sheathing (Non Structural)
   5. Wood fences.

B. Related Requirements:
   1. Section 061533 "Wood Patio Decking."

1.3 DEFINITIONS

A. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.

B. Timber: Lumber of 5 inches nominal or greater in least dimension.

C. Lumber grading agencies, and the abbreviations used to reference them, include the following:
   1. NeLMA: Northeastern Lumber Manufacturers' Association.
   2. NLGA: National Lumber Grades Authority.
   3. RIS: Redwood Inspection Service.
   4. SPIB: The Southern Pine Inspection Bureau.
   5. WCLIB: West Coast Lumber Inspection Bureau.
   6. WWPA: Western Wood Products Association.

1.4 ACTION SUBMITTALS

A. Product Data: For preservative-treated wood products. Include chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.

1.5 INFORMATIONAL SUBMITTALS

A. Material Certificates:
   1. For preservative-treated wood products. Indicate type of preservative used and net amount of preservative retained.

B. Certificates of Inspection: Issued by lumber grading agency for exposed wood products not marked with grade stamp.

C. Evaluation Reports: For preservative-treated wood products, from ICC-ES.

1.6 QUALITY ASSURANCE

A. Lumber Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store materials under cover and protected from weather and contact with damp or wet surfaces. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

A. Comply with DOC PS 20 and with grading rules of lumber grading agencies certified by ALSC's Board of Review as applicable. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by ALSC's Board of Review.
   1. Factory mark each item with grade stamp of grading agency.
   2. For items that are exposed to view in the completed Work, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
   3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry wood products.
   4. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content:
   1. Boards: 19 percent.
   2. Dimension Lumber: 19 percent.
   3. Timber. 19 percent.

2.2 LUMBER

A. Hand select wood for freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot holes, shake, splits, torn grain, and wane.

B. Dimension Lumber: No. 2 grade Douglas Fir species (NeLMA, NLGA, WCLIB, or WWPA); Lumber shall meet the requirement of structural lumber indicated on drawings.

2.3 POSTS

A. Dimension Lumber Posts: No. 2 grade Douglas Fir species (NeLMA, NLGA, WCLIB, or WWPA); Lumber shall meet the requirement of structural lumber indicated on drawings.

B. Timber Posts: No. 2 grade Douglas Fir species (NeLMA, NLGA, WCLIB, or WWPA); Lumber shall meet the requirement of structural lumber indicated on drawings.

2.4 NON-STRUCTURAL PLYWOOD SHEATHING

A. Plywood Sheathing: DOC PS 1, Exterior sheathing
   1. Nominal Thickness: As indicated on drawings.
   2. Grade: Marine – For permanently installations permanently exposed to the elements

2.5 PRESERVATIVE TREATMENT

A. Pressure treat boards and dimension lumber with waterborne preservative according to AWPA U1; Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.

B. Pressure treat timber with waterborne preservative according to AWPA U1; Use Category UC4a.
   1. Treatment with CCA shall include post-treatment fixation process.

C. Pressure treat poles with waterborne preservative according to AWPA U1; Use Category UC4a.
   1. Treatment with CCA shall include post-treatment fixation process.

D. Preservative Chemicals: Acceptable to authorities having jurisdiction.
   1. Do not use chemicals containing arsenic or chromium.

E. Use process for boards and dimension lumber that does not include water repellents or other substances that might interfere with application of indicated finishes.

F. After treatment, redry dimension lumber to 19 percent maximum moisture content.

G. Mark treated wood with treatment quality mark of an inspection agency approved by ALSC's Board of Review.

1. For items indicated to receive a stained or natural finish, omit marking and provide certificates of treatment compliance issued by inspection agency.

H. Application: Treat all wood unless otherwise indicated.

2.6 FASTENERS

A. General: Provide fasteners of size and type indicated, acceptable to authorities having jurisdiction, and that comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches into wood substrate.
   1. Use fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or ASTM F 2329 unless otherwise indicated.
   2. For pressure-preservative-treated wood, use stainless-steel fasteners.
   3. For redwood, use hot-dip galvanized-steel fasteners.

B. Nails: ASTM F 1667.

C. Power-Driven Fasteners: ICC-ES AC70.

D. Wood Screws and Lag Screws: ASME B18.2.1, ASME B18.6.1, or ICC-ES AC233.

E. Carbon-Steel Bolts: ASTM A 307 with ASTM A 563 hex nuts and, where indicated, flat washers all hot-dip zinc coated.

F. Stainless-Steel Bolts: ASTM F 593, Alloy Group 1 or 2; with ASTM F 594, Alloy Group 1 or 2 hex nuts and, where indicated, flat washers.

G. Postinstalled Anchors: Stainless-steel, chemical or torque-controlled expansion anchors with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing according to ASTM E 488, conducted by a qualified independent testing and inspecting agency.
   1. Stainless-steel bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

2.7 METAL ACCESSORIES

A. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G185 coating designation.

B. Stainless-Steel Sheet: ASTM A 666, Type 316.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prime wood indicated to be painted, including both faces and edges. Cut to required lengths and prime ends. Comply with requirements in Section 099000 "Paintings and Coatings."

B. Stain wood indicated to be stained, including both faces and edges. Cut to required lengths and stain ends.

3.2 INSTALLATION, GENERAL

A. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit work to other construction; scribe and cope as needed for accurate fit.

B. Framing Standard: Comply with AF&PA WCD1 unless otherwise indicated.

C. Install metal framing anchors to comply with manufacturer's written instructions.

D. Do not splice structural members between supports unless otherwise indicated.

E. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

F. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of members or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

G. Apply copper naphthenate field treatment to comply with AWPA M4, to cut surfaces of preservative-treated lumber.

H. Securely attach exterior rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
   1. ICC-ES AC70 for power-driven fasteners.
   2. "Fastening Schedule 2304.9.1 in ICC's International Building Code and per Connecticut State Building Code.

I. Use common wire nails unless otherwise indicated. Select fasteners of size that do not fully penetrate members where opposite side is exposed to view. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads unless otherwise indicated.

END OF SECTION

SECTION 06 15 33

WOOD PATIO DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Wood decking.
   2. Stairs for elevated decks.
   3. Railings for elevated decks.

B. Related Requirements:
   1. Refer to drawings for sheet metal flashings on tops of deck framing and ledgers

1.3 DEFINITIONS

A. Boards: Lumber of less than 2 inches nominal in thickness and 2 inches nominal or greater in width.

B. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.

C. Timber: Lumber of 5 inches nominal or greater in least dimension.

D. Lumber grading agencies, and the abbreviations used to reference them, include the following:

   1. NeLMA: Northeastern Lumber Manufacturers' Association.
   2. NLGA: National Lumber Grades Authority.
   3. RIS: Redwood Inspection Service.
   4. SPIB: The Southern Pine Inspection Bureau.

1.4 ACTION SUBMITTALS

A. Product Data: For preservative-treated wood products, and metal framing anchors.

   1. For preservative-treated wood products. Include chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.

2. For metal framing anchors. Include installation instructions.

1.5 INFORMATIONAL SUBMITTALS

A. Material Certificates:

1. For lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by ALSC's Board of Review.
2. For preservative-treated wood products. Indicate type of preservative used and net amount of preservative retained. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

B. Certificates of Inspection: Issued by lumber grading agency for exposed wood products not marked with grade stamp.

C. Evaluation Reports: For the following, from ICC-ES:

1. Preservative-treated wood products.
2. Expansion anchors.
3. Metal framing anchors.
4. Decking fasteners.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials under cover and protected from weather and contact with damp or wet surfaces. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

A. Comply with DOC PS 20 and with grading rules of lumber grading agencies certified by ALSC's Board of Review as applicable. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by ALSC's Board of Review.

1. Factory mark each item with grade stamp of grading agency.
2. For items that are exposed to view in the completed Work, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry wood products.
4. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content:

1. Boards: 19 percent.
2. Dimension Lumber: 19 percent for 2-inch nominal thickness or less; 19 percent for more than 2-inch nominal thickness.
3. Timber. 19 percent.

2.2 WOOD DECKING AND STAIR TREADS

A. Hand select wood for freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot holes, shake, splits, torn grain, and wane.

B. Board Decking: Shall be 1-1/4-inch actual thickness square-edged tongue and groobe decking as indicated or to match existing construction dimensions and be of any of the following species and grades:

1. Douglas fir-larch or Douglas fir-south, Patio 1 or Patio 2; WWPA.
2. Douglas fir-larch, Select Dex; WCLIB.
3. Douglas fir-larch (North), Select Patio; NLGA.
4. Hem-fir, Patio 1; WWPA.
5. Hem-fir, Select Dex; WCLIB.
6. Hem-fir (North), Select Patio; NLGA.
7. Southern pine, Premium; SPIB.

C. Board Stair Treads: Shall be 1-1/4-inch actual thickness as indicated or to match existing construction dimensions, stepping with half-round or rounded-edge nosing and one of the following species and grades:

1. Douglas fir, C & Btr VG (Vertical Grain) stepping; NLGA, WCLIB, or WWPA.
2. Hem-fir, C & Btr VG (Vertical Grain) stepping; NLGA, WCLIB, or WWPA.

2.3 WOOD RAILINGS

A. Hand select wood for freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot holes, shake, splits, torn grain, and wane.

B. Dimension Lumber Railing Members: No. 2 grade and any of the following species:
1. Mixed southern pine; SPIB.
2. Spruce-pine-fir or spruce-pine-fir (South); NeLMA, NLGA, WCLIB, or WWPA.

C. Railing Boards: Any of the following species and grades:
1. Southern pine, B & B finish; SPIB.

D. Balusters: 1-5/8” Square posts of profile indicated, clear, kiln-dried, solid, pressure-preservative-treated Southern Pine

E. Newel Posts: Clear, kiln-dried, pressure-preservative-treated, southern pine, turned newel posts of pattern and size indicated.

2.4 DIMENSION LUMBER FRAMING

A. Deck and Stair Framing: No. 2 grade and the following species:
   1. Douglas fir-larch; WCLIB or WWPA.
   2. Douglas fir-south; WWPA.
   3. Douglas fir-larch (North); NLGA.

B. Deck and Stair Framing: Any species and grade with a modulus of elasticity of at least 1,700,000 psi and an extreme fiber stress in bending of at least 1050 psi for 2-inch nominal thickness and 12-inch nominal width for single-member use.

2.5 POSTS

A. Dimension Lumber Posts: No. 2 grade and the following species:
   1. Douglas fir-larch, Douglas fir-larch (North), or Douglas fir-south; NLGA, WCLIB, or WWPA.

B. Timber Posts: Douglas fir-larch, Douglas fir-larch (North), No. 1; NeLMA, NLGA, SPIB, WCLIB, or WWPA.

2.6 PRESERVATIVE TREATMENT

A. Pressure treat boards and dimension lumber with waterborne preservative according to AWPA U1; Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.

B. Pressure treat timber with waterborne preservative according to AWPA U1; Use Category UC4a.

C. Pressure treat poles with waterborne preservative according to AWPA U1; Use Category UC4a.

D. Preservative Chemicals: Acceptable to authorities having jurisdiction.

   1. Do not use chemicals containing arsenic or chromium.

E. Use process for boards and dimension lumber that does not include water repellents or other substances that might interfere with application of indicated finishes.

F. After treatment, redry boards, dimension lumber, timber, and poles to 19 percent maximum moisture content.

G. Mark treated wood with treatment quality mark of an inspection agency approved by ALSC's Board of Review.

1. For items indicated to receive a stained or natural finish, mark each piece on surface that will not be exposed or omit marking and provide certificates of treatment compliance issued by inspection agency.

H. Application: Treat all wood unless otherwise indicated.

2.7 FASTENERS

A. General: Provide fasteners of size and type indicated, acceptable to authorities having jurisdiction, and that comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches into wood substrate.

1. Use stainless steel or fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or ASTM F 2329 unless otherwise indicated.
2. For pressure-preservative-treated wood, use stainless-steel fasteners.
3. For wood decking, use stainless-steel fasteners where fasteners are exposed to view.

B. Nails: ASTM F 1667.

C. Power-Driven Fasteners: ICC-ES AC70.

D. Wood Screws and Lag Screws: ASME B18.2.1, ASME B18.6.1, or ICC-ES AC233.

E. Carbon-Steel Bolts: ASTM A 307 with ASTM A 563 hex nuts and, where indicated, flat washers all hot-dip zinc coated.

F. Stainless-Steel Bolts: ASTM F 593, Alloy Group 1 or 2; with ASTM F 594, Alloy Group 1 or 2 hex nuts and, where indicated, flat washers.

G. Postinstalled Anchors: Stainless-steel, chemical or torque-controlled expansion anchors with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing according to ASTM E 488 conducted by a qualified independent testing and inspecting agency.

1. Stainless-steel bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

2.8 METAL FRAMING ANCHORS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Simpson Strong-Tie Co., Inc.

B. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those indicated on Drawings. Manufacturer's published

values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

C. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G185 coating designation.

D. Stainless-Steel Sheet: ASTM A 666, Type 316.

E. Joist Hangers: As indicated at minimum shall be, U-shaped, with 2-inch-long seat and 1-1/4-inch-wide nailing flanges at least 85 percent of joist depth.

F. Top Flange Hangers: U-shaped joist hangers, full depth of joist, formed from metal strap with tabs bent to extend over and be fastened to supporting member.

G. Post Bases: Adjustable-socket type for bolting in place with standoff plate to raise post 1 inch above base and with 2-inch-minimum side cover, socket 0.062 inch thick, and standoff and adjustment plates 0.108 inch thick.

H. Joist Ties: Flat straps, with holes for fasteners, for tying joists together over supports shall be as indicated.

2.9 CONCEALED DECKING FASTENERS

A. Deck Splines: Corrosion-resistant metal or plastic splines that fit in grooves routed into the sides of decking material and are fastened to deck framing with screws. Splines provide uniform spacing of decking material.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Blue Heron Enterprises, LLC.
b. Grabber Construction Products.
c. Ipe Clip Fastener Company Inc.
d. KK Mfg. Co., Inc.
e. Simpson Strong-Tie Co., Inc.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

B. Prime wood indicated to be painted, including both faces and edges. Cut to required lengths and prime ends. Comply with requirements in Section 09 90 00 "Painting and Coatings."

C. Stain wood indicated to be stained, including both faces and edges. Cut to required lengths and stain ends. Comply with requirements in Section 09 93 00 "Staining and Transparent Finishing."

3.3 INSTALLATION, GENERAL

A. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit work to other construction; scribe and cope as needed for accurate fit.

B. Framing Standard: Comply with AF&PA WCD1 unless otherwise indicated.

C. Install wood decking and stair treads with crown up (bark side down).

D. Secure decking to framing with deck splines or screws to match existing construction methods for decks to be rebuilt.

E. Install metal framing anchors to comply with manufacturer's written instructions.

F. Do not splice structural members between supports unless otherwise indicated.

G. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

H. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of members or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

I. Apply copper naphthenate field treatment to comply with AWPA M4, to cut surfaces of preservative-treated lumber.

J. Securely attach exterior rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. ICC-ES AC70 for power-driven fasteners.
2. "Fastening Schedule" in ICC's International Building Code and as indicated on drawings.

K. Use common wire nails unless otherwise indicated. Select fasteners of size that do not fully penetrate members where opposite side is exposed to view. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads unless otherwise indicated.

L. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced and with adjacent rows staggered.

3.4 ELEVATED DECK JOIST FRAMING INSTALLATION

A. General: Install joists with crown edge up and support ends of each member with not less than 1-1/2 inches of bearing on wood or metal, or 3 inches on masonry. Attach floor joists where framed into wood supporting members by using wood ledgers as indicated or, if not indicated, by using metal joist hangers. Do not notch joists.

B. Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds 48 inches.

C. Lap members framing from opposite sides of beams or girders not less than 4 inches or securely tie opposing members together. Provide solid blocking of 2-inch nominal thickness by depth of joist over supports.

D. Provide solid blocking of 2-inch nominal thickness by depth of joist at intervals of 96 inches o.c., between joists.

3.5 STAIR INSTALLATION

A. Provide stair framing members of size, space, and configuration indicated or, if not indicated, to comply with the following requirements:

1. Stringer Size: 2 by 12 inches nominal, minimum.
2. Notching: Notch stringers to receive treads, risers, and supports; leave at least 5 inches of effective depth.
3. Stringer Spacing: At least three stringers for each 36-inch clear width of stair.

B. Provide stair framing with no more than 3/8-inch variation between adjacent treads and risers and no more than 1/2-inch variation between largest and smallest treads and risers within each flight.

C. Treads and Risers: Secure as indicated on drawings.

3.6 RAILING INSTALLATION

A. Balusters: Fit to railings, glue, and screw in place. Countersink fastener heads, fill flush, and sand filler.

B. Newel Posts: Secure to stringers and risers with lag screws.

C. Railings: Secure wall rails with metal brackets. Fasten freestanding railings to newel posts and to trim at walls with countersunk-head wood screws or rail bolts and glue.

END OF SECTION

SECTION 06 20 13

EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Scope – Project work is subject to Connecticut State Historic Preservation Office work restrictions. Select exterior finish carpentry which is rotted, missing, or otherwise indicated on drawings to be replaced is required to be replaced in kind with matching in profile and material type.

B. Section Includes:

1. Exterior wood trim.
2. Hardboard soffits.
3. Exterior railings.

C. Related Requirements:
1. Section 099113 "Exterior Painting."

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

1. Include data for wood-preservative treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained. Include chemical-treatment manufacturer's written instructions for finishing treated material.
2. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.
3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced before shipment to Project site to levels specified.
4. Include copies of warranties from chemical-treatment manufacturers for each type of treatment.

B. Samples for Verification; At the Request of MCA submit the following,

1. For each species and cut of lumber and panel products, with 1/2 of exposed surface finished; 50 sq. in. (300 sq. cm) for lumber and 8 by 10 inches (200 by 250 mm) for panels.

1.4 INFORMATIONAL SUBMITTALS

A. Compliance Certificates:

1. For lumber that is not marked with grade stamp.
2. For preservative-treated wood that is not marked with treatment-quality mark.

B. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.

C. Sample Warranties: For manufacturer's warranties.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Protect materials from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

1.7 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecast weather conditions permit work to be performed and at least one coat of specified finish can be applied without exposure to rain, snow, or dampness.

1. For exterior ornamental wood columns, comply with manufacturer's written instructions and warranty requirements.

B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.

2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

1.8 WARRANTY

A. Manufacturer's Warranty for Hardboard Siding and Trim: Manufacturer agrees to repair or replace siding that fails in materials or workmanship within specified warranty period. Failures include, but are not limited to, deformation or deterioration beyond normal weathering.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Lumber: DOC PS 20 and the following grading rules:

1. NeLMA: Northeastern Lumber Manufacturers' Association, "Standard Grading Rules for Northeastern Lumber."
2. NLGA: National Lumber Grades Authority, "Standard Grading Rules for Canadian Lumber."
3. RIS: Redwood Inspection Service, "Standard Specifications for Grades of California Redwood Lumber."
4. SPIB: The Southern Pine Inspection Bureau, "Standard Grading Rules for Southern Pine Lumber."
5. WCLIB: West Coast Lumber Inspection Bureau, Standard No. 17, "Grading Rules for West Coast Lumber."
6. WWPA: Western Wood Products Association, "Western Lumber Grading Rules."

B. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.

1. For exposed lumber, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by inspection agency.

C. Softwood Plywood: DOC PS 1.

D. Hardboard: ANSI A135.4.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Water-Repellent Preservative Treatment by Nonpressure Process: AWPA N1; dip, spray, flood, or vacuum-pressure treatment.

1. Preservative Chemicals: 3-iodo-2-propynyl butyl carbamate (IPBC).

2. Use chemical formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.
3. Application: Exterior trim and wood siding.

B. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b.

1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 18 percent respectively.
2. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
3. For exposed items indicated to receive transparent finish, do not use chemical formulations that contain colorants or that bleed through or otherwise adversely affect finishes.
4. Do not use material that is warped or does not comply with requirements for untreated material.
5. Mark lumber with treatment-quality mark of an inspection agency approved by the American Lumber Standard Committee's Board of Review.

    a. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.

6. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.

    a. For exposed plywood indicated to receive a stained or natural finish, mark back of each piece.

7. Application: All exterior lumber and plywood.

2.3 EXTERIOR TRIM

A. Lumber Trim for Painted Finish:
1. Species and Grade: Hem-fir, Prime or D finish; NLGA, WCLIB, or WWPA.
2. Species and Grade: Eastern white pine, eastern hemlock-balsam fir-tamarack, eastern spruce, or white woods; D Select (Quality), Finish or 1 Common (Colonial); NeLMA, NLGA, WCLIB, or WWPA.
3. Species and Grade: Northern white cedar, D Select; NeLMA or NLGA.
4. Maximum Moisture Content: 15 percent with at least 85 percent of shipment at 12 percent or less or as allowed by Grading Agency and Species.
5. Finger Jointing: Not allowed.
6. Face Surface: Surfaced (smooth).
7. Factory Priming: Factory coated on faces and edges with exterior primer compatible with topcoats specified.

B. Moldings for Painted Finish: WMMPA WM 4, P-grade wood moldings. Made from kiln-dried stock to patterns included in WMMPA WM 12.

1. Species shall be one of the following:
   a. Redwood
   b. Western red cedar
   c. Eastern white, Idaho white, lodgepole, ponderosa, radiata, or sugar pine
2. Finger Jointing: Not Allowed.
3. Factory Priming: Factory coated on faces and edges with exterior primer compatible with topcoats specified.
4. Molding Patterns: Match Existing with profile from WMMPA WM7 or custom fabricate section profile

C. MDO Trim: Exterior Grade B-B, MDO plywood.

D. Primed Hardboard Trim: High-temperature-cured, high-resin, wood-fiber composite; factory primed on faces and edges. Recommended by manufacturer for exterior use.

2.4 LUMBER SIDING

A. Provide kiln-dried lumber siding complying with DOC PS 20
   1. Contractor may at their option provide factory coated with exterior primer compatible with topcoats specified.

B. Species and Grade:
   1. 1 Common spruce-pine-fir; NeLMA, NLGA, WCLIB, or WWPA.
   2. Prime or D finish pressure-preservative-treated hem-fir; NLGA, WCLIB, or WWPA.
   3. D Select (Quality) Finish or 1 Common (Colonial) eastern white pine, eastern hemlock-balsam fir-tamarack, eastern spruce, or white woods; NeLMA, NLGA, WCLIB, or WWPA.
   4. D Select northern white cedar; NeLMA or NLGA.
   5. D pressure-preservative-treated southern pine; SPIB.

C. Pattern shall match existing profile using custom profile or match existing section with:
   1. Bevel siding, S1S2E, measured on the face and thick edge to match existing at 19 percent moisture content.
   2. Drop siding, SPIB or WWPA pattern No. 105, actual face width (coverage) and thickness to match existing measured at 19 percent moisture content.
   3. V-edge, smooth-faced tongue-and-groove pattern with eased edges, actual face width (coverage) and thickness to match existing, measured at 19 percent moisture content.

2.5 PLYWOOD SOFFITS

A. Plywood Type: Exterior, Grade A-C.

B. Thickness: Match existing or as indicated.

C. Face Species:
   1. Southern pine
   2. Douglas fir

3. Western red cedar
4. Redwood.

D. Pattern: Plain. Or as indicated

E. Surface: Smooth or as indicated.

2.6 EXTERIOR RAILINGS

A. Species shall be one of the following,
   1. Pressure-preservative-treated southern pine

B. Railings: Clear, kiln-dried, solid, of railing stock to match existing.

C. Balusters: Clear, kiln-dried, solid of pattern and profile to match existing or as indicated.

D. Newel Posts: Clear, kiln-dried, turned newel posts of pattern and size to match existing or as indicated.

2.7 MISCELLANEOUS MATERIALS

A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches (38 mm) into wood substrate.

   1. For face-fastening siding, provide ringed-shank siding nails unless otherwise indicated.
   2. For redwood, provide stainless-steel or hot-dip galvanized-steel fasteners.
   3. For prefinished items, provide matching prefinished aluminum fasteners where face fastening is required.
   4. For pressure-preservative-treated wood, provide stainless-steel fasteners.
   5. For applications not otherwise indicated, provide stainless-steel fasteners.

B. Wood Glue: Waterproof resorcinol glue recommended by manufacturer for exterior carpentry use.

C. Flashing: Flash all exterior finish carpentry in accordance with industry standard practices.

D. Insect Screening for Soffit Vents: Match existing materials replaced or meet one of the following as indicated:
   1. Aluminum, 18-by-16-inch (1.6-by-1.4-mm) mesh
   2. PVC-coated glass-fiber fabric, 18-by-14-inch (1.8-by-1.4-mm) or 18-by-16-inch (1.6-by-1.4-mm) mesh
   3. Stainless steel, 18-by-18-inch (1.4-by-1.4-mm) mesh.

E. Continuous Soffit Vents: Aluminum hat channel shape with stamped louvers or perforations, 2 inches (51 mm) wide and in lengths not less than 96 inches (2438 mm).

   1. Net Free Area: 6 sq. in./linear ft. (420 sq. cm/m).

2. Finish: White paint or match existing.

F. Round Soffit Vents: Stamped aluminum louvered vents, 2-1/2 inches (64 mm) or match existing in diameter, made to be inserted into round holes cut into soffit.

1. Finish: White paint or match existing.

G. Sealants: Latex, complying with ASTM C 834 TypeC, Grade NF and with applicable requirements in Section 079200 "Joint Sealants," recommended by sealant manufacturer and manufacturer of substrates for intended application.

2.8 FABRICATION

A. Back out or kerf backs of standing and running trim wider than 5 inches (125 mm), except members with ends exposed in finished work.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

B. Prime lumber and moldings to be painted, including both faces and edges, unless factory primed. Cut to required lengths and prime ends. Comply with requirements in Section 099113 "Exterior Painting."

3.3 INSTALLATION, GENERAL

A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.

B. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.

1. Scribe and cut exterior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
2. Install to tolerance of 1/8 inch in 96 inches (3 mm in 2438 mm) for level and plumb. Install adjoining exterior finish carpentry with 1/32-inch (0.8-mm) maximum offset for flush installation and 1/16-inch (1.5-mm) maximum offset for reveal installation.
3. Install stairs with no more than 3/16-inch (4.7-mm) variation between adjacent treads and risers and with no more than 3/8-inch (9.5-mm) variation between largest and smallest treads and risers within each flight.
4. Coordinate exterior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate exterior finish carpentry.

3.4 STANDING AND RUNNING TRIM INSTALLATION

A. Install flat-grain lumber with bark side exposed to weather.

B. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches (610 mm) long except where necessary.

1. Use scarf joints for end-to-end joints.
2. Stagger end joints in adjacent and related members.

C. Fit exterior joints to exclude water. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Plane backs of casings to provide uniform thickness across joints, where necessary for alignment.

D. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.

3.5 SIDING INSTALLATION

A. Install siding to comply with manufacturer's written instructions and warranty requirements.

B. Horizontal Lumber Siding: Apply starter strip along bottom edge of sheathing or sill. Install first course of siding with lower edge at least 1/8 inch (3 mm) below starter strip and subsequent courses lapped 1 inch (25 mm) over course below. Nail at each stud. Do not allow nails to penetrate more than one thickness of siding.

1. Leave 1/8-inch (3-mm) gap at trim and corners unless otherwise recommended by manufacturer, and apply sealant.
2. Butt joints only over framing or blocking, nailing top and bottom on each side and staggering joints in subsequent courses.
3. Install prefabricated outside corners as recommended by manufacturer of siding materials.

C. Flashing: Install metal flashing as recommended by siding manufacturer.

D. Finish: Apply finish within one week of installation.

3.6 STAIR AND RAILING INSTALLATION

A. Treads and Risers at Exterior Stairs: Secure treads and risers by gluing and nailing to carriages. Countersink nail heads, fill flush, and sand filler. Extend treads over carriages and finish with bullnose edge.

B. Balusters: Fit balusters to treads, glue, and nail in place. Countersink nail heads, fill flush, and sand filler. Let into railings and glue in place.

C. Newel Posts: Secure newel posts to stringers and risers with lag screws.

D. Railings: Secure wall rails with metal brackets. Fasten freestanding railings to newel posts and to trim at walls with glue and countersunk-head wood screws or rail bolts.

3.7 ADJUSTING

A. Replace exterior finish carpentry that is damaged or does not comply with requirements. Exterior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.8 CLEANING

A. Clean exterior finish carpentry on exposed and semi exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.9 PROTECTION

A. Protect installed products from damage from weather and other causes during construction.

B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

SECTION 07 25 00

WEATHER BARRIERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Building paper.
2. Building wrap.
3. Flexible flashing.
4. Drainage material.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For building wrap, include data on air and water-vapor permeance based on testing according to referenced standards.

1.4 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For water-resistive barrier and flexible flashing, from ICC-ES.

PART 2 - PRODUCTS

2.1 WATER-RESISTIVE BARRIER

A. Building Wrap: ASTM E 1677, Type I air barrier; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested according to ASTM E 84; UV stabilized; and acceptable to authorities having jurisdiction.

1. Manufacturers: Dupont Tyvek, Harvey Typar.
2. Water-Vapor Permeance: Not less than 75 perms per ASTM E 96/E 96M, Desiccant Method (Procedure A).

3. Air Permeance: Not more than 0.004 cfm/sq. ft. at 0.3-inch wg when tested according to ASTM E 2178.
4. Allowable UV Exposure Time: Not less than three months.
5. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

B. Building-Wrap Tape: Pressure-sensitive plastic tape recommended by building-wrap manufacturer for sealing joints and penetrations in building wrap.

2.2 FLEXIBLE FLASHING

A. Butyl Rubber Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.030 inch.
1. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

B. Rubberized-Asphalt Flashing: Composite, self-adhesive, flashing product consisting of a pliable, rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.030 inch.
1. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

C. Primer for Flexible Flashing: Product recommended in writing by flexible flashing manufacturer for substrate.

D. Nails and Staples: Product recommended in writing by flexible flashing manufacturer and complying with ASTM F 1667.

2.3 DRAINAGE MATERIAL

A. Drainage Material: Product shall maintain a continuous open space between water-resistive barrier and exterior cladding to create a drainage plane and shall be used under siding.
1. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

PART 3 - EXECUTION

3.1 WATER-RESISTIVE BARRIER INSTALLATION

A. Cover exposed exterior surface of sheathing with water-resistive barrier securely fastened to framing immediately after sheathing is installed.

B. Cover sheathing with water-resistive barrier as follows:

1. Cut back barrier 1/2 inch on each side of the break in supporting members at expansion- or control-joint locations.
2. Apply barrier to cover vertical flashing with a minimum 4-inch overlap unless otherwise indicated.

C. Building Wrap: Comply with manufacturer's written instructions and warranty requirements.

1. Seal seams, edges, fasteners, and penetrations with tape.
2. Extend into jambs of openings and seal corners with tape.
3. Extend weather barrier completely over openings.

3.2 FLEXIBLE FLASHING INSTALLATION

A. Apply flexible flashing where indicated to comply with manufacturer's written instructions.

1. Prime substrates as recommended by flashing manufacturer.
2. Lap seams and junctures with other materials at least 4 inches except that at flashing flanges of other construction, laps need not exceed flange width.
3. Lap flashing over water-resistive barrier at bottom and sides of openings.
4. Lap water-resistive barrier over flashing at heads of openings.
5. After flashing has been applied, roll surfaces with a hard rubber or metal roller to ensure that flashing is completely adhered to substrates.

3.3 DRAINAGE MATERIAL INSTALLATION

A. Install drainage material over building wrap and flashing to comply with manufacturer's written instructions.

END OF SECTION

SECTION 07 31 13

ASPHALT SHINGLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Asphalt shingles.
2. Underlayment.
3. Ridge vents.
4. Metal flashing and trim.

1.3 DEFINITION

A. Roofing Terminology: See ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each type of asphalt shingle and underlayment product indicated, for tests performed by a qualified testing agency.

C. Sample Warranty: For manufacturer's warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For asphalt shingles to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store roofing materials in a dry, well-ventilated location protected from weather, sunlight, and moisture according to manufacturer's written instructions.

B. Store underlayment rolls on end on pallets or other raised surfaces. Do not double stack rolls.

C. Protect unused roofing materials from weather, sunlight, and moisture when left overnight or when roofing work is not in progress.

D. Handle, store, and place roofing materials in a manner to prevent damage to roof deck or structural supporting members.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Install self-adhering sheet underlayment within the range of ambient and substrate temperatures recommended in writing by manufacturer.

1.10 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace asphalt shingles that fail within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Manufacturing defects.

2. Material Warranty Period: 30 years from date of Substantial Completion.
3. Wind-Speed Warranty Period: Asphalt shingles will resist blow-off or damage caused by wind speeds of up to 100 mph (45 m/s) for five years from date of Substantial Completion.
4. Workmanship Warranty Period: 30 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Exterior Fire-Test Exposure: Provide asphalt shingles and related roofing materials identical to those of assemblies tested for Class A fire resistance according to ASTM E 108 or UL 790 by

Underwriters Laboratories or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing agency.

2.2 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

A. Laminated-Strip Asphalt Shingles: ASTM D 3462/D 3462M, laminated, multi-ply overlay construction, glass-fiber reinforced, mineral-granule surfaced, and self-sealing.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Atlas Roofing Corporation.
b. GAF Materials Corporation.
c. Owens Corning.
d. PABCO Roofing Products.

2. Butt Edge: Match Existing.

3. Strip Size: Manufacturer's standard or match existing.
4. Impact Resistance: UL 2218, Class 4.
5. Color and Blends: Match Existing.

B. Hip and Ridge Shingles: Manufacturer's standard units to match asphalt shingles.

2.3 UNDERLAYMENT MATERIALS

A. Felt: ASTM D 226/D 226M, asphalt-saturated organic felts, nonperforated.

1. Type: Type I.

B. Self-Adhering Sheet Underlayment, Polyethylene Faced: ASTM D 1970/D 1970M, minimum of 40-mil- (1.0-mm-) thick, slip-resisting, polyethylene-film-reinforced top surface laminated to SBS-modified asphalt adhesive, with release backing; cold applied.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Atlas Roofing Corporation.
b. Carlisle Coatings & Waterproofing Inc.
c. CertainTeed Roofing Corporation.
d. GAF Materials Corporation.
e. Owens Corning.
f. Tamko Building Products, Inc.

C. Granular-Surfaced Valley Lining: Shall not be used.

2.4 RIDGE VENTS

A. Rigid Ridge Vent: Manufacturer's standard, rigid section high-density polypropylene or other UV-stabilized plastic ridge vent for use under ridge shingles.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Cor-A-Vent, Inc.
b. GAF Materials Corporation.
c. Lomanco, Inc.
d. Obdyke, Benjamin Incorporated.
e. Owens Corning.

2. Minimum Net Free Area: Match Existing.

3. Width: Match Existing.
4. Thickness: Match Existing.
5. Features: Match Existing

B. Flexible Ridge Vent: Manufacturer's standard, compression-resisting, three-dimensional, open-nylon or polyester-mat filter bonded to a nonwoven, nonwicking, geotextile fabric cover.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. GAF Materials Corporation.
b. Obdyke, Benjamin Incorporated.
c. Tamko Building Products, Inc.

2. Minimum Net Free Area: Match Existing

3. Width: Match Existing
4. Thickness: Match Existing**.**

2.5 ACCESSORIES

A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.

B. Roofing Nails: ASTM F 1667; aluminum, stainless-steel, copper, or hot-dip galvanized-steel wire shingle nails, minimum 0.120-inch- (3-mm-) diameter, sharp-pointed, with a minimum 3/8-inch- (9.5-mm-) diameter flat head and of sufficient length to penetrate 3/4 inch (19 mm) into solid wood decking or extend at least 1/8 inch (3 mm) through OSB or plywood sheathing.

1. Shank: Barbed.
2. Where nails are in contact with metal flashing, use nails made from same metal as flashing.

C. Felt-Underlayment Nails: Aluminum, stainless-steel, or hot-dip galvanized-steel wire with low-profile capped heads or disc caps, 1-inch (25-mm) minimum diameter.

D. Synthetic-Underlayment Fasteners: As recommended in writing by synthetic-underlayment manufacturer for application indicated.

2.6 METAL FLASHING AND TRIM

A. General: Comply with requirements in Section 076200 "Sheet Metal Flashing and Trim."

1. Sheet Metal: Aluminum, mill finished.

B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of the item.

1. Apron Flashings: Fabricate with lower flange a minimum of 5 inches (125 mm) over and 4 inches (100 mm) beyond each side of downslope asphalt shingles and 6 inches (150 mm) up the vertical surface.
2. Step Flashings: Fabricate with a headlap of 2 inches (50 mm) and a minimum extension of 5 inches (125 mm) over the underlying asphalt shingle and up the vertical surface.
3. Cricket or Backer Flashings: Fabricate with concealed flange extending a minimum of 24 inches (600 mm) beneath upslope asphalt shingles and 6 inches (150 mm) beyond each side of each chimney and skylight and 6 inches (150 mm) above the roof plane.
4. Open-Valley Flashings: Fabricate in lengths not exceeding 10 feet (3 m) with 1-inch-(25-mm-) high, inverted-V profile at center of valley and equal flange widths of 10 inches (250 mm) minimum or match existing..
5. Drip Edges: Fabricate in lengths not exceeding 10 feet (3 m) with 2-inch (50-mm) roof-deck flange and 1-1/2-inch (38-mm) fascia flange with 3/8-inch (9.5-mm) drip at lower edge.

C. Vent Pipe Flashings: ASTM B 749, Type L51121, at least 1/16 inch (1.6 mm) thick. Provide lead sleeve sized to slip over and turn down into pipe, soldered to skirt at slope of roof, and extending at least 4 inches (100 mm) from pipe onto roof.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. Examine roof sheathing to verify that sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.

2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored; and that provisions have been made for flashings and penetrations through asphalt shingles.

B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

A. Install using methods using underlayment manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.

B. Single-Layer Felt Underlayment: Install on roof deck parallel with and starting at the eaves. Lap sides a minimum of 2 inches (50 mm) over underlying course. Lap ends a minimum of 4 inches (100 mm). Stagger end laps between succeeding courses at least 72 inches (1830 mm). Fasten with felt-underlayment nails.

1. Install felt underlayment on roof deck not covered by self-adhering sheet underlayment. Lap sides of felt over self-adhering sheet underlayment not less than 3 inches (75 mm) in direction that sheds water. Lap ends of felt not less than 6 inches (150 mm) over self-adhering sheet underlayment.
2. Install fasteners at no more than 36 inches (914 mm) o.c.

C. Double-Layer Felt Underlayment: For roofs with slopes of 2:12 and less than 4:12 Install on roof deck parallel with and starting at the eaves. Install a 19-inch- (485-mm-) wide starter course at eaves and completely cover with full-width second course. Install succeeding courses lapping previous courses 19 inches (485 mm) in shingle fashion. Lap ends a minimum of 6 inches (150 mm). Stagger end laps between succeeding courses at least 72 inches (1830 mm). Fasten with felt-underlayment nails.
1. Install felt underlayment on roof sheathing not covered by self-adhering sheet underlayment. Lap edges over self-adhering sheet underlayment not less than 6 inches (150 mm) in direction that sheds water.
2. Terminate felt underlayment extended up not less than 4 inches (100 mm) against sidewalls, curbs, chimneys, and other roof projections.
3. Install fasteners at no more than 36 inch (914 mm) o.c.

D. Self-Adhering Sheet Underlayment Leak Barrier: Install, wrinkle free, on roof deck. Comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Install lapped in direction that sheds water. Lap sides not less than 3-1/2 inches (89 mm). Lap ends not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Roll laps with roller. Cover underlayment within seven days.
1. Eaves: Extend from edges of eaves up the slope 36 inches (914 mm) or at least 24 inches (600 mm) beyond interior face of exterior wall.

2. Rakes: Extend from edges of rake 36 inches (914 mm) beyond interior face of exterior wall.
3. Valleys: Extend from lowest to highest point 18 inches (450 mm) on each side.
4. Hips: Extend 18 inches (450 mm) on each side along entire length.
5. Ridges: Extend 36 inches (914 mm) on each side without obstructing continuous ridge vent slot.
6. Sidewalls: Extend beyond sidewall 18 inches (450 mm), and return vertically against sidewall not less than 4 inches (100 mm).
7. Dormers, Chimneys, Skylights, and Other Roof-Penetrating Elements: Extend beyond penetrating element 18 inches (450 mm), and return vertically against penetrating element not less than 4 inches (100 mm).
8. Roof Slope Transitions: Extend 18 inches (450 mm) on each roof slope.

E. Concealed Valley Lining: For woven and closed-cut valleys. Comply with NRCA's "NRCA Guidelines for Asphalt Shingle Roof Systems." Install underlayment centered in valley and fastened to roof deck.

1. Lap roof-deck underlayment over valley underlayment at least 6 inches (150 mm).
2. Install a 36-inch- (914-mm-) wide strip of leak barrier, centered in valley. Lap ends of strips at least 12 inches (300 mm) in direction to shed water, and seal with asphalt roofing cement. Fasten to roof deck.

F. Metal-Flashed, Open-Valley Underlayment: Install two layers of minimum 36-inch- (914-mm-) wide underlayment centered in valley. Stagger end laps between layers at least 72 inches (1830 mm). Lap ends of each layer at least 12 inches (300 mm) in direction to shed water, and seal with asphalt roofing cement. Fasten each layer to roof deck.

1. Lap roof-deck underlayment over first layer of valley underlayment at least 6 inches (150 mm).

G. Granular-Surfaced, Open-Valley Lining: Shall not be used.

3.3 METAL FLASHING INSTALLATION

A. General: Install metal flashings and other sheet metal to comply with requirements:

1. Install metal flashings according to recommendations in ARMA's "Residential Asphalt Roofing Manual" and NRCA's "NRCA Guidelines for Asphalt Shingle Roof Systems."

B. Apron Flashings: Extend lower flange over and beyond each side of downslope asphalt shingles and up the vertical surface.

C. Step Flashings: Install with a headlap of 4 inches (100 mm) and extend over the underlying asphalt shingle and up the vertical surface. Fasten to roof deck only.

D. Cricket or Backer Flashings: Install against the roof-penetrating element extending concealed flange beneath upslope asphalt shingles and beyond each side.

E. Open-Valley Flashings: Install centered in valleys, lapping ends at least 8 inches (200 mm) in direction to shed water. Fasten upper end of each length to roof deck beneath overlap.

1. Secure hemmed flange edges into metal cleats spaced 12 inches (300 mm) apart and fastened to roof deck.
2. Adhere 9-inch- (225-mm-) wide strip of self-adhering sheet to metal flanges and to self-adhering sheet underlayment.

F. Rake Drip Edges: Install rake drip-edge flashings over underlayment and fasten to roof deck seal with plastic cement.

G. Eave Drip Edges: Install eave drip-edge flashings below underlayment and fasten to roof sheathing seal with plastic cement.

H. Pipe Flashings: Form flashing around pipe penetrations and asphalt shingles. Fasten and seal to asphalt shingles as recommended by manufacturer.

3.4 ASPHALT-SHINGLE INSTALLATION

A. General: Install asphalt shingles according to manufacturer's written instructions, recommendations in ARMA's "Residential Asphalt Roofing Manual," and recommendations in NRCA's "NRCA Guidelines for Asphalt Shingle Roof Systems."

B. Install starter strip along lowest roof edge, consisting of an asphalt-shingle strip at least 7 inches (175 mm) wide with self-sealing strip face up at roof edge.

1. Extend asphalt shingles 1/2 inch (13 mm) over fasciae at eaves and rakes.
2. Install starter strip along rake edge.

C. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.

D. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.

E. Fasten asphalt-shingle strips with a minimum of four to six roofing nails located according to manufacturer's written instructions.

1. Where roof slope exceeds 21:12, seal asphalt shingles with asphalt roofing cement spots after fastening with additional roofing nails.
2. Where roof slope is less than 4:12, seal asphalt shingles with asphalt roofing cement spots.
3. When ambient temperature during installation is below 50 deg F (10 deg C), seal asphalt shingles with asphalt roofing cement spots.

F. Closed-Cut Valleys: Extend asphalt-shingle strips from one side of valley 12 inches (300 mm) beyond center of valley. Use one-piece shingle strips without joints in valley. Fasten with extra nail in upper end of shingle. Install asphalt-shingle courses from other side of valley and cut back to a straight line 2 inches (50 mm) short of valley centerline. Trim upper concealed corners of cut-back shingle strips.

1. Do not nail asphalt shingles within 6 inches (150 mm) of valley center.
2. Set trimmed, concealed-corner asphalt shingles in a 3-inch- (75-mm-) wide bed of asphalt roofing cement.

G. Ridge Vents: Install continuous ridge vents over asphalt shingles according to manufacturer's written instructions. Fasten with roofing nails of sufficient length to penetrate sheathing.

H. Hip and Ridge Shingles: Maintain same exposure of cap shingles as roofing shingle exposure. Lap cap shingles at ridges to shed water away from direction of prevailing winds. Fasten with roofing nails of sufficient length to penetrate sheathing.

1. Fasten ridge cap asphalt shingles to cover ridge vent without obstructing airflow.

END OF SECTION

SECTION 07 71 23

GUTTERS DOWNSPOUTS AND ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Gutter Downspout and Accessories

B. Related Accessories:

1. Splash Block.

1.2 REFERENCES

A. American Architectural Manufacturers Association (AAMA).

B. ASTM International (ASTM) B209 –Aluminum and Aluminum Alloy Sheet

C. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).

1.3 ACTION SUBMITTALS

A. Submit under provisions of Section 01 33 00 ‘Submittal Requirements’

B. Manufacturer's data sheets on each product to be used, including:
1. Material descriptions, dimensions, and profiles.
2. Preparation instructions and recommendations.
3. Storage and handling requirements and recommendations.
4. Installation methods.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store products to prevent twisting, bending, and abrasion, and to provide ventilation. Slope stored materials to drain.

C. During storage prevent contact with materials capable of causing discoloration, staining, or other damage.

1.5 WARRANTY

A. Provide Manufacturer's standard warranty.

PART 2 PRODUCTS

2.1 DOWNSPOUTS

A. Downspouts: Aluminum sheet, ASTM B 209, Alloy 3105-H24. Minimum tensile

strength 26,000 psi, minimum yield strength 25,000 psi or equivalent; Thickness: 0.019 inches; Size 3 inches by 4 inches

B. Endcaps: Aluminum sheet, ASTM B 209, Alloy 3105-H24, thickness 0.027 inch.

C. Inside and Outside Mitres: Aluminum sheet, ASTM B 209, Alloy 3105-H24, thickness 0.027 inch.

D. Gutter Hangers and Anchors: Aluminum sheet, ASTM B 209, Alloy 3105-H24, thickness 0.063 inch. Provide types required to suit project requirements.

E. Downspout Anchors: Aluminum. Provide types required to suit project requirements.

F. Elbows: Aluminum sheet, ASTM B 209, Alloy 3105-H24. Minimum tensile strength 26,000 psi, minimum yield strength 25,000 psi or equivalent.
1. Thickness: 0.019 inch.
2. Size: To match downspouts.

G. Aluminum Finish: two-coat system applied in a continuous baked-on process in a single operation, comprising of an acid-based primer and baked-on high performance linear polyester topcoat on exposed surfaces.

1. Color: As selected by MCA

H. Accessories:
1. Miscellaneous components: Provide all necessary elbows, downspout offset sections, and pop rivets as required for a complete installation. All miscellaneous components shall match downspouts.

2.2 RELATED ACCESSORIES

A. Fasteners: Match existing materials.
1. Finish: Match existing finish.
2. Size: As recommended by manufacturer.

B. Flashings: Match existing or where installation is recommended by Manufacturer. Colors to match existing.

C. Sealants: Mildew-Resistant Joint Sealant as recommended by Manufacturer at gutter j joints. Color shall match existing.

D. Splash Blocks: Provide reinforced concrete splash blocks (minimum 4,000 psi concrete) at end of all downspouts discharging to the ground surface. Precast splash blocks shall be approximately 30 inches long by approximately 12 inches wide by approximately 3 inches high with a color of gray or white.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that substrates are in place and ready for installation of gutters and downspouts.

3.2 INSTALLATION

A. General: Install downspouts per manufacturer's written installation instructions. Install Work securely in place and provide for expansion and contraction of components using lapped and sealed joints.

B. Downspouts:
1. Install downspouts, provide elbows and offsets, and secure downspouts to wall construction using downspout supports spaced as per Manufacturer's instructions.
2. Cut neat holes in decking without comprising structural integrity for passage of downspouts.
3. Provide 45 degree elbow at bottom of downspout to direct water away from wall surface or foundation.
4. Install a splash block under each downspout.

END OF SECTION

SECTION 09 90 00

PAINTS AND COATINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Interior Paint and Coatings Systems Including Surface Preparation.

B. Exterior Paint and Coatings Systems Including Surface Preparation.

1.2 REFERENCES

A. American National Standards Institute (ANSI/ASSE).

B. ASTM International (ASTM).

C. Master Painters Institute (MPI)

D. Occupational Safety and Health Administration (OSHA).

E. Painting and Decorating Contractors of America (PDCA).

F. The Society for Protective Coatings (SSPC).

G. Underwriters Laboratories (UL).

1.3 SUBMITTALS

A. Product Data: For each paint system indicated, including.
   1. Product characteristics.
   2. Surface preparation instructions and recommendations.
   3. Primer requirements and finish specification.
   4. Storage and handling requirements and recommendations.
   5. Application methods.
   6. Cautions for storage, handling and installation.

B. Submit Material Safety Data Sheets (MSDS) prior to commencement of work for review and for filing at job site as required.

C. Selection Samples: Submit a complete set of color chips that represent the full range of manufacturer's products, colors and sheens available.

D. Coating Maintenance Manual: upon conclusion of the project, the Contractor or paint manufacture/supplier shall furnish a coating maintenance manual. Manual shall include an Area Summary with finish schedule, Area Detail designating where each product/color/finish was used, product data pages, Material Safety Data Sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

E. Field Coating of Vinyl Siding Methods and Procedures:
1. Manufacturer Guarantee: Submit letter from Manufacturer with acceptable product and application methods for coatings used on vinyl siding systems.
2. Quality Assurance Plan: Submit methods and procedure plan for protection of adjacent environmental items, equipment, vehicles, adjacent structures, etc.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information.
1. Product name, and type (description).
2. Application and use instructions.
3. Surface preparation.
4. VOC content.
5. Environmental handling.
6. Batch date.
7. Color number.

B. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

C. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.

1.5 EXTRA MATERIALS

A. Furnish Owner with any unused materials. Properly seal canisters and label with finish and finish location for proper Owner storage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Subject to compliance with requirements, available manufactures offering products that may incorporated into the Work include the following:
1. BEHR Process Corporation.
2. Benjamin Moore & Co.
3. The Sherwin-Williams Company.

B. Substitutions: or equal.

C. Requests for substitutions will be considered in accordance with Section 01 60 00.
1. When submitting request for substitution, provide complete product data and MSDS sheet for each substitute product.

2.2 PAINT MATERIALS - GENERAL

A. Paints and Coatings.
1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before

application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color. Or follow manufactures product instructions for optimal color conformance.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.

D. Application to Materials: Apply paints and coatings manufacturer's specifications for application to Wood, Drywall, Plaster, Metals, etc.

E. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.

F. Color: Refer to existing finishes or as selected by Owner.

2.3 INTERIOR PAINT SYSTEMS

A. Interior Painting:
1. Finish: Gloss, Semi-Gloss, Satin or Flat to match existing. If matching is not required, finish per Manufacturer or industry requirements for interior applications.
2. Coats: Apply quantity of coats to match existing. If matching is not required, finish per Manufacturer or industry requirements for interior applications.

B. Interior Primers/Sealers:
1. Interior primers/sealers to be latex or as per Manufacturer/Industry requirements for interior applications.

C. Interior Wood Sealers:
1. Wood primers to be latex or as per Manufacturer/Industry requirements for interior applications.

2.4 EXTERIOR PAINT SYSTEMS

A. Exterior Painting:
1. Finish: Gloss, Semi-Gloss, Satin or flat to match existing. If matching is not required, finish per Manufacturer or industry requirements for exterior applications.
2. Coats: Apply quantity of coats to match existing. If matching is not required, finish per Manufacturer or industry requirements for exterior applications.

B. Exterior Primers/Sealers:
1. Water based primers/sealers to be alkali resistant and/or bonding or as per Manufacturer or industry requirements for exterior applications.

C. Exterior Wood Sealers:
1. Wood primers to be alkyd and/or latex or as per Manufacturer or industry

requirements for exterior applications.

D. Vinyl Siding:
   1. Primers and finishes as per manufacturer or industry requirements for vinyl application.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared; notify MCA of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify MCA of unsatisfactory preparation before proceeding.

B. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.
   1. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify MCA immediately if lead based paints are encountered.

3.2 SURFACE PREPARATION

A. General: Surfaces shall be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
   1. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry a minimum of 48 hours before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
   2. Remove items including but not limited to thermostats, electrical outlets, switch covers and similar items prior to painting. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
   3. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50 degrees F (10 degrees C), unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface and material temperatures must be 50 degrees F (10 degrees F) or higher to use low temperature products.

B. Drywall - Interior: Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed prior to painting.

C. Plaster: Must be allowed to dry thoroughly for at least 30 days before painting, unless the products are designed to be used in high pH environments. Room must be ventilated while drying; in cold, damp weather, rooms must be heated. Damaged areas must be repaired with an appropriate patching material. Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1

gallon of water. Repeat until the surface is hard, rinse with clear water and allow to dry.

D. Vinyl Siding, Architectural Plastics, EIFS and Fiberglass: Clean vinyl siding thoroughly by scrubbing with a warm, soapy water solution. Rinse thoroughly. Do not paint vinyl siding with any color darker than the original color unless approved by Manufacturer.

E. Wood: Must be clean and dry. Prime and paint as soon as possible. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.

3.3 INSTALLATION

A. Apply all coatings and materials with the manufacturer’s specifications in mind. Mix and thin coatings according to manufacturer's recommendations.

B. Apply primer to all materials receiving a finish coat of paint.

C. Do not apply to wet or damp surfaces. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days. Test new concrete for moisture content. Wait until wood is fully dry after rain or morning fog or dew.

D. Apply coatings using methods recommended by manufacturer and uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.

E. Apply coatings at spreading rate required to achieve the manufacturers recommended dry film thickness. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.

F. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

G. Comply with the manufacturer's instructions, specified industry standards and recommendations for cleaning, traffic, furnishings installation and equipment installation.

END OF SECTION

SECTION 09 93 00

STAINING AND TRANSPARENT FINISHING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Exterior Coating With Transparent and Semi-Transparent Finishes.

B. Interior Coating With Transparent and Semi-Transparent Finishes.

1.2 REFERENCES

A. American National Standards Institute (ANSI/ASSE).

B. ASTM International (ASTM).

C. Occupational Safety and Health Administration (OSHA).

D. The Society for Protective Coatings (SSPC).

E. Underwriters Laboratories (UL).

1.3 SUBMITTALS

A. Product Data: For each paint system indicated, including.
   1. Product characteristics.
   2. Surface preparation instructions and recommendations.
   3. Primer requirements and finish specification.
   4. Storage and handling requirements and recommendations.
   5. Application methods.
   6. Cautions for storage, handling and installation.

B. Submit Material Safety Data Sheets (MSDS) prior to commencement of work for review and for filing at job site as required.

C. Selection Samples: Submit a complete set of color chips that represent the full range of manufacturer's products, colors and sheens available.

D. Coating Maintenance Manual: upon conclusion of the project, the Contractor or paint manufacture/supplier shall furnish a coating maintenance manual. Manual shall include an Area Summary with finish schedule, Area Detail designating where each product/color/finish was used, product data pages, Material Safety Data Sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information.
   1. Product name, and type (description).

2. Application and use instructions.
3. Surface preparation.
4. VOC content.
5. Environmental handling.
6. Batch date.
7. Color number.

B. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

C. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.

1.5 EXTRA MATERIALS

A. Furnish Owner with any unused materials. Properly seal canisters and label with finish and finish location for proper Owner storage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Subject to compliance with requirements, available manufactures offering products that may incorporated into the Work include the following:
1. Dura Seal.
2. Minwax Company.
3. Rust-Oleum Corporation.
4. The Sherwin-Williams Company.
5. Cabot.

B. Substitutions: or equal.

C. Requests for substitutions will be considered in accordance with Section 01 60 00.
1. When submitting request for substitution, provide complete product data and MSDS sheet for each substitute product.

2.2 STAIN MATERIALS - GENERAL

A. Stains and Coatings - General:
1. Unless otherwise indicated, provide factory-mixed materials. Mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials unless such procedure is specifically described in manufacturer's product instructions.
2. Supply each material in quantity required to complete entire project's work from a single production run.

B. Back Primer for Transparent-Finished Woodwork:
1. Same as finish coat.
2. 1 coat nitrocellulose lacquer sanding sealer (for use under lacquer).
3. 1 coat vinyl toluene copolymer(for use under polyurethane).

C. Wood Filler: Use products as appropriate to repair per Manufacturer's instructions.

D. Stain Touch-Up: Use products as appropriate to repair per Manufacturer's instructions.

E. Shellac, Lacquer, and Varnish Remover: Use products as appropriate to repair per Manufacturer's instructions.

F. Application Accessories: Provide all primers, sealers, cleaning agents, tools, cleaning cloths, sanding materials, and clean-up materials required and per Manufacturer recommendations.

2.3 INTERIOR FINISH SYSTEMS

A. Interior Wood:
1. Finish: Low Luster, Satin, Semi-Gloss, or High-Gloss to match existing. If matching is not required, finish per Manufacturer or industry requirements for interior applications.
2. Coats: Apply quantity of coats to match existing. If matching is not required, finish per Manufacturer or industry requirements for interior applications.
3. Color: Match existing and per Owner's approval.

2.4 EXTERIOR PAINT SYSTEMS

A. Exterior Wood:
1. Finish: Gloss, Semi-Gloss, Satin or flat to match existing. If matching is not required, finish per Manufacturer or industry requirements for exterior applications.
2. Coats: Apply quantity of coats to match existing. If matching is not required, finish per Manufacturer or industry requirements for exterior applications.
3. Color: Match existing and per Owner's approval.

2.5 EXAMINATION

A. Do not begin application of coatings until substrates have been properly prepared.

2.6 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

2.7 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Stir before and during application as recommended by manufacturer.

C. Do not apply to wet or damp surfaces.

D. Apply using methods recommended by manufacturer.

E. Apply without runs, drips, or sags, without brush marks, and with consistent sheen.

F. Apply at spreading rate required to achieve the manufacturer's recommended film thickness.

G. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.

H. Exterior Woodwork: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 2 weeks.

I. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

J. Comply with the manufacturer's instructions, specified industry standards and recommendations for cleaning, traffic, furnishings installation and equipment installation.

END OF SECTION