

**PROJECT SPECIFICATIONS
For
McCook Point Park
Beach Support Building**



Niantic, Connecticut

Paul Formica, First Selectman

March , 2012

By
Town of East Lyme Engineering
Department

108 Pennsylvania Ave.
Niantic, CT 06357
(860) 739-6931 Ext. 101

INDEX

Note: This index has been prepared for the convenience of those using this contract with the sole express purpose of locating quickly the information contained herein; and no claims shall arise due to omissions, additions, deletions, etc., as this index shall not be considered part of the contract.

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Sht. No. 1-6, A0-A10

PART 1 – BID MATERIAL

**McCOOK POINT PARK
BEACH SUPPORT BUILDING
EAST LYME, CONNECTICUT
INVITATION TO BID
(#2012-01)**

Sealed bids for the construction of the following project will be received by the Town of East Lyme, Connecticut at the East Lyme Town Hall Engineering Office, 108 Pennsylvania Avenue, until **2:00 p.m., Monday, March 26, 2012**, after which time they will be publicly opened and read aloud.

The work consists of the construction of a 1,092 SF Beach Support Building (with bathrooms) and associated site improvements. The construction will consist of demolition/disposal of a 1-story 384 SF concrete block building, concrete sidewalk; tree removal, earth excavation and minor grading; and constructing a new building, concrete sidewalk, concrete steps, curbing, site utilities and storm drainage. New building construction will be the same as the existing building at the Hole-in-the-Wall Beach on Baptist Lane in East Lyme with modifications as detailed in plans and specifications.

The Town of East Lyme hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation, and that they will not be discriminated against on the grounds of race, color, national origin or sex, in consideration for this award.

Plans, specifications and proposals for the above project may be reviewed under the Public Works menu at www.eltownhall.com or at the East Lyme Town Hall Engineering Office. They may be obtained for a non-refundable fee of thirty five dollars (\$35.00). On the web: Addendums will also be posted on this website. Inclusion of the addendums with the bid package may be required. To be on a bidders list call (860) 739-6931 x141 or email MWright@eltownhall.com. To ensure inclusion on the bidders list request a response email.

All bidders are required to inform themselves fully of the conditions relating to the construction and labor under which the work will be or is now being performed and the Contractor shall employ, as far as possible, such methods and means in the carrying out of this work as will not cause interruption or interference with any other contractor.

Bid security in the form of a Surety Company Bond, on form furnished by the Town of East Lyme for 5% of the amount of the bid, must accompany each proposal. The Town of East Lyme reserves the right to reject any and all bids.

BID INSTRUCTIONS AND GENERAL CONDITIONS

1. "Town" refers to the Town of East Lyme. "Town Engineer" refers to the Town Engineer or his representative. "Contractor" refers to successful bidder (company contracted by Town to perform work under this contract).
2. Bids must be made on the attached bid form and shall be enclosed in a sealed envelope which shall be labeled with the bidder's name and address in the upper left-hand corner and which shall be entitled "**McCook Point Park Beach Support Building**". Sets may be obtained at the Town of East Lyme Engineering Office.
3. Bids shall be received at the office of the East Lyme Town Engineer at the East Lyme Town Hall, Niantic, Connecticut, until **2:00 p.m. Monday, March 26, 2012** and then at said office publicly opened and read aloud. The award shall be made at a later date by the Town.
4. Each bidder's proposal shall include, completed in full: ***Bid Proposal Submission Checklist (1.6), Equipment List (1.7), Project References (1.8), Bid Bond (1.9 – 1.10), Non Collusion Affidavit (1.12), Bid Proposal Forms (1.14-1.15)***, and any other specifications pages requiring vendor response shall be enclosed in an envelope which shall be sealed and clearly labeled with the words "**Bid Proposal, McCook Point Park Beach Support Building, the Bidder's Name, and the Date and Time of the Bid Opening,**" in order to guard against premature opening of the bid.
5. Bids must be made out and signed in the name of the person or business entity which shall perform the work, and if a corporation, it must be fully and properly executed by a person authorized to act on behalf of the corporation.
6. Bids received later than the time and date specified shall not be considered.
7. Bids may be withdrawn prior to the time set for opening bids, but bids may not be re-filed after they have been withdrawn.
8. Unbalanced bids shall not be considered in awarding contract.
9. The low bidder, for purposes of award shall be the reasonable and responsible bidder offering the low aggregate amount for the "Total Base Bid Price" within funds available for the project.
10. The Town of East Lyme reserves the right to reject any or all bids, and to waive informalities or technical defects.
11. Goods and services provided to the Town of East Lyme are exempt from Federal Excise Taxes and the Sale and Use Tax of the State of Connecticut.
12. Bids must be accompanied by a surety bond in the amount of five percent (5%) of the total bid price payable to the Town of East Lyme. The bond shall be in the form of a certified check or Bid Bond. Said bond shall be returned to the unsuccessful bidders upon award of the contract or, if no award has been made, within ninety (90) days after the opening of bids.

If the successful bidder fails to execute the contract and furnish the required bonds including insurance coverage within ten (10) calendar days after he has received notice of the acceptance of the bid, the bond shall be forfeited to the Town. Upon receipt of a payment bond, and a performance bond from the successful bidder, said bond shall be returned.

13. The bidder agrees that this bid shall remain open for acceptance for ninety (90) days after the opening and no bidder may withdraw his bid within said time period.
14. The successful bidder must furnish a performance bond and a payment bond in the amount of the construction costs. The bonds shall be executed by the bidder as principal with a surety satisfactory to the Town.
15. The successful bidder shall secure and maintain such insurance as shall protect him from claims under Workers' Compensation Acts. He shall secure and maintain general liability injury, death or property damage, which may arise from the performance of his service under this contract. See Insurance Requirements (1.13) for minimum insurance requirements. He shall designate the Town as additional named insureds in his general liability policy, and shall furnish the Town with a certificate or other proof of insurance which he, as part of this contract, must carry. The successful bidder shall secure Builder's Risk Insurance and provide a copy of the Builder's Risk Certificate to the Town. The "Hold Harmless" endorsement of the insurance shall include the interest of the Town of East Lyme. The Contractor and Subcontractors and other interests shall be so named. This policy shall insure against all risks of physical damage except as modified by the Contract Documents and subject to the normal all risk exclusions. The provisions of this paragraph shall apply to and be incorporated into any subcontracts regarding this project between the successful bidder and his subcontractors.
16. The Town shall not award this contract unless the Contractor furnishes satisfactory evidence of his/her ability and experience to perform this work and to complete it within the time specified in the contract. As part of this proposal, the Contractor and Subcontractors shall complete the attached Statement of Bidders Qualifications, which shall describe similar and successfully completed jobs. Relevance to the proposed job shall be determined by the Town. The name, address and telephone number of a contact person involved with each of these projects must be included so that they can be contacted prior to executing a contract.
17. The successful bidder shall indemnify and hold harmless the Town against any liability arising out of negligent acts, errors, or omissions of the bidder, his employees or agents.
18. The successful bidder must be prepared to execute the contract within ten (10) calendar days after receipt of notice of the award of the contract.
19. Immediately after execution and delivery of the contract, and prior to commencing work, the Contractor shall provide the East Lyme Engineering Department a construction project schedule showing proposed dates of commencement and completion of each of the various components of work required under this Contract.

20. The successful bidder must be prepared to commence work on **April 2, 2012**. The approximate project schedule is as follows:

March 26, 2012	Bid Opening
March 27, 2012	Notice of Award from Town
March 30, 2012	Contract signing / Notice to Proceed
April 2, 2012	Begin construction
June 15, 2012	Contract completion date

21. If the contractor is delayed in the completion of the work by changes ordered in the work, or by weather conditions, strikes, lockouts, fire, unusual delay by common carriers or other causes beyond the contractor's control, he shall make a written request for an extension of time within which the contract may be completed. Such request shall be submitted to the Town not less than three (3) days before the date on which the work described in the contract is to be completed. Any such extension shall be in writing, and signed by the Town's representative.
22. The Town shall retain an amount equal to five percent of the final contract price for one year from time of contract completion. This retainage shall serve as a one-year guarantee on all work associated with this contract and shall be used to correct any construction deficiencies which may arise for one year following completion of this contract.
23. Prior to final payment, the contractor shall provide the Town with lien waivers verifying payment to all subcontractors for amounts due, whether for labor performed or materials furnished, when either is associated with this contract.
24. The General Contractor shall include in each of its subcontracts a provision requiring each subcontractor to pay any amounts due any of its subcontractors, whether for labor performed or materials furnished, within 30 days after such labor performed or for materials furnished.
25. The Town Engineering Department shall perform all construction inspection. The contractor is to notify the Town Engineer of any discrepancies as they arise, and proceed as directed.
26. The Town Engineering Department must be given 24 hours notice to complete inspection. Notice applies to consecutive Town recognized workdays. Inspectors are not available on weekends and Town approved holidays. Activities requiring Town inspections (i.e. paving, concrete pours, backfilling, etc.) must be accomplished when inspectors are available. **It is the contractor's responsibility to verify holidays and no-inspection coverage ahead of time.**

27. The contractor agrees that the Town may make changes to the plans for the work that may be deemed necessary during the progress of work. The Town may also change the amount of work to be performed under this contract without invalidating this contract. If any such changes are made, they shall be made by written change order signed by the Town's representative. If such changes affect work for which a lump sum price is fixed, the written change order shall specify the amount by which the lump sum shall be increased or decreased. If such changes affect work for which a unit price is set, payment for such work shall be based on measured final quantities and not estimated quantities. Final measured quantities shall be based on pay limits as established by the plans and specifications for this contract. There shall be no adjustment of the *unit prices* if final measured quantities vary from the estimated quantities.
28. The Town of East Lyme shall provide horizontal layout and vertical benchmarks on the project.
29. Unless otherwise indicated in this Bid Document, "Description," "Materials," "Construction Methods," "Method of Measurement," and "Basis of Payment" for all items shall conform to Form 816 latest revision "State of Connecticut Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction."
30. The Contractor is responsible for locating all underground utilities by notifying "Call Before You Dig" in compliance with Public Act 77-350 and 81-146.
31. Maintenance and protection of traffic is the Contractor's responsibility. The contractor must meet with the Town Engineer or his representative prior to the start of any construction activity associated with this project in order to discuss procedures concerning maintenance and protection of traffic (including pedestrian traffic) and project construction sequencing.
32. The Contractor shall satisfy all the requirements and conditions as listed in the Specifications section of this Invitation to bid.
33. The Contractor shall assume all liability for claims resulting from damage or injury associated with this project including the maintenance and protection of traffic.
34. Should a dangerous or potentially unsafe condition arise affecting pedestrian or vehicular traffic, the Contractor shall immediately stop the project, make every reasonable effort to correct the situation, and notify the Town Engineer or the police if warranted.
35. The Contractor is responsible for obtaining a building permit from the Town of East Lyme's Building Department. The Town shall waive the Town's building permit fee. The Contractor is responsible for the State Education Fee of \$0.26/\$1000 of construction cost.
36. The Contractor is responsible for obtaining a demolition permit from the Town of East Lyme's Building Department. The Town shall waive the Town's demolition permit fee.

END OF INSTRUCTIONS AND GENERAL CONDITIONS

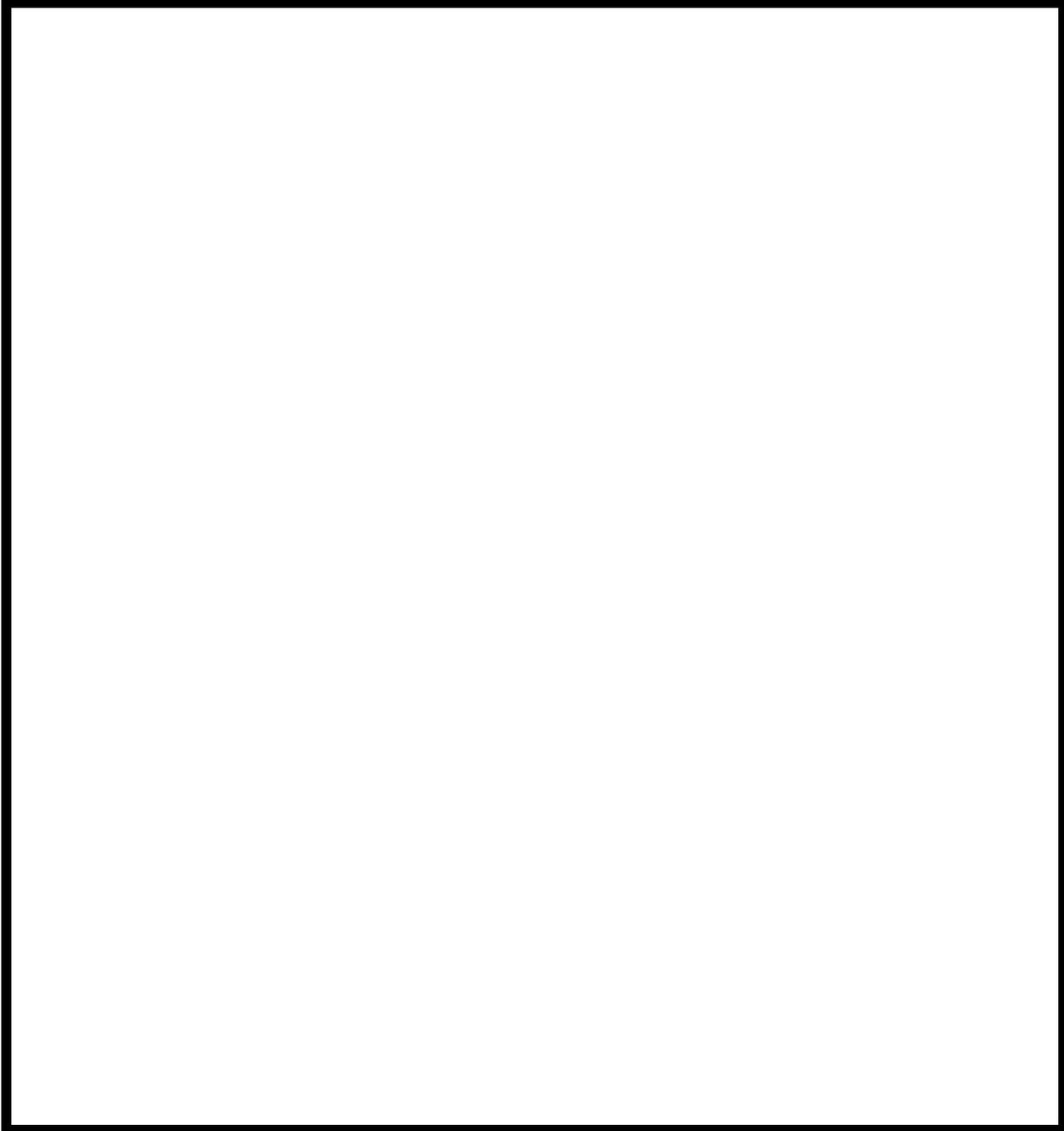
BID PROPOSAL SUBMISSION CHECKLIST

The following is a checklist of required documents to be completed, included and submitted to the East Lyme Engineering Department as part of the Bidder's proposal:

- EQUIPMENT LIST
- PROJECT REFERENCES
- BID BOND
- NON COLLUSION AFFIDAVIT
- BID PROPOSAL FORMS

EQUIPMENT LIST

List below all equipment that shall be used to complete the project described in this price proposal form. This list must be complete; describe all equipment as to type and size. The following forms must be submitted with the Price Proposal Form.

A large, empty rectangular box with a thick black border, intended for the bidder to list all equipment required for the project. The box is currently blank.

PROJECT REFERENCES

(Please attach additional sheets if necessary.)

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,
_____ as Principal, and _____ as
Surety, are hereby held and firmly bound unto _____ as OWNER in the
penal sum of _____ for the payment of which, well and truly to be made,
we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20____ The Condition of the above
obligation is such that whereas the Principal has submitted to _____ a certain BID,
attached hereto and made part hereof to enter into a contract in writing, for the
_____.

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID,

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

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

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

Principal (L.S.)

Surety

By: _____

IMPORTANT - Surety companies executing BONDS must appear on the United States Treasury Department's most current list and be authorized to transact business in the state where the project is located.

SWORN STATEMENT BY SUCCESSFUL BIDDER

Title 23. United States Code, Section 112 (f)

Each bidder shall file a statement executed by, or on behalf of the person, firm, association, or corporation submitting the bid certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid. Failure to submit the executed statement as part of the bidding documents will make the bid non-responsive and not eligible for award consideration.

NON COLLUSION AFFIDAVIT

This entire document must be completed, notarized and attached to your bid proposal. Failure to do so will result in the rejection of your Bid.

A separate affidavit must be submitted by each principal of a Joint Venture.

TOWN OF EAST LYME
McCook Point Park Beach Support Building

I, _____, acting in behalf of
(Name of Person Signing Affidavit)

_____ of which I am (the) (a)
(Name of Bidder i.e. Person or Organization)

_____, submitting a bid for the above project, certify and affirm in accordance
(Title)

with Part 635.112 of Title 23, U.S. Code of Federal Regulations, that the

_____ has neither directly or indirectly
(Name of Bidder i.e. Person or Organization)

entered into any agreements, participated in any collusion nor otherwise taken any action in restraint of free competitive bidding in connection with such bid. False statement made herein may be the subject of criminal prosecution.

(Name of Bidder i.e. Person or Organization)

Signature and Title of Official

Subscribed and sworn to before me, this _____ day of _____, _____.

Notary Public/Commissioner of the Superior Court

My Commission Expires _____.

Certificate of Authority

I, _____, certify that I am (the) (a) _____ of the
(Name) (Title)

organization named in the foregoing instrument; that I have the authority to affix the seal of the Organization to such papers that require the seal; that _____, who signed said

(Name)
instrument on behalf of the Organization was then (the) (a) _____
(Title)

of said Organization; that said instrument was duly signed for and in behalf of said Organization by authority of its governing body and is within the scope of its organizational powers.

_____ (Corporate Seal, if applicable)
Signature of Certifying Person

The person signing the Certificate of Authority portion of this form cannot execute the upper portion of this Affidavit.

INSURANCE REQUIREMENTS

The successful bidder shall secure and maintain general liability injury, death or property damage, which may arise from performance of his service under this contract in the amount of at least:

1. Commercial General Liability:

- General Aggregate: \$2,000,000
- Products/Completed Operations Aggregate: \$1,000,000
- Each Occurrence: \$1,000,000

2. Automobile Liability:

- Each Accident: \$1,000,000

3. Excess (umbrella Liability) Liability: \$5,000,000

4. Workers' Compensation and Employer's Liability:

- Statutory Workers Compensation
- \$100,000 each accident/\$500,000 disease-policy limit/\$100,000 disease-each employee

The successful bidder shall designate the Town of East Lyme and the State of Connecticut as additional named insured in his liability policy. The successful bidder shall furnish the Town with a certificate or other proof of the required insurance and coverage limits. The provisions of these requirements shall apply to and be incorporated into any subcontracts regarding this project between the successful bidder and his subcontractors.

The successful bidder shall secure Builder's Risk Insurance and provide a copy of the Builder's Risk Certificate to the Town.

**Bid Proposal Form
McCook Point Park Beach Support Building
East Lyme, CT**

Date of Bid Opening: Thursday, March 26, 2012 at 2:00 PM
NO BIDS WILL BE ACCEPTED AFTER 2:00 PM. "NO EXCEPTIONS"

The Bidder shall fill in, under the column "UNIT PRICES BID", the Unit Prices, written in words and in numbers, for which he proposes to perform the various items of work called for, and under the column headed "AMOUNT (Numbers)", the amount each of the items at the Unit Price Bid. After the proposal is opened and read, the quantities will be extended and totaled in accordance with the prices bid and the bid will be verified or corrected. In case of discrepancy, those shown in words will govern.

ID NO.	ITEM NO.	ITEM DESCRIPTION	Unit	Approx. Quantity	UNIT PRICES BID		AMOUNT Numbers
					Numbers	Written in Words	
1	0202529	Cut Bituminous Concrete Pavement	LF	155			
2	0212001	Subbase (Bank run gravel) (all material used up to finished grade)	LS	1			
3	0406011	Bit. Conc. Class 2 over Class 1 (incl. Base)	SY	50			
4	0440002	Beach Support Building (Wood frame walls) (incl. excavation and work needed for fdn.) (incl. water and sewer service)	LS	1			
5	0506034	Precast Concrete Steps (Town will furnish handrails)	Ea	2			
6	0507903	Concrete Drywell with CB Type "CL" Top	Ea	1			
7	0751120	6" HDPE Single-wall Perforated Underdrain Pipe	LF	93			
8	0815001	Bituminous Concrete Curb	LF	115			
9	0912700	Wood Mortise Guiderail	LF	90			
10	0921001	5" Concrete Sidewalk	SF	2,161			
11	0921005	Concrete Handicap Ramp (incl. install of ADA Detectable Warning Pavers)	Ea	1			
12	0950005	Turf Establishment	SY	225			
13	0999001	Building Demolition (1-story conc. block, slab fdn.) (incl. Disposal; curb, walks & tree removal)	LS	1			
14	1008129	(4) 3" PVC Conduit Duct Bank (Elec, Tele, CATV, Spare)	LF	130			
Total Base Bid							
Total Base Bid Price in Words (Dollars and Cents)							
Total Base Bid Price Written in Numbers							

**Bid Proposal Form
McCook Point Park Beach Support Building
Town of East Lyme**

This bid includes the following addenda:

ADDENDUM	NUMBER	DATE
----------	--------	------

WITNESS	SIGNATURE
---------	-----------

DATE	DATE
------	------

TITLE	TITLE
-------	-------

COMPANY	COMPANY
---------	---------

STREET ADDRESS	STREET ADDRESS
----------------	----------------

CITY, STATE, ZIP CODE	CITY, STATE, ZIP CODE
-----------------------	-----------------------

TELEPHONE NUMBER	TELEPHONE NUMBER
------------------	------------------

For Town Use Only

Signed, Town Representative

PART 2 – CONTRACT DOCUMENTS

PERFORMANCE PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____

_____ a _____,
(Contractor) (Corporation, Partnership or Individual)

hereinafter called "PRINCIPAL" and _____
(Surety)

of _____, State of _____

hereinafter called the "SURETY", are held and firmly bound unto **THE TOWN OF EAST LYME,**

HEREINAFTER CALLED "owner" in the penal sum of _____ Dollars
(\$_____)

in lawful money of the United States, for payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators and successors jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas the Principal entered into a certain contract with the Owner, dated the day of _____, _____, copy of which is hereto attached and made a part hereof for the construction of the

McCook Point Park Beach Support Building

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such contract and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, and shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal, and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

Provided further, that the said Surety, for value received, hereby stipulates and agrees that no charge, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extensions of time alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the _____ day of _____.

ATTEST:

(Principal) Secretary
(SEAL)
By: _____

Witness as to Principal _____
(Address - Zip Code) _____

ATTEST:

(Surety) Secretary
(SEAL)
By: _____
Attorney-in-fact

Witness as to Surety _____
(Address - Zip Code) _____

NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a partnership, all partners should execute the bond.

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS

That _____,
as Principal (hereinafter called Principal) and
_____ as surety (hereinafter called Surety)
are held and firmly bound unto THE TOWN OF EAST LYME, as Obligee (hereinafter called
Owner) for the use and benefit of claimants as hereinbelow defined; in the amount of
_____ Dollars (\$ _____),
for the payment whereof Principal and Surety bind themselves, their heirs, executors,
administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has written agreement dated _____,
Entered into a contract with Owner for the construction of **McCook Point Park Beach Support
Building** which Contract is by reference made a part hereof, and is hereinafter referred to as the
Contract.

NOW, THEREFORE, the condition of this obligation is such that, if the said Principal shall promptly pay for all materials furnished and labor supplied or performed in the prosecution of the work included in and under the aforesaid Contract, whether or not the material or labor enters into and becomes a component part of the real asset, then this obligation shall be null and void otherwise it shall remain and be in full force and effect.

PROVIDED, that any alterations which may be made in the terms of the Contract or in the work to be done under it, or the giving by the Obligee of any extension of time for the performance of the Contract, or any other forbearance on the part of either the Obligee or the Principal to the other shall not in any way release the Principal and the Surety or either or any of them, their heirs, executors, administrators, successors or assigns from their liability hereunder, notice to the surety of any such alterations, extension or forbearance being hereby waived.

Any party, whether a subcontractor or otherwise, who furnished materials or supplies or performs labor or services in the prosecution of the work under said Contract, and who is not paid therefore, may bring a suit on this bond in the name of the person suing, prosecute the same to a final judgement, and have execution thereon for such sum as may be justly due.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this _____ day of _____, _____. The name and corporate seal of each corporation party being hereto affixed and these presents signed by its undersigned representative, pursuant to authority of its governing body.

PART 3 – GENERAL SPECIFICATIONS

NOTICE TO CONTRACTOR PERMITS

The Contractor is responsible for obtaining all Federal, State, and Local permits required for the project. These permits shall include a Town building permit for the construction of the new bathroom facility and a Town demolition permit for the removal of the existing bathroom facility.

There will be no direct payment to the Contractor for this work. The cost for obtaining the necessary permits shall be included in the overall cost of the project.

The Town is responsible for and has submitted a completed **Demolition Notification Form** for the CT Dept. of Public Health.

**NOTICE TO CONTRACTOR
COORDINATION WITH UTILITIES**

The Contractor shall coordinate with all affected utility companies to provide electrical, phone, water and sewer service connections to the proposed bathroom facility and to discontinue service to the existing bathroom facility that will be demolished under this project.

**NOTICE TO CONTRACTOR
INTERPRETATION OF FORM 816**

The State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction Form 816 is used as a reference for this project. Whenever the specifications in Form 816, read "Commissioner" it shall be construed to mean "East Lyme First Selectmen". Wherever the specifications read "State" it shall be construed to mean "Town of East Lyme".

SECTION 1.01 – DEFINITION OF TERMS AND PERMISSIBLE ABBREVIATIONS

Under the following Article replace the definitions with the following:

Article 1.01.01 – Definitions:

COMMISSIONER: Shall mean the Town of East First Selectman or his/her agents.

DEPARTMENT: Shall mean the Town of East Lyme.

ENGINEER: Shall mean the Town of East Lyme Town Engineer or his agents.

STATE: Shall mean the Town of East Lyme.

TRANSPORTATION MANAGER OF CONTRACTS: Shall mean the Town of East Lyme Public Works Director or his agents.

DEPARTMENT'S ASSISTANT DISTRICT ENGINEER: Shall mean the Town of East Lyme Public Works Director or his agents.

OWNER: Shall mean the Town of East Lyme.

PART 4 – SITE SPECIFICATIONS

ITEM NO. 0202529 – CUT BITUMINOUS CONCRETE PAVEMENT

Refer to Section 2.02 and corresponding materials sections of the 816

2.02.04 – Method of measurement

Add the following:

Additional sawcut required to correct any damage to cut edges or to correct improperly cut edges shall not be included in the measurement for payment.

ITEM NO. 0212001 – SUBBASE (BANK RUN GRAVEL)

Refer to Section 2.12, corresponding materials sections of the 816 and per details shown on plans.

ITEM NO. 0406011 – BITUMINOUS CONCRETE CLASS 2 OVER CLASS 1

Refer to Section 4.06 and corresponding materials sections of the 816

4.0601 Description:

Change the following:

This item shall consist of furnishing, installing, Class I Bituminous concrete and processed aggregate base in the locations and depths shown on the plans.

4.06.05 – Basis of Payment

Change the following:

Removal of any existing curbing, asphalt, concrete, or any other items or materials required to complete construction shall be included in the cost of installation.

Pay Item

Bituminous Concrete Class 2 over Class 1

Pay Unit

SY

ITEM NO. 0440002 – BEACH SUPPORT BUILDING

Refer to Building Specifications in the Appendix.

ITEM NO. 0506034 – PRECAST CONCRETE STEPS (TOWN WILL PROVIDE HANDRAILS)

Refer to Section 5.06 and corresponding materials sections of the 816

5.06.05 – Basis of Payment

Change the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Precast Concrete Steps	Ea

ITEM NO. 0507903 – CONCRETE DRYWELL WITH CB TYPE “CL” TOP

Refer to Section 5.07 and corresponding materials sections of the 816

5.07.01 – Description

Change the following:

Under this heading shall be included the construction of all **drywells**, catch basins, junction boxes, manholes and drop inlets (and also the alteration, reconstruction or conversion of such existing structures) all in conformity with the lines, grades, dimensions and details shown on the plans, or as ordered, and in accordance with the provisions of these specifications for the various materials and work which constitute the completed structure.

5.07.04 – Method of Measurement

Change the following:

Construction, reconstruction and conversion of **drywells**, catch basins, manholes and drop inlets will be measured as units.

5.07.05 – Basis of Payment

Change the following:

2. Drywells, Catch Basins, Junction Boxes and Manholes having a depth of not over 10 feet (3 meters) will be paid for at the contract unit price each for “Drywell”, “Junction Box,” “Catch Basin,” of the type specified, or “Manhole,” of the type specified, complete in place, which price shall include all materials, equipment, tools and labor incidental thereto.

ITEM NO. 0751120 – 6” HDPE SINGLE-WALL PERFORATED UNDERDRAIN PIPE

Refer to Section 7.51 and corresponding materials sections of the 816 and as shown on the plans.

7.51.02 – Materials

Add the following:

Perforated Pipe shall be 6" Single-wall, Corrugated Polyethylene Pipe, smooth interior surface with perforations (Type SP) and conform to AASHTO M 252 or M 294 as per ConnDOT 816 Section M.08.01 (25).

ITEM NO. 0815001 – BITUMINOUS CONCRETE CURB

Refer to Section 8.15 and corresponding materials sections of the 816

ITEM NO. 0912700 – WOOD MORTISE GUIDERAIL

Refer to Section 9.12 and corresponding materials sections of the 816

ITEM NO. 0921001 – 5" CONCRETE SIDEWALK

Refer to Section 9.21 and corresponding materials sections of the 816

9.21.04 – Method of Measurement

Change the following:

3. Excavation above the finished grade of the sidewalk shall be included in the unit cost of this item.

Add the following:

4. All existing curbing, pavement, concrete, handicap ramps or other materials and items to be removed for the installation of new sidewalk shall be included in the cost of concrete sidewalk.

ITEM NO. 0921005 – CONCRETE HANDICAP RAMP

Refer to Section 9.21 and corresponding materials sections of the 816

Add the following:

ADA DETECTABLE (TACTILE) WARNING PAVERS (INSTALL ONLY)

Description: This item shall consist of installing Pavestone ADA (Americans with Disabilities Act) style brick pavers on concrete and processed aggregate

base at the sidewalk ramps in the locations and patterns shown on the plans or as ordered by the Engineer.

Materials: The brick pavers shall be 2 3/8", Pavestone type "ADA" and "Oaks Blend" color as supplied by the manufacturer. Bedding sand gradation shall be in accordance with ASTM C-33, joint sand gradation shall be in accordance with ASTM C-144. Contractor shall furnish and install processed aggregate and concrete base as shown on the plans.

Construction Methods: The installation of the brick pavers shall be in accordance with the details contained in the plans.

Method of Measurement: This work shall be measured for payment by the number of square feet of brick pavers installed complete and accepted in place.

Basis of Payment: This work will be paid for at the contract unit price per each (EA) Concrete Handicap Ramp for brick pavers complete in place, which price shall include all materials, equipment, tools, and labor incidental thereto. Removal of any existing curbing, asphalt, concrete, or any other items or materials required to complete construction shall be included in the cost of installation.

9.21.05 – Basis of Payment

Change the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Concrete Handicap Ramp	Ea

ITEM NO. 0950005 - TURF ESTABLISHMENT

Refer to Section 9.50 and corresponding materials sections of the 816

ITEM NO. 0999001 – BUILDING DEMOLITION

Refer to Section 9.99 and corresponding sections of the 816

9.99.01 – Description

Add the following:

The existence of Hazardous materials has been investigated. No asbestos-containing or other hazardous materials were found in collected samples. See Pre-Demolition Survey.

A licensed demolition contractor shall obtain a Town demolition permit (See Permits, Sht. 3.1) prior to demolition. A demolition plan is not required.

The contractor is responsible for the electric and telephone disconnect.

9.99.04 – Method of Measurement

Change the following:

1. All costs involved in removal of trees, bituminous curb, bituminous pavement and concrete sidewalk shall be included in the lump sum cost of “building demolition”.

ITEM NO. 1008129 – (4) 3” PVC CONDUIT DUCT BANK (ELEC, TELE, CABLE, SPARE)

Refer to Section 10.08 and corresponding materials sections of the 816

10.08.01 – Description

Add the following:

Note: This item shall include four (4) conduits within a duct bank. The number of linear feet of this item may be reduced or increased during the course of construction. The unit price will remain the same for the changed quantity of conduit in trench.

10.08.02 – Materials

Add the following:

One (1) ¼” polypropylene pull cord shall be provided and installed in all conduits in trench.

PART 5 – BUILDING SPECIFICATIONS

BUILDING SPECIFICATIONS

(16 Division CSI Format)

FOR

McCOOK POINT PARK BEACH SUPPORT BUILDING

EAST LYME, CONNECTICUT

MARCH 2012

Prepared For: **Town of East Lyme**
Engineering Department
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DIVISION 1, GENERAL CONDITIONS
Section 01010 - Summary of Work

Part 1 - General

1.01 Related Documents

- A. Contract Documents: The Contract Documents consist of this Project Manual and Drawing Documents prepared by *Mark A. Comeau, AIA*, and titled *McCook Point Park Beach Support Building, East Lyme, CT*, and dated March, 2012. Requirements of the Work are contained in the Contract Documents and include cross reference thereto to published information not necessarily bound therewith i.e. General Conditions of the Contract for Construction AIA Document A201 and Supplementary Conditions.
- B. Permits and Fees: It shall be the responsibility of the Construction Manager (hereinafter referred to as the "Contractor"), to confirm procurement of all permits required by all agencies having jurisdiction over this project, including but not limited to:
 - 1. *Town Building Permit*; 2. *Town Demolition Permit*.

1.02 Description of Work

- A. Without force and effect on requirements of the Contract Documents, the description of the Work can be summarized as follows:
 - 1. The Work includes but is not limited to the new construction of *McCook Point Park Beach Support Building (with Bathrooms)*, consisting of a cast-in-place concrete foundation, wood framing, vinyl-clad frame windows, fiberglass doors, architectural grade shingle roof, interior partition and gyp-board walls, and finishes as specified herein, and required and necessary site improvements as specified in the related Contract Documents.

Part 2 - Products

2.01 Materials

- A. Throughout the Contract Documents, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics.
- B. Where materials or workmanship are required by these Contract Documents, it is the Contractor's responsibility to provide materials and workmanship which meet or exceed the specified code or standard.
- C. It is the Contractor's responsibility, when so required by the Contract Documents or by request from the Architect, to deliver to the Architect all required proof that the materials or workmanship, or both, meet or exceed the requirements of the specified code or standard.

Part 3 - Execution

3.01 Applicable Standards

- A. In procuring all items used in this Work, it is the Contractor's responsibility to verify the detailed requirements of the specified codes and standards and to verify that the items procured for use in this Work meet or exceed the specified requirements.
- B. Applicable standards listed in these specifications include but are not necessarily limited to the following:
 - (1) ACI American Concrete Institute;
 - (2) AISC American Institute of Steel Construction, Inc.;
 - (3) ANSI American National Standards Institute;
 - (4) ASTM American Society for Testing and Materials;
 - (5) AWS American Welding Society;
 - (6) NEC National Electrical Code;
 - (7) NFPA National Fire Protection Association;
 - (8) UL Underwriters' Laboratory, Inc.

End of Section 01010

Section 01040 - Coordination

Part 1 - General

1.01 Related Documents

- A. The Contract Documents including but not necessarily limited to the Drawings and Specifications, apply to the Work specified in this section. Requirements of the Work are contained in the Contract Documents and include cross reference thereto to published information not necessarily bound therewith.

1.02 Description of Work

- A. The Contractor shall coordinate the requirements and recommendations of various references including building codes and ordinances, the Contract Documents and manufacturers' specifications.
- B. The Contractor shall coordinate the acceptance of deliveries on site and the proper storage and handling of deliveries.
- C. Products shall be delivered to the job site in their manufacturer's original container with labels intact and legible.
 - 1. Maintain packaged materials with seals unbroken until time of use;
 - 2. Promptly remove and replace damaged material.

1.03 Quality Assurance

- A. The Architect may reject as non-compliant such materials that do not bear satisfactory identification of manufacturer, grade, quality and other pertinent information.
- B. The Contractor shall verify and coordinate the existing conditions and field dimensions affecting the Work.

Part 2 - Products

(Not Applicable)

Part 3 - Execution

3.01 Scheduling

- A. The Contractor shall submit to the Architect, a bar-type progress schedule prior to the commencement of the Work. Such schedule shall indicate a time bar for each category or unit of work to be performed; properly sequenced and integrated and considering such elements as product lead-time and availability, season and weather, and the Owner's established date for "Substantial Completion".

End of Section 01040

Section 01200 - Project Meetings

Part 1 - General

1.01 Related Documents

- A. The Contract Documents including but not necessarily limited to the Drawings and Specifications, apply to the Work specified in this section. Requirements of the Work are contained in the Contract Documents and include cross reference thereto to published information not necessarily bound therewith.

1.02 Description of Work

- A. Work Included: The Architect will conduct project meetings throughout the construction period to enable orderly review during progress of the Work and to provide for systematic discussion of issues.
- B. Notice: Advise the Architect at least 48 hours in advance of project meetings, of items to be added to the agenda. The Architect will compile and distribute three copies each of the meeting minutes to the Owner and the Contractor.

1.03 Quality Assurance

- A. Those persons designated by the Contractor to attend and participate in project meetings shall provide required authorization to commit the Contractor to solutions agreed upon in the project meetings.

Part 2 - Products

(Not Applicable)

Part 3 - Execution

3.01 Meeting Procedures

- A. Meeting Schedule: Project meetings will be held weekly per a mutually acceptable meeting schedule.
- B. Meeting Location: The Architect will establish meeting location, which will be held at the job site when practical.
- C. Construction meeting agenda shall be distributed 48 hours prior to any meeting. The initial construction meeting shall cover:
 - 1. Procedures for processing of bulletins, field decisions and change orders;
 - 2. Procedures for safety, security, quality control, and building & site housekeeping;
 - 3. Procedural communication between the Contractor's personnel and those of subcontractors, materials suppliers and the Architect;
 - 4. Contract Documents including distribution of required copies to various entities;
 - 5. Processing of Shop Drawings and other data submitted to the Architect for review;
- D. The Architect, Contractor, material suppliers and subcontractors shall be represented at pertinent project meetings to review, revise as necessary and approve minutes of previous meetings; review progress of the Work subsequent to the previous meeting including status of submittals for approval; and to identify problems which impede the Schedule.

End of Section 01200

Section 01300 - Submittals

Part 1 - General

1.01 Related Documents

- A. The Contract Documents including but not necessarily limited to the Drawings and Specifications, apply to the Work specified in this section. Requirements of the Work are contained in the Contract Documents and include cross reference thereto to published information not necessarily bound therewith.

1.02 Description of Work

- A. Make submittals required by the Contract Documents and revise and resubmit as necessary to establish compliance with the specified requirements.

1.03 Quality Assurance

- A. Coordination of Submittals: Review and coordinate all aspects of each item being submitted. Verify that each item and the submittal for it conforms with the specified requirements. Certify that this coordination has been performed by affixing the Contractor's signature to each submittal. Make submittals of Shop Drawings, samples, substitution requests and other items in accordance with this Section.
- B. Substitutions: The contract is based on the standards of quality established in the Contract Documents. Substitutions will be considered only when listed at the time of bidding and when substantiated by the Contractor's submittal within ten days subsequent to the Contract Date. The following products do not require further approval except for interface within the Work:
 - 1. Those specified by reference to standard specifications (i.e. ASTM, etc.);
 - 2. Products specified by manufacturer's name and catalog number;
- C. "Or Equal": The Architect shall specifically approve materials, equipment or methods as delineated in the Contract Documents as "or equal as approved by the Architect".

Part 2 - Products

2.01 Shop Drawings

- A. Scale: Shop Drawings shall accurately illustrate all pertinent aspects of the item and its methods of connection to the Work, at a sufficient scale.
- B. Media: Submit Shop Drawings in the form of one translucent reproducible of each sheet plus two blue-line or black-line prints. Review comments of the Architect will be shown on the transparency upon return to the Contractor. The Contractor shall make and distribute copies as necessary.

2.02 Manufacturer's Literature

- A. Clearly show which portion of the contents is being submitted for review, when contents of submitted literature from manufacturers includes data not pertinent to the submittal.

2.03 Samples

- A. Provide Sample (s) identical to the specific article proposed to be provided. Identify as described under "Identification of Submittals" below.
- B. Unless otherwise specified, submit Samples in quantities required, plus one retained by

the Architect. By pre-arrangement, a single Sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by the Architect.

2.04 Colors and Patterns

- A. Unless the specific color and pattern is specifically delineated in the Contract Documents and whenever a choice of color or pattern is available in the specified products, submit accurate color and pattern charts to the Architect for selection.

Part 3 - Execution

3.01 Identification of Submittals

- A. Numbering: Number each submittal sequentially. When material is resubmitted for any reason, transmit under a new letter of transmittal and cite the original submittal number plus a letter suffix in alphabetical order for each re-submittal.
- B. Transmittals: Accompany each submittal with a letter of transmittal showing all information required for identification and checking. Maintain a submittal log for the duration of the Work, showing current status of all submittals at all times. The submittal log shall be available to the Architect for review.

3.02 Timing of Submittals

- A. Make submittals sufficiently in advance of scheduled dates for installation; to provide for ample review time; for securing necessary approvals; for possible revision and re-submittal and for placing orders and securing delivery.
- B. Allow ten working days for review following Architect's receipt of submittal.

3.03 Architect's Review

- A. Review: Architect's review does not relieve the Contractor from responsibility for errors existing in the submitted data.
- B. Revisions: Make revisions required by the Architect. If the Contractor considers any required revision to be a change in the Contract, the Contractor shall so notify the Architect. Make only those revisions approved by the Architect.

End of Section 01300

Section 01500 - Construction Facilities And Temporary Controls

Part 1 - General

1.01 Related Documents

- A. The Contract Documents including but not necessarily limited to the Drawings and Specifications, apply to the Work specified in this section. Requirements of the Work are contained in the Contract Documents and include cross reference thereto to published information not necessarily bound therewith.
- B. Equipment normally furnished by subcontractors and individual trades in execution of their own portions of the Work, shall comply with requirements of pertinent safety regulations and are not part of this Section.

1.02 Description of Work

- A. Provide temporary facilities and controls required for the Work including but not limited to the following:
 - 1. Temporary utilities (i.e. electricity, telephone, water, etc.);
 - 2. Field office for Contractor's personnel (to be determined prior to commencement);
 - 3. Sanitary facilities;
 - 4. Waste disposal services and environmental protection;
 - 5. Siltation Control.

Part 2 - Products

2.01 Utilities

- A. Electricity: Provide necessary temporary electric supply and upon completion of the Work, remove such temporary facility. Provide area distribution boxes so located that the individual trades may furnish and use 100 ft. maximum length extension cords to obtain power and lighting at points where needed for Work, inspection and safety. Provide and pay for electricity used in construction.
- B. Telephone: Make necessary arrangements and pay for costs for origination and operation of telephone service to the Contractor's office at the Site. Make the telephone available to the Architect for use in connection with the Work. Make pertinent cellular telephone numbers available to the Architect.
- C. Water: Provide necessary temporary water supply and upon completion of the Work, remove such temporary facilities. Provide and pay for water used in construction.

2.02 Enclosures

- A. Provide and maintain for the duration of construction all scaffolds, tarpaulins, canopies, warning signs, steps, platforms, and other temporary construction necessary for proper completion of the Work in compliance with pertinent safety and other regulations.

2.03 Siltation Control

- A. Prior to commencing work, install proper siltation control at the Site where directed by the Project Engineer.

- B. Upon completion of the Work, dismantle and properly discard of siltation devices such as fabric fencing or staked hay.
- C. Except as otherwise approved by the Architect, do not remove siltation controls prior to completion of the Work.

Part 3 - Execution

3.01 Maintenance and Removal

- A. Maintain temporary facilities and controls as long as necessary for safe and proper completion of the Work.
- B. Remove such temporary facilities and controls as progress of the Work will permit.

3.02 Temporary Controls

- A. The Contractor shall provide necessary controls for the abatement of dust and debris throughout the duration of construction of the Work.
- B. Due to the site's location and the traffic considerations, the Contractor shall coordinate with the Owner to designate parking area (s) for the individual trades for the duration of the Work.
- C. The Contractor shall designate times and temporary parking area (s) for the delivery of products related to the Work.

End of Section 01500

Section 01700 - Contract Close-out

Part 1 - General

1.01 Related Documents

- A. The Contract Documents including but not necessarily limited to the Drawings and Specifications, apply to the Work specified in this section. Requirements of the Work are contained in the Contract Documents and include cross reference thereto to published information not necessarily bound therewith.

1.02 Description of Work

- A. Provide an orderly and efficient transfer of the completed Work to the Owner. Throughout the construction period, maintain the building and site in a standard of cleanliness as described in this Section.
- B. Throughout progress of the Work, maintain an accurate record of changes in the Contract Documents, as described in this Section. Upon completion of the Work, transfer the recorded changes to a set of Record Documents as described in this Section.
- C. Provide information regarding the products incorporated into the Work and furnish and deliver the data described in this Section and in pertinent other sections of these Specifications.

1.03 Quality Assurance

- A. Ensure that the Work is completed in accordance with the specified requirements prior to requesting inspection by the Architect.
- B. Conduct inspections as necessary to ensure maintained cleanliness and in addition, comply with pertinent governmental agencies having jurisdiction.
- C. The Contractor shall be responsible for maintenance of Record Documents. Make adequate and proper entries on each page of the Specifications and each sheet of the Drawings and other Documents where such entry is required to show changes within the Record Documents.

1.04 Submittals

- A. Close-out submittals include but are not limited to:
 - 1. Project Record Documents described in this Section;
 - 2. Maintenance data required for products incorporated into the Work;
 - 3. Warranties, bonds, certifications and materials extra stock;
 - 4. Submit the following AIA Contract Documents fully executed:
 - AIA G702/3, (Final) Application and Certificate for Payment
 - AIA G706, Contractor's Affidavit of Payment of Debts and Claims
 - AIA G706A, Contractor's Affidavit of Release of Liens
 - AIA G707, Consent of Surety Company to Final Payment
 - AIA G723, Project Application Summary
- B. Project Record Documents: Submit with the final application for payment, completed Project Record Documents for the Architects review and approval including but not limited to; the Drawings, the Specifications, Shop Drawings and other pertinent data.

- C. Maintenance Data: Submit with the final application for payment, all maintenance data required for products incorporated into the Work.

Part 2 - Products

2.01 Cleaning Materials and Equipment

- A. Use only cleaning materials and equipment recommended by the material manufacturer.

2.02 Record Documents

- A. Job Set: The Architect shall provide the Contractor with one complete set of all Documents comprising the Contract.
- B. Final Record Documents: At the time of final payment, the Architect shall provide the Contractor with one complete set of transparencies of all Drawings in the Contract.

2.03 Maintenance Data

- A. Submit with the final application for payment, all maintenance data required for products incorporated into the Work, bound into a hard-plastic covered three ring binder of sufficient size to include all data. The binder shall have a label affixed to the front cover, showing the name and address of; the Work, Owner, Architect and Contractor.

Part 3 - Execution

3.01 Progress Cleaning

- A. General: Retain stored items in an orderly arrangement and provide required protection of materials. Do not allow accumulation of scrap, debris and waste material.
- B. Site: Maintain the Site in a neat and orderly condition at all times.
- C. Structure: As required preparatory to installation of succeeding materials, clean the pertinent areas thereof to the degree recommended by the manufacturer of the succeeding material, using appropriate equipment and materials.

3.02 Final Cleaning

- A. General: Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap debris and waste and conduct final cleaning to the level of cleanliness generally accepted in the industry as "final cleaning".
- B. Site: Broom clean paved areas on the site and public paved areas adjacent to the site, completely removing resulting debris. Replace the condition of the site to that which it existed prior to execution of the Work.
- C. Structure: Cleaning of the building shall be in accordance with the General Conditions.

3.03 Maintenance of Record Documents

- A. Entries: Make entries on the Record Documents using an erasable colored pencil, clearly describing the change by graphic line and/or by descriptive annotation as required. Date all entries and use different color pencils when changes overlap. Make entries in the pertinent other Documents.
- B. Final Project Record Documents: The purpose is to provide factual information of the built Work, both concealed and visible, to enable future modifications without lengthy and expensive site measurement, investigation and examination.
 - 1. Carefully transfer change data to the job set of Record Drawings;
 - 2. At the time of final application for payment, submit final Record Documents for the Architects review and approval in accordance with 1.04 of this Section.

End Division 1

DIVISION 2, SITEWORK
Section 02200 - Earth Work

Part 1 - General

1.01 Related Documents

- A. The Contract Documents including but not necessarily limited to the Drawings and Specifications, apply to the Work specified in this section. Requirements of the Work are contained in the Contract Documents and include cross reference thereto to the Town of East Lyme-provided Site Plan.

1.02 Description of Work

- A. Excavation, backfill, grading for this Work includes but is not necessarily limited to:
 - 1. Excavation for footings and foundations;
 - 2. Filling and backfilling to attain indicated grades;
 - 3. Trenching and trench backfilling;
 - 4. Rough and finish grading of the site;
 - 5. Furnishing and installing granular fills for flat concrete slab or bituminous work.
- B. Work Not Included:
 - 1. Work which is *not* related to the construction of the Bathroom Facility.

1.03 Quality Assurance

- A. Protection of Materials: Protect all materials of this section before, during and after installation.
- B. Site Conditions: Control dust on and near the site as caused by the Contractor's operations during performance of the Work or if resulting from the condition in which the Contractor leaves the site.

Part 2 - Products

2.01 Fill Materials

- A. Fill material shall be soil or soil-rock mixture which is free from organic matter. It shall contain no rocks or lumps over six inches in greatest dimension, and not more than 15% of the rocks shall be larger than 2½" in greatest dimension.
- B. Fill shall be granular with a maximum particle size of two inches and a plasticity index of 12 or less.
- C. Fill beneath foundations shall be crushed stone of 100% compaction and/or have a plasticity index of 15 or less.
- D. Granular material under flat concrete work shall be clean mineral aggregate with particle size grading within the following limits: passing 1" mesh = 100%; passing #4 sieve = <5%; passing #200 sieve = <1%.

2.02 Trench and Structural Backfill

- A. Trench and structural backfill material shall be free from organic substance, shall meet the requirements of 2.01 above, and shall have particle size grading within the following limits: passing #4 sieve = 100%; passing #200 sieve = 3% max.

Part 3 - Execution

3.01 General

- A. The Contractor shall thoroughly review the Contract Documents and visit the site to become familiar with conditions which affect the Work of this Section.
- B. The Contractor shall call for subsurface detection prior to commencement of the Work.
- C. The Contractor shall not cover or enclose any work of this Section prior to all required inspections, tests, and approvals.
- D. The Engineer shall coordinate the installation of a bench mark and building offsets by a registered licensed land surveyor prior to the commencement of the Work. The Contractor shall protect and maintain all installed bench marks, stakes, monuments and other markers and shall replace damaged markers at no cost to the Owner.

3.02 Excavation

- A. Excavate to grades shown on the Drawings. Where excavation grades are not shown, excavate as required to accommodate the installation.
- B. Provide ample dewatering strategies to prevent excess water from entering excavations. In adverse weather conditions, dewater by means which will ensure dry excavations and the preservation of final lines and grades of bottom of excavations.
- C. Footings: Excavate to the established lines and grades. Cut off bottom of trenches level and remove all loose soil, removing defective material from soft spots and replacing with crushed stone.
- D. Trenching: Perform all trenching required for installation of items as shown in the Drawings. Make all trenches open vertical construction with sufficient width to provide free working space around the installed item. Trench to required elevations shown on the Drawings and where not shown, trench to sufficient depth to provide a minimum of 18" of fill above the top of installed item.
- E. Trench Bracing: Brace, sheet and support trench walls to ensure safe installation and to prevent damage to person or property.

3.03 Fill and Compaction

- A. After appropriate sub-grade compaction, spread approved fill material in layers not exceeding eight inches in un-compacted thickness.
- B. Compact each soil layer to at least the specified minimum, employing water or aerating the fill material as required to obtain proper compaction. Compact structural fills to a minimum degree of 90%. Compact the upper six inches of fill in pavement areas to a minimum degree of 95%.
- C. Densify cushion-less backfill material to a minimum relative density of 70% as determined by ASTM D2049.

3.04 Grading

- A. Perform all rough and finish grading required to attain the elevations shown on the Drawings.
- B. Grading tolerances are as follows: Rough grades at building or parking areas = ± 0.1 foot; Finish grades and granular bases under flatwork = ± 0.1 foot.

End of Section 02200

Section 02600 - Subsurface Piped Utilities

Part 1 - General

1.01 Related Documents

- A. The Contract Documents including but not necessarily limited to the Drawings and Specifications, apply to the Work specified in this section. Requirements of the Work are contained in the Contract Documents and include cross reference thereto to published information not necessarily bound therewith.

1.02 Description of Work

- A. Furnish all necessary labor, materials, tools and equipment to install and construct subsurface drainage, sewage disposal and water supply distribution, as shown on the Drawings and specified herein.
- B. Related Work: Perform trench excavation and backfilling in accordance with Section 02200.

1.03 Quality Assurance

- A. Use qualified installers, utilizing adequate numbers of skilled workers who are thoroughly trained and experienced in the specified requirements and methods needed for proper performance of the work of this Section.

Part 2 - Products

2.01 Pipe materials

- A. Provide pipe of the sizes indicated and as follows:
 - 1. Floor drains by Jay R Smith, Co. Model 2005L03 (A06NB-B) as shown in the Drawings.
 - 2. High Density Polyethylene pipe (HDPE) sizes as required by Site Engineer and complying with AASHTO M294, for subsurface drainage;(SEE SITE SPECS)
 - 3. Polyvinyl chloride pipe (PVC) sizes as required (4" for drains) by Johns-Mansville or equal, schedule 80;
 - 4. Copper Type M ASTM B88 or high pressure polybutelene for water supply.

Part 3 - Execution

3.01 Excavation, Trenching and Bedding

- A. Provide excavation, trenching and bedding for pipe installations in accordance with Section 02200, and as follows.
- B. Prevent displacement of, and damage to, pipe installation during and after site operations.
- C. Bed pipes in firm and proper bedding sand, tamping as necessary to conform the lower $\frac{1}{4}$ of the outside perimeter of the pipe to a firm foundation.

3.02 Placing Pipe

- A. Place all pipe to the grades and alignment shown, with a tolerance of 1:1000 vertical and 1:500 horizontal.
- B. Provide all required conveying equipment for lowering pipe properly into trenches.

3.03 Pipe Joints

- A. Concrete (RCP) Pipe: Make flexible watertight joints with rubber gaskets for concrete pipe, using gaskets complying with ASTM C443 or factory fabricated resilient jointing materials complying with ASTM C425.
 - 1. Cement mortar bell-and-spigot joint, cleaning surface of bell with wet brush, joining pipes and forming a bead around the outside of the joint with mortar.
- B. Install polyvinyl chloride fittings complying with ASTM D3034 and use solvent complying with ASTM D2855.

3.04 Backfilling

- A. Backfill in accordance with Section 02200. After the backfilling 12" above the top of pipe, place the remainder of fill by compacting in lifts not exceeding 8".

3.05 Testing and Inspection

- A. Make all tests required to demonstrate that the work of this Section has been completed in accordance with the design and specified requirements, prior to covering or enclosing.
- B. Demonstrate that joints in RCP comply with ASTM C443.

End of Section 02600

DIVISION 3, CONCRETE
SECTION 03300 - Cast-in-place Concrete

Part 1 - General

1.01 Related Documents

- A. The Contract Documents including but not necessarily limited to the Drawings and Specifications, apply to the Work specified in this section. Requirements of the Work are contained in the Contract Documents and include cross reference thereto to published information not necessarily bound therewith.

1.02 Description of Work

- A. The extent of cast-in-place concrete work is shown on the drawings.

1.03 Quality Assurance

- A. Codes and Standards: Comply with provisions of following Codes, Specifications and standards, except where more stringent requirements are shown or specified:
 - 1. American Concrete Institute, ACI, "Specifications for Structural Concrete for Buildings" (ACI 301-89).
 - 2. Concrete Reinforcing Steel Institute, CRSI, "Manual of Standard Practice" latest edition.
- B. Concrete Placement Testing: Slump shall be inspected at the time of placement of concrete.
- C. Concrete mix: Local ready-mix companies supplying concrete shall provide evidence that the provisions of ACI 301, ASTM C94 and appropriate IBC Building codes.
- D. Sampling and testing for quality assurance during placement of concrete when required includes the following:
 - 1. Sampling: ASTM C 172.
 - 2. Slump: ASTM C 143, one for each set of compressive strength specimens.
 - 3. Air content: ASTM C 173, one for each set of compressive strength specimens.
 - 4. Compressive strength: ASTM C 39, one set for each 50 cu. yds, or fraction thereof of each class of concrete; 1 specimen tested at 7 days, 2 specimens tested at 28 days, and one retained for later testing if required. When the total quantity of given class of concrete is less than 50 cu. yds., strength tests may be waived by Engineer if field experience indicates evidence of satisfactory strength (**3,500psi**).
- E. Test results will be reported in writing to Engineer and Contractor on same day tests are made.
- F. This testing does not relieve Contractor of responsibility of providing concrete in compliance with specifications. Contractor may perform additional testing as necessary, at no expense to Owner, to ensure quality of concrete.

1.04 Submittals

- A. Manufacturer's Data: Submit manufacturer's product data with installation instructions for proprietary materials including reinforcement and forming accessories, admixtures, joint materials, hardeners, curing materials and others as requested by Engineer.
- B. Laboratory Reports: Submit for review laboratory test for concrete materials and mix design test as specified.

- C. Reinforcement Shop Drawings: Submit shop drawings (2 copies) for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (latest edition), showing bar schedules, stirrup spacing, diagrams of bent bars, placing plans and wall elevations showing arrangement of concrete reinforcement. Include special reinforcement required and openings through concrete structures. Field review of the Architect's Foundation Plan may be acceptable for use as shop drawings.
- D. Certificates of Compliance: When required, provide the Special Inspector with Certificates of Compliance for welded wire fabric, reinforcement bars, cement, air-entraining agent, water-reducing agent, moisture barrier, and joint materials.
- E. Batch Tickets: The General Contractor shall furnish to the Special Inspector with each batch of concrete and before unloading at the site, a delivery batch ticket.

Part 2 - Products

2.01 Form materials

- A. Provide form materials with sufficient stability to withstand pressure of placed concrete without bow or deflection.

2.02 Reinforcing Materials

- A. Reinforcing Bars: ASTM A615, Grade 60, deformed.
- B. Welded wire fabric (WWF): ASTM A185, welded steel wire fabric.

2.03 Concrete Materials

- A. Portland Cement: ASTM C 150, Type 1. Use one brand of cement throughout project.
- B. Normal weight aggregates: ASTM C33. Provide aggregates from a single source for exposed concrete.
- C. Water: Potable.

2.04 Related Materials

- A. Moisture Barrier: Clear 8-mils thick polyethylene.
- A. Membrane-Forming Curing Compound: ASTM C 309, Type 1.

2.05 Proportioning and Design of Mixes

- A. Prepare design mixes for each type and strength of concrete in accordance with ACI 301 Section 3.9 "Proportioning on the Basis of Previous Field Experience or Trial Mixtures", Chapter 3 as indicated on drawings.
- B. Mix designs may be adjusted when material characteristics, job conditions, weather, test results or other circumstances warrant. Do not use revised concrete mixes until submitted to and accepted by Engineer.

2.06 Concrete Mixing

- A. Ready-mix concrete shall be in accordance with ASTM C94.
- B. For Job-site mixing use drum type batch machine mixture, mixing not less than 1-1/2 minutes for one cu. yd. or smaller capacity. Increase mixing time at least 15 seconds for each additional cu. yd. or fraction thereof.

Part 3 - Execution

3.01 Formwork

- A. Construct formwork complying with ACI 347 "Recommended Practice for Concrete Formwork", so that concrete members and structures are of correct size, shape, alignment, elevation and position.
- B. Provide openings in formwork to accommodate work of other trades. Accurately place and securely support items built into forms.
- C. Clean and adjust forms prior to concrete placement. Apply form release agents or wet forms, as required, re-tighten forms during concrete placement if required to eliminate mortar leaks.

3.02 Placing Reinforcement

- A. Comply with CRSI, recommended practice for "Placing Reinforcing Bars".
- B. Position, support and secure reinforcement against displacement. Locate and support with metal chairs, runners, bolsters, spacers and hangers, as required. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
- C. Install welded wire fabric in as long lengths as practical, lapping at least one mesh.

3.03 Joints

- A. Provide construction, isolation, and control joints as indicated or required by Project Engineer. Locate construction joints so as to not impair strength and appearance of structure. Place isolation and control joints in slabs-on-ground to stabilize differential settlement and random cracking.

3.04 Installation of Embedded Items

- A. Set and build into work, anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting diagrams, templates and instructions provided by others for locations and setting.

3.05 Concrete Placement

- A. Comply with ACI 304, placing concrete in a continuous operation within planned joints or sections. Do not begin placement until work of other trades completed.
- B. Consolidate placed concrete using mechanical vibrating equipment with hand rodding and tamping, so that concrete is worked around reinforcement and other embedded items and into forms.

3.06 Concrete Finishes

- A. Provide a smooth finish for exposed concrete surfaces and surfaces that are to be covered with a coating or covering material applied directly to concrete. Remove fins and projections, patch defective areas with cement grout, and rub smooth.
- B. Apply trowel finish to monolithic slab surfaces that are exposed-to-view or are to be covered with resilient flooring, paint or other thin film coating. Consolidate concrete surfaces by finish troweling, free of trowel marks, uniform in texture and appearance.

3.07 Concrete Curing and Protection

- A. Begin initial curing as soon as free water has disappeared from exposed surfaces. Where possible, keep continuously moist for not less than 72 hours. Continue curing by use of moisture-retaining cover or membrane-forming curing compound. Cure formed surfaces by moist curing until forms are removed. Provide protection as required to prevent damage to exposed concrete surfaces.

End Division 3

DIVISION 4, MASONRY
Section 04200 - Unit Masonry

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

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

1.02 DESCRIPTION OF WORK:

- A. Extent of each type of masonry work is indicated on drawings and in schedules.
- B. Install items furnished under other sections of the specifications that are built into masonry: Loose lintels, wood nailers, bolts, anchors, frames, attachments to structure, and accessories required for completion of work.
- C. The following related work is specified elsewhere:
- a) Cast-in-Place Concrete in Division 3
 - b) Structural Steel in Division 5
 - c) Cold-Formed Metal Framing in Division 5
 - d) Flashing and Sheet Metal in Division 7
 - e) Insulation in Division 7.

1.03 QUALITY ASSURANCE:

- A. Codes and Standards: Comply with provisions of the following, except where more stringent requirements are shown or specified: American Concrete Institute, ACI, "Specifications for Masonry Structure", ACI-530.1.88/ASCE 6-88 with the following revisions:

Exclude Sections 1.4 and 1. 7; Parts 2.1.2, 3.1.2, and 4.1.2; and Articles 1.5.1.2, 2. 1. 1. 1, 2.1.1.2, and 2.3.3.9.

- B. Inspection: The Owner will engage the services of a qualified "Inspector" for this project. The inspector, as a representative of the Owner will confirm that the provisions of the IBC Building Code are complied with and will provide and/or supervise inspection and testing requirements as necessary.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications and other data for each type of masonry unit, accessory, and other manufactured products. Include handling, storage, installations and protection. Transmit a copy of each instruction to the installer.
- B. Shop Drawings: Submit shop drawings for fabrication, bending, and placement of reinforcement bars, complying with ACI 315" Manual of Standard Practice for Detailing Reinforced Concrete Structures". Show bar schedules, diagrams of bent bars, stirrup spacing, placing plans and wall elevations showing arrangement of masonry reinforcement. Include special reinforcement required at openings and ends of walls.
- Show lateral ties and other arrangements and assemblies as required for fabrication and placement of reinforcement for unit masonry work.
- Reproduction of the Contract Drawings-are not acceptable for use as shop drawings.
- C. Certificates of Compliance: Provide Certificates of Compliance for the following materials:
- 1. Concrete Masonry Units, including test results for strength requirements.
 - 2. Clay Masonry Units, including test results for strength requirements.
 - 3. Cement for Mortar and Grout.
 - 4. Reinforcement, including joint reinforcement.
 - 5. Anchors, ties, and Metal accessories.
- D. Batch Tickets: As applicable, the General Contractor shall furnish delivery ticket to the Inspector tester for every batch of mortar or grout before unloading at site.
- E. Grout and Mortar mixes showing proportions by volume.

1.05 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver masonry materials to project in undamaged condition.
- B. Store and handle masonry units off the ground, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes. If units become wet, do not place until units are in an air-dried condition.
- C. Store cementitious materials off the ground under cover, and in dry location.
- D. Store masonry accessories and metal items to prevent corrosion and accumulation of dirt and oil.

PART 2 - PRODUCTS

2.01 UNIT MASONRY:

- A. Solid Load bearing Block: ASTM C145 and as follows:
 - 1. Grade N
 - 2. Type 1
 - 3. Normal Weight
 - 4. Texture and Color: Manufacturer's standard unless indicated otherwise.
- B. Concrete Building Brick: ASTM C55 and as follows:
 - 1. Grade N
 - 2. Type 1
 - 3. Normal Weight
 - 4. Texture and Color: Manufacturer's standard unless indicated otherwise.

2.03 MORTAR AND GROUT MATERIALS:

- A. Portland Cement: ASTM C 150, Type 1, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce required mortar color to match Architect's sample.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Masonry Cement: ASTM C91, Type S.
 - 1. For use in mortar only.
 - 2. For colored pigmented mortars use premixed colored masonry cements of formulation required to produce color indicated, or if not indicated, as selected from manufacturer's standard formulations.
 - 3. Producers must be PCA Member Companies:
 - a. Blue Circle Cement - New Haven, CT
 - b. Independent Cement Corp. - West Hartford, CT
 - c. Lehigh Portland Cement Co. - Hartford, CT

2.02 MASONRY UNITS:

- A. General: Comply with requirements indicated below applicable to each form of concrete masonry unit required.
 - 1. Concrete Masonry Units Size: 16 inches long by 8 inches high nominal (15 5/8" x 7 5/8" actual); x thickness indicated. Concrete Building Brick: Standards Modular.
 - 2. Provide special shapes where required for lintels, corners, jambs, sash, control joints, headers, bond beams, bonding and other special conditions.
 - 3. Provide unit masonry strength that will develop an installed compressive strength of masonry as follows using Table 1.6.2.2 of ACI 530. 1: fm = 1500 min.

B. Stone Veneer

- 1. Stone veneer shall be "Liberty Hill Square & Rec".
- 2. Joints shall be "raked" and tooled, grout of charcoal gray (coordinate with Architect).
- 3. Each 100 SF of wall surface shall have no more than 5% bright-mottled stones.

2.04 REINFORCEMENT, TIES AND ANCHORING DEVICES:

BUILDING SPECIFICATIONS

A. General

1. Reinforcing Bars: ASTM A615, Grade 60, deformed.
2. Steel Wire: ASTM A82, plain, cold-drawn steel.
3. Deformed Steel Wire: ASTM A 496.
4. Corrosion Protection: wire ties, anchors, joint reinforcing:
For exterior walls, fabricate with 1.5 oz. per square foot hot-dip zinc coating, (ASTM A 153 Class B-2).

B. Joint Reinforcing:

1. General: Welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10 feet, with prefabricated corner and tee unit, and complying with requirements indicated below:

Steel Wire: As specified

Wire Diameter for side rods: .1875 inch

Wire Diameter for cross rods: 9 gage.

Width: As required to position side rods for full embedment in mortar with mortar coverage of not less than 5/8" on joint faces exposed to exterior and not less than 5/8" on joint faces exposed to exterior and not less than 1/2" elsewhere.

2. Single-wythe wall Joint Reinforcement: Truss design with continuous diagonal cross rods spaced not more than 16" o.c. and single pair of side rods.

C. Masonry Veneer Anchors for Metal Stud Backup:

1. General: Adjustable two-piece assembly allowing vertical or horizontal differential movement between wall and framework parallel to plane of wall, but resisting tension and compression forces perpendicular to it.
2. (a) Anchor Section: (for attachment over sheathing/through rigid insulation). Rib-stiffened sheet metal plate with screw holes top and bottom, 0.0747 inch thick (14 gage) by 2-3/4 inches wide by 3 inches high fabricated into tee shape with 2 projecting tabs, 3/4 inch wide by 1 inch long, with slotted holes for connection of vertical legs of wire tie. Hot dipped Galvanized. Manufactured by Dur-O-Wall or accepted equivalent.
3. (a) Wire ties: 3/16", rectangular, A4th double pintel legs.
(b) Wire ties: 3/16", triangular.
4. Fasteners: Self drill/self tap screws, # 10 diameter x length required to penetrate steel stud flange by not less than 3 exposed threads with corrosion protective coating.

2.05 MISCELLANEOUS MASONRY ACCESSORIES:

- A. Nonmetallic Control joint Strips: ASTM D1056 Class RE41. Premolded flexible cellular neoprene rubber filler strips compressible up to 35 percent of width and thickness indicated.
- B. Premolded Control joint Strips: ASTM D2000, 2AA-805 solid rubber strips designed to fit standard sash block and maintain lateral stability in masonry wall.
- C. Weepholes: Round plastic tubing, medium-density polyethylene, 3/8-inch outside diameter by 4 inches long.
- D. Masonry Cleaner.- job-mixed deterrent solution of trisodium phosphate (1/2-cup dry measure) and laundry detergent (1/2 cup dry measure dissolved in one gallon of water).

2.06 PROPORTIONING AND DESIGN OF MORTAR AND GROUT MIXES:

- A. General: Do not add admixtures including coloring pigments, air-entraining agents, accelerators, retarders, water repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated. Do not use calcium chloride in mortar or grout.
- B. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification, Type S. Min. 28-day compressive strength equal to 1800 psi.
- C. Grout for Unit Masonry: Comply with ASTM C 476. Minimum 28-day compressive strength equal to 2000 psi.

PART 3 - EXECUTION

3.01 PREPARATION:

- A. Protection of Masonry: During erection, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
 - 1. Extend cover a minimum of 24 inches down both sides and hold cover securely.
- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Remove immediately any grout, mortar, and soil that come in contact with such masonry.
 - 1. Protect base of walls from rain-splashed mud and mortar splatter by means on coverings spread on around and over wall surface.
 - 2. Protect sills, ledges, and projections from mortar droppings.
 - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes from mortar droppings.

3.02 INSTALLATION, GENERAL:

- A. Comply with referenced unit masonry standard and other requirements indicated applicable to each type of installation included in Project.
- B. Thickness: Build cavity and composite walls and other masonry construction to the full thickness shown.
- C. Leave openings for equipment to be installed before completion of masonry. After installation of equipment, complete masonry to match construction immediately adjacent to the opening.

3.03 CONSTRUCTION TOLERANCES:

- A. Comply with construction tolerances of referenced unit masonry standard, for erection of masonry and placement of reinforcement.

3.04 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint widths and for accurate locating of openings, movement-type joints, returns, and offsets. Avoid the use of less than half-size units at corners, jambs, and where possible at other locations.
- B. Lay up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other construction.
- C. Bond Pattern for Exposed Masonry: Lay exposed masonry in the following bond pattern; do not use units with less than nominal 4-inch horizontal face dimensions at comers or jambs:
One-half running bond with vertical joint in each course centered on units in courses above and below.
- D. Stopping and Resuming Work: In each course, rack back 1/2-unit length for one-half running bond or 1/3-unit length for one-third running bond; do not tooth. Clean exposed surfaces of set masonry, wet clay masonry units lightly (if required), and remove loose masonry units and mortar prior to laying fresh masonry. In grouted construction, when grouting is stopped for I hour or longer, the grout pour shall be stopped 1/2" below the top of the last course.
- E. Built-In Work: As the work progresses, build-in items specified under this and other sections of these specifications. Fill in solidly with masonry around built-in items.
 - 1. Fill space between hollow metal frames and masonry solidly with mortar.
 - 2. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.

3.05 MORTAR BEDDING AND JOINTING:

- A. Comply with referenced unit masonry standard.
- B. Hand mixing-, of mortar is not acceptable.
- C. Do not use mortar which has begun to set, or if more than 2 1/2 hour has elapsed since initial mixing.
- D. Measure and batch materials such that the required proportions for mortar can be accurately controlled and maintained. Measurements exclusively by shovel VAII not be permitted.
- E. For starting course on footing where cells are not grouted, spread out full mortar bed including areas under cells.

3.06 CAVITIES/AIR SPACES:

- A. Cavities shall be kept clean by slightly beveling the mortar bed to incline toward the cavity or by placing wood strips with attached wire pulls on the metal ties. The strips shall be withdrawn and cleaned before placing the next row of metal ties. Any mortar fins which protrude into the cavity space as the wall is built, shall be troweled flat onto the inner face of the wythe.
- B. Install weep holes in the head joints in exterior wythes of the first course of masonry immediately above embedded flashings spaced at 2'0" O.C., unless otherwise indicated.

3.07 ANCHORING OF SINGLE-WYTHER MASONRY VENEER TO METAL STUDS:

- A. Anchor single-wyther masonry veneer to metal studs with masonry veneer anchors to comply with the following requirements:
 1. Fasten each anchor section through sheathing to metal studs with 2 metal fasteners of type indicated.
 2. Embed tie section in masonry joints. Provide not less than 2-inch air space between back of masonry veneer wythe and face of sheathing.
 3. Locate anchor section relative to course in which tie section is embedded to allow maximum vertical differential movement of tie up and down.
 4. Space anchors as indicated but not more than 16 inches o.c. vertically and 16 inches o.c. horizontally. Install additional anchors within 1'-0" of openings and at intervals around perimeter not exceeding 8 inches.
- B. Install vents at the top of continuous air space in masonry veneer walls.

3.08 PLACING HORIZONTAL JOINT REINFORCEMENT:

- A. General: Provide continuous horizontal joint reinforcement in all walls unless indicated otherwise. Install longitudinal side rods in mortar for their entire length with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcing a minimum of 6 inches.
- B. Where coursing aligns, use continuous horizontal joint reinforcement installed in horizontal mortar joints for bond tie between wythes. Where coursing does not align, use individual metal ties installed in horizontal joints to bond wythes together at 16" o.c. vert. and horiz.
- C. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.
- D. Space continuous horizontal joint reinforcement as follows:
 1. For single wythe walls, space reinforcement at 16" o.c. vertically, unless otherwise indicated.

3.09 PLACING REINFORCEMENT:

- A. General: Install reinforcement to comply with requirements of referenced unit masonry standards.
- B. Position reinforcement accurately at the spacing shown. Support and secure vertical bars against displacement at intervals not exceeding 192 bar diameters nor 10 feet. Horizontal reinforcement may be placed as the masonry work progresses.

3.11 GROUTING

- A. General:
 1. Use fine or course grout according to Table 4.3.3.4 of ACI 530.1.
 2. Pour: The entire height of grout fill placed which may be composed of a number of successive

grout lifts.

3. Lift: Layer of grout placed in single continuous operation.

B. Preparation or Grout Spaces: Prior to grouting, inspect and clean grout spaces. Remove dust, dirt, mortar droppings, loose pieces of masonry and other foreign materials from grout spaces. Clean top surface of structural members supporting masonry to ensure bond.

C. Maximum drop height of -rout is 10 feet.

D. Do not interrupt pouring of grout for more than one hour.

E. Grouting Technique: Use either low lift grouting technique.

3.12 CONTROL JOINTS:

A. General: Install control joints in unit masonry where indicated. Build in related items as the masonry progressed.

B. Install control joint strips and sealants where indicated.

C. Build in horizontal pressure-relieving joints where indicated; construct joints by inserting nonmetallic 50 percent compressible joint filler of width required to permit installation of sealant and backer rod specified in Division 7 Section "Joint Sealers".

3.13 LINTELS:

A. Provide masonry lintels where indicated.

1. For hollow concrete masonry unit walls, use specially formed lintel units with reinforcement bars placed as indicated and filled with coarse grout.

B. Provide minimum bearing at each jamb of 8" unless indicated otherwise on drawings.

3.14 FLASHING:

A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to the downward flow of water in the wall, and where indicated.

B. Prepare masonry surfaces so that they are smooth and free from projections that could puncture flashing. Place through-wall flashing on sloping bed of mortar and cover with mortar. Seal penetrations in flashing with adhesive/sealant/tape as recommended by flashing manufacturer before covering with mortar.

3.15 FORMWORK:

A. Temporary Formwork: Construct formwork and shores to support reinforced masonry elements during construction.

1. Construct formwork to conform to shape, line, and dimensions shown. Make sufficiently tight to prevent leaks of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.

B. Do not place grout until entire height of masonry to be grouted has attained sufficient strength to resist grout pressure.

3.17 REPAIRING, POINTING, AND CLEANING:

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or if units do not match adjoining units. Install new units to match adjoining units and in fresh mortar or grout, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar. Point-up all joints including, comers, openings, and adjacent construction to provide a neat, uniform appearance, prepared for application of sealants.

C. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry; remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.

End Division 4

DIVISION 5 - METALS

Section 05120, Structural Steel/Metal Materials

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

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

1.02 DESCRIPTION OF WORK:

- A. *(No Structural Steel Work is anticipated: this Section provided should required Work arise).*
- B. Structural steel is that work defined in American Institute of Steel Construction, AISC, "Code of Standard Practice" and as otherwise shown on drawings.
- C. The following- related work is specified elsewhere in Division 5.

1. Miscellaneous Metal Fabrications

1.03 QUALITY ASSURANCE:

- A. Codes and Standards: Comply with Provisions of following except as otherwise indicated:
 - 1. AISC "Specifications for Structural Steel Buildings" Allowable Stress Design and Plastic Design", Ninth Edition, including the "Commentary" and Supplements thereto.
 - 2. AISC "Specifications for Structural joints using ASTM A 325 or A 490 Bolts" Latest Edition, approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation.
 - 3. American Welding Society, AWS, DI. I "Structural Welding Code".
 - 4. ASTM A 6 "General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use".
 - 5. ASTM A 123 "Zinc Coatings on Products Fabricated from Rolled, Pressed and Formed Steel Shapes, Plates, Bars and Strips."
 - 6. American Hot Dip Galvanizes Association, "Inspection Manual for Hot Dip Galvanized.
- B. Special Inspection: The Owner will engage the services of a qualified "Special Inspector" for this project. The Special Inspector, as a representative of the Owner, will confirm that the provisions of the IBC Building Code are complied with and will provide and/or supervise inspection and testing requirements, as necessary.

1.04 SUBMITTALS:

- A. Product Data: Submit producer's or manufacturer's specifications and installation instructions for following products. Include laboratory test reports and other data to show compliance with specifications (including specified standards).
 - 1. High-strength bolts (each type), including nuts and washers.
 - 2. Shrinkage-resistant grout.
- B. Shop Drawings: Submit shop drawings (1 set, 3 prints) including complete details and schedules for fabrication and assembly of structural steel members, procedures and diagrams. Include details of cuts, connections, camber, holes, and other pertinent data. Reproduction of the Engineers Contract Drawings are not acceptable for use as shop drawings.

1.05 DELIVERY, STORAGE AND HANDLING:

- A. Store materials to permit easy access for inspection and identification. Keep steel members off the ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from corrosion and deterioration. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures. Repair or replace damaged materials or structures as directed.
- C. For galvanized materials comply with ASTM A 123.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Metal Surfaces, General: For fabrication of work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness. Remove such blemishes by grinding, or by welding and grinding, prior to cleaning,, treating and application of surface finishes.
- B. Structural Steel Shapes, Plates and Bars: ASTM A 36 or ASTM A 572 Grade 50, as indicated on the drawings.
- C. Cold Formed Steel Tubing: ASTM A500, Grade B.
- D. Anchor Bolts: ASTM A 307, non-headed type unless otherwise indicated.
- E. Provide hexagonal heads and nuts for all connections.
- F. High-Strength Threaded Fasteners: Heavy hexagon structural "tension control" bolts, heavy hexagon nuts, hardened washers as follows:
- G. Structural Steel Primer Paint: SSPC - Paint 13.

2.02 FABRICATION:

- A. Shop Fabrication and Assembly: Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with AISC Specifications and as indicated on final shop drawings. Properly mark and match-mark materials for field assembly
- B. Connections: Bolt shop connection, as indicated. Bolt field connections with "tension control" bolts, except where welded or other connections are indicated.
- C. Holes for Other Work: Provide holes required for securing other work to structural steel framing, and for passage of other work through steel framing members, as shown on final shop drawings. Provide threaded nuts welded to framing, and other specialty items as indicated to receive other work. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame cut holes or enlarge holes by burning. Drill holes in bearing plates.

PART 3 - EXECUTION:

3.01 ERECTION:

- A. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made
- B. Temporary Planking: Provide temporary planking and working platforms as necessary to effectively complete work.
- C. Anchor Bolts: Furnish anchor bolts and other connectors required for securing structural steel to foundations and other in-place work. Furnish templates and other devices as necessary for presetting bolts and other anchors to accurate locations.
- D. Setting Bases and Bearing Plates: Clean concrete and masonry bearing surfaces of bond-reducing materials, roughen to improve surface bond. Clean bottom surface of base and bearing plates.
- E. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims, but if protruding, cut off flush with edge of base or bearing plate prior to packing with grout.
- F. Pack non-shrink grout solidly between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials and allow to cure.
- G. For proprietary grout materials, comply with manufacturer's instructions.

End Division 5

DIVISION 6, WOOD
Section 06000

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
1. Framing with dimension lumber.
 2. Wood furring, grounds, nailers, and blocking.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. Division Section "Finish Carpentry" for nonstructural carpentry items exposed to view and not specified in another Section.

1.3 DEFINITIONS

- A. Rough Carpentry: Carpentry work not specified in other Sections and not exposed, unless otherwise specified.

1.4 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division Specification Sections.
- B. Product Data for the following products:
1. Air-infiltration barriers.
 2. Metal framing anchors.
 3. Construction adhesives.
- C. Material certificates for dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the American Lumber Standards Committee's (ALSC) Board of Review.
- D. Research or evaluation reports of the model code organization acceptable to authorities having jurisdiction that evidence the following products' compliance with building code in effect for Project.
1. Air-infiltration barriers.
 2. Metal framing anchors.
 3. Power-driven fasteners.

1.5 QUALITY ASSURANCE

- A. Performance of this Work shall fall under the review of the Inspector.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Keep materials under cover and dry. Protect from weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

- A. Lumber Standards: Comply with DOC PS, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by ALSC's Board of Review.
- B. Inspection Agencies and the abbreviations used to reference them, include the following:
1. NELMA - Northeastern Lumber Manufacturers Association.
 2. NLGA - National Lumber Grades Authority (Canadian).
 3. SPIB - Southern Pine Inspection Bureau.
 4. WCLIB - West Coast Lumber Inspection Bureau.
 5. WWPA - Western Wood Products Association.
- C. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.

2.2 DIMENSION LUMBER

BUILDING SPECIFICATIONS

General: Provide dimension lumber of grades indicated according to the ALSC National Grading Rule (NGR) provisions of the inspection agency indicated.

- A. Framing Other than Non-Load-Bearing Partitions: Provide framing of the following grade and species:
 - 1. Grade: No. 2.
 - 2. Grade: Construction or No. 2.
 - 3. Species: Douglas fir-larch north; NLGA.
 - 4. Species: Hem-fir north; NLGA.
 - 5. Species: Spruce-pine-fir north; NLGA.

6. Species: Southern pine; SPIB.

2.3 BOARDS

- A. Exposed Boards: Where boards will be exposed in the finished work, provide the following:
 - 1. Moisture Content: 19 percent maximum.
 - 2. Azek trim boards or equal composite material.
- B. Concealed Boards: Where boards will be concealed by other work, provide lumber with 19 percent maximum moisture content and of following species and grade:
 - 1. Species and Grade: Eastern softwoods, No. 2 Common per NELMA rules.
 - 2. Species and Grade: Northern species, No. 2 Common or Standard per NLGA rules.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown. Moisture Content: 19 percent maximum for lumber items not specified to receive wood preservative.

2.5 STRUCTURAL-USE PANELS FOR BACKING

- A. Plywood Backing Panels: For mounting electrical or telephone equipment, provide fire-retardant-treated plywood panels with grade, C-D Plugged Exposure, in thickness indicated or, if not otherwise indicated, not less than 15/32" thick.

2.6 GYPSUM SHEATHING

- A. Gypsum Sheathing Board: Water-resistant-core gypsum sheathing board complying with ASTM C1396/C1396M-06A with long edges surfaced with water-repellent paper and as follows:
 - 1. Type: X.
 - 2. Edge Configuration: Square, for vertical application.
 - 3. Thickness: 5/8 inch.

2.7 AIR-INFILTRATION BARRIER

- A. Asphalt-saturated organic felt complying with ASTM D 4869-88 TYPE 1, unperforated.
- B. Air retarder complying with ASTM E283; made from polyolefins; either cross-laminated films, woven strands, or spunbonded fibers; coated or uncoated; with or without perforations to transmit water vapor but not liquid water; and as follows:
 - 1. Minimum Thickness: 3 mils.
 - 2. Maximum Flame Spread: 25 per ASTM E84.
 - 3. Minimum Allowable Exposure Time: 3 months.

2.8 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - 1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide stainless steel fasteners.
- B. Nails, Wire, Brads, and Staples: FS-N-105.
- C. Power-Driven Fasteners:
 - 1. Wood Screws: ASME.6.1.
 - 2. Lag Bolts: ASME.2.1.
 - 3. Bolts: Steel bolts complying with ASTM A449, Type 1; with ASTM A563B hex nuts and, where indicated, flat washers.

2.9 METAL FRAMING ANCHORS

- A. General: Provide galvanized steel framing anchors of structural capacity, type, and size indicated on the plans and as follows:
 - 1. Rafter Tie-Downs (Hurricane Ties): Bent strap tie for fastening rafters or roof trusses to wall studs below, 1-5/8 inches wide by 0.052 inch thick or as show on the plans.
- 2.10 MISCELLANEOUS MATERIALS
- A. Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by both adhesive and panel manufacturers.

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of rough carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.
- C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.

3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- A. Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attaching other work. Form to shapes shown and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.

3.3 WOOD FURRING

- A. Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
- B. Furring to Receive Gypsum Board: Install 1-by-2-inch nominal-size furring at 16 inches o.c., vertically.

3.4 WOOD FRAMING, GENERAL

- A. Framing Standard: Comply with AF&PA Wood Frame Construction Manual, 2001 Edition, unless otherwise indicated.
- B. Install framing members of size and at spacing indicated.

3.5 WALL AND PARTITION FRAMING

- A. General: Arrange studs so that wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel. Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs; except single top plate may be used for non-load-bearing partitions. Nail or anchor plates to supporting construction, unless otherwise indicated.
 - 1. For interior partitions and walls, provide 2-by-4-inch nominal-size wood studs spaced 16 inches o.c., except where otherwise indicated or required.
 - 2. For exterior walls, provide 2-by-6-inch nominal size wood studs spaced 16 inches o.c., except where otherwise indicated or required.

3.6 GYPSUM SHEATHING

- A. General: Fasten gypsum sheathing to supports with scorpion screws or equal. Nail or staple to comply with manufacturer's recommended spacing and referenced fastening schedule. Keep perimeter fasteners 3/8 inch from edges and ends of units. Fit units tightly against each other and around openings.
- B. Install 48-by-96-inch or longer sheathing vertically with long edges parallel to, and centered over, studs. Install solid wood blocking where end joints do not occur over framing.
- C. Apply air-infiltration barrier over sheathing as soon as practical after installation to prevent deterioration from wetting.

3.7 AIR-INFILTRATION BARRIER

- A. Cover sheathing with air-infiltration barrier as follows:
 - 1. Apply asphalt-saturated organic felt horizontally with 2-inch overlap and 6 inch end lap; fasten to sheathing with galvanized staples or roofing nails.
 - 2. Apply air retarder to comply with manufacturer's written instructions.

END SECTION 06100

SECTION 06200 - FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior standing and running trim.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division Section "Miscellaneous Carpentry" for furring, blocking, and other carpentry work not exposed to view.
 - 2. Division Section "Exterior Architectural Woodwork" for exterior woodwork not specified in this Section.
 - 3. Division Section "Interior Architectural Woodwork" for interior woodwork not specified in this Section.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division Specification Sections.
- B. Samples for initial selection of the following in the form of manufacturer's color charts consisting of actual units or sections of units showing the full range of species and profiles available for each type of material indicated.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed finish carpentry similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.
- B. Do not deliver interior finish carpentry until environmental conditions meet requirements specified for installation areas. If finish carpentry must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install interior finish carpentry until building is enclosed and weatherproof, wet-work in space is completed and nominally dry, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels through the remainder of construction period.

PART 2 - PRODUCTS

2.1 EXTERIOR STANDING AND RUNNING TRIM

- A. Lumber Trim: Provide finished lumber and moldings complying with the following requirements including those of the grading agency listed with species:
 - 1. Azek.
 - a. Grade: high-temperature cured, high-resin, wood fiber composite.
 - 2. Lumber for Painted Finish: Glued-up lumber or solid lumber stock.
 - 3. Composite decorative brackets and trims as shown in the Drawings.
- B. Exterior Shingles: Install with 5" weather exposure.
 - 1. Product:
 - 1. Waska white cedar shingles squared-rebutt, factory stained with 2 coats of "Patriot Gray" solid stain.

2.2 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: Provide nails of the following materials, in sufficient length to penetrate minimum of 1-1/2 inches into substrate, unless otherwise recommended by manufacturer.
 - 1. Stainless steel.
- B. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
 - 1. Where finish carpentry materials are exposed in areas of high humidity, provide fasteners and anchorages with hot-dip galvanized coating complying with ASTM.
- C. Glue: Aliphatic- or phenolic-resin wood glue recommended by manufacturer for general carpentry use.
- D. Flashing: Comply with requirements of Division Section "Sheet Metal Flashing and Trim" for flashing materials installed in finish carpentry.
 - 1. Horizontal Joint Flashing for Siding: Preformed galvanized steel or aluminum Z-shaped flashing.
- E. Sealants: Comply with requirements of Division Section "Joint Sealants" for materials required for sealing siding work.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting installation and performance of finish carpentry. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Condition finish carpentry to average prevailing humidity conditions in installation areas before installation, for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.
- C. Prime and back-prime lumber for painted finish exposed on the exterior. Comply with requirements for surface preparation and application in Division Section "Painting."

3.3 INSTALLATION, GENERAL

- A. Do not use finish carpentry materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
- B. Install finish carpentry plumb, level, true, and aligned with adjacent materials. Use concealed shims where required for alignment.
 - 1. Scribe and cut finish carpentry to fit adjoining work. Refinish and seal cuts as required.
 - 2. Countersink nails, fill surface flush, and sand where face nailing is unavoidable.
 - 3. Install to tolerance of 1/8 inch in 96 inches for plumb and level. Install adjoining finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
 - 4. Coordinate finish carpentry with materials and systems in or adjacent to standing and running trim and rails. Provide cutouts for mechanical and electrical items that penetrate exposed surfaces of trim and rails.

3.3 STANDING AND RUNNING TRIM INSTALLATION

- A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints, if required.
 - 1. Match color and grain pattern across joints.
 - 2. Install trim after gypsum board joint finishing operations are completed.
 - 4. Fit exterior joints to exclude water. Apply flat grain lumber with bark side exposed to weather.

End Division 6

DIVISION 7, THERMAL & MOISTURE PROTECTION

Section 07000

Part 1 - General

1.01 Related work described elsewhere:

1. Insulation 3. Flashings
2. Roofing

1.02 Quality Assurance

- A. Standards: Comply with all pertinent codes and regulations, and with the standards listed in this Section as described.
- B. Conflicting requirements: In the event of conflict between pertinent codes and regulations and the requirements of the referenced standards or these Specifications, the provisions of the more stringent shall govern.

1.03 Submittals

- A. Make all proposals for substitution in strict accordance with the provisions of Section 01300 of these Specifications.

1.04 Product Handling

- A. Protection:
 1. Use all means necessary to protect materials before, during, and after delivery to the job site and to protect the installed work and materials of all other trades.
 2. Deliver the materials to the job site and store, lift or place, all in a safe area, out of the way traffic, and shored up off the ground surface.

Part 2 - Products

Section 07200 - Insulation

2.01 Insulation

- A. Install insulation types as required at the building envelope to produce “R” or “U” values required by applicable IBC and Model Energy Codes. Areas include:
 1. wood framed structure: Owens-Corning Kraft®-faced fiberglass batt insulation;
 2. FBA Architect Grade Roof: #15 Saturated Felt or Manufacturer’s product system;
 3. interior walls for sound: Un-faced batt insulation;
 4. floor slabs, perimeter foundation: rigid-board
- B. Building Insulation - use *Owens-Corning Fiberglass* (or equal) batts or board insulation installed per Manufacturer's specification as follows:
 1. Batt insulation: kraft/non-kraft faced
 2. Expanded polystyrene: white rigid-board
 3. Extruded polyisocyanurate: pink “Foamulate®” rigid-board
 4. Curved roofing insulation: “foamulate” scored to bend
- C. Pack additional fiberglass insulation around enclosure walls at offices and lavatories.

2.02 Roofing Surfaces (Main Roof and Entrance Cover)

- A. WR Grace Co. or equal Ice and Water shield at roofing edges and eaves, and valleys per

- manufacturer's recommended installation.
- B. Install copper flashing in valleys.
 - C. Install copper drip edges. Coordinate with other trades, and install copper flashings at all roof penetrations.
 - D. Cupola Roof: Install standing-seam red copper over skip-sheathing as shown in the Drawings.
 - E. Entrance (curved) roof - install copper roof, flashed and seamed with hemmed edge at roof cornice. Wash copper upon completion with muriatic solvent. Coordinate roof geometry with Architect prior to commencing the Work.
- 2.03 Main Building Roofing
- A. Install GAF Timberline HD, Fiberglass-base Asphalt roofing shingle over #15 felt paper or manufacturer's underlayment system. Install per manufacturer's specifications for installation.
 - B. The shingle color shall be Pewter Grey - architectural grade.

Section 07600 - Flashings

- 2.04 Masonry Sealer
- A. Seal completed masonry work with spray-applied water repellent sealer.
 - B. Apply according to manufacturer's specifications and ensure protection of completed work in adjacent areas.
- 2.05 Sealing and Caulking
- A. Install sealants and caulks where required to ensure weather proof interfacing of materials.
 - B. Sealants and caulks shall be installed when specified in a product's assembly or shop drawings or tech. data.
 - C. Ensure consistent and continuous beads, form weather seal with a moist rag, formed applicator or finger, wiping excess sealant or caulk from finished surfaces.
- 2.06 Metal Flashings
- A. Install metal flashings where shown in the Drawings or at conditions where metal flashing installation is industry standard.
 - B. Prevent galvanic action when installing metal flashings by considering adjacent metal areas, fasteners and masonry or draining areas where water may facilitate electrolysis.
 - C. When flashings are exposed, break clean-straight lines and hems to form finished edge.

End Division 7

DIVISION 8, DOORS & WINDOWS

Section 08000

Part 1 - GENERAL

- 1.01 Related work described elsewhere:
 - 1. Interior & Exterior Doors:
 - 2. Windows:
- 1.02 Quality Assurance
 - A. Standards: Comply with all pertinent codes and regulations, and with the standards listed in this Section as described.
- 1.03 Submittals
 - A. Make all proposals for substitution in strict accordance with the provisions of Section 01300 of these Specifications.
- 1.04 Product Handling
 - A. Protection:
 - 1. Use all means necessary to protect materials before, during, and after delivery to the job site and to protect the installed work and materials of all other trades.
 - 2. Deliver the materials to the job site and store, lift or place, all in a safe area, out of the way traffic, and shored up off the ground surface.

Part 2 - PRODUCTS

Section 08210 - Doors

- 2.01 Work under this section comprises of furnishing and installing fiberglass doors and panels.
- 2.02 Related Documents, drawings and general provisions of contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this section.
- 2.03 Product
 - A. Entry Doors: FRP (Fiberglass Reinforced Plastic) Doors by Tiger Doors.
 - B. Finish Hardware: Stainless Steel hardware by Schlage or equal.
 - C. Garage Door: Rolling Door by Overhead Door, Co.T or equal.
 - D. Security Gate: Ornamental Wrought Iron.
- 2.04 Submittals
 - A. Certification of compliance; Submit any information necessary to indicate compliance to all of these specifications as requested.
 - B. All labeled fire door assemblies to be of a type which have been classified and listed in accordance with the latest edition of ANSI/NFPA 80 and tested in compliance with: NFPA-252, UL-10B, and UBC-7-2. A physical label to be permanently affixed to the fire door at an authorized facility. All 'B' and 'C' label fire doors are to have manufacturer's standard laminated stiles for improved screw holding and split resistance capabilities.
- 2.05 Quality Assurance
 - A. Standards: Comply with all pertinent codes and regulations, and with the standards listed in this Section as described.
 - B. Conflicting requirements: In the event of conflict between pertinent codes and regulations and the requirements of the referenced standards or these Specifications, the provisions of the more stringent shall govern.

2.06 DELIVERY, STORAGE AND HANDLING

- A. Protect doors during transit, storage and handling to help prevent damage, soiling and deterioration.
- B. Comply with manufacturer's instructions and with "on-site-care".
- C. Deliver prefinished components in manufacturer's original unopened protective covering or container, clearly marked with manufacturer's name, brand name and identifying number on the covering.
- D. Do not walk or stack other materials on top of stacked doors. Do not drag doors across one another.
- E. For all doors not factory finished - seal all four edges (stiles and rails) immediately after delivery.

2.07 PROJECT/SITE CONDITIONS

- A. Deliver doors to jobsite only after "wet" construction operations are completed.
- B. Building to be acclimated to average prevailing relative humidity of locality.

2.08 MATERIALS

- A. Entry doors shall be FRP (Fiberglass Reinforced Plastic), color to be determined by Town. Provide fiberglass frames, aluminum continuous hinge and stainless steel kick plates on all doors. Provide ADA compliant stainless steel handle locksets, deadbolts or door closers where shown on plans. Provide 3/4" stepped aluminum threshold by National Guard or equal for east side office door only.
- B. Garage door shall be 610 series, 22 ga. aluminum, color white, with double angle aluminum bottom rail and weatherstripping on bottom, chain hoist operated.
- C. Security Gate shall be wrought iron with 5/8" square pickets, supplied with heavy locks and support.
- D. Obtain doors from a single manufacturer to ensure uniformity in quality of appearance and construction.

Part 3 EXECUTION

3.01 PREPARATION

- A. Examine door frames and verify frames are of correct type and have been installed for proper hanging of corresponding doors.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's written instructions.
- B. Install accurately in frame, within clearances specified. Install hardware in accordance with manufacturer's instructions and associated templates.
- C. Do not field cut doors to opening sizes smaller than those for which doors were manufactured. Do not install door in frame set out of plumb.

End of Section 08210

Section 08500 - Windows

Windows shall be impact resistant windows in aluminum or vinyl frames and operators by Harvey Building Products (or equal), color to be white. See Schedule on Drawings.

End Division 8

DIVISION 9, FINISHES

Section 09000

Part 1 - General

- 1.01 Related work described elsewhere:
- | | |
|---------------------|--------------------------|
| 1. Gypsum Wallboard | 3. Counters |
| 2. Concrete Floor | 4. Painting and Staining |
- 1.02 Quality Assurance
- A. Standards: Comply with all pertinent codes and regulations, and with the standards listed in this Section as described.
- B. Conflicting requirements: In the event of conflict between pertinent codes and regulations and the requirements of the referenced standards or these Specifications, the provisions of the more stringent shall govern.
- 1.03 Submittals
- A. Make all proposals for substitution in strict accordance with the provisions of Section 01300 of these Specifications.
- 1.04 Product Handling
- A. Protection:
1. Use all means necessary to protect materials before, during, and after delivery to the job site and to protect the installed work and materials of all other trades.
 2. Deliver the materials to the job site and store, lift or place, all in a safe area, out of the way traffic, and shored up off the ground surface.

Part 2 Products

Section 09260 - Wall Board Assemblies

- 2.01 FRP or Gypsum Board on Metal Framing
- A. Description of Work:
1. FRP or Gypsum board and accessories.
- B. System Requirements:
1. Performance Requirements: Fabricate and install systems as indicated but not less than that required to comply with ASTM C754 under the following conditions:
 - a. FRP/Gypsum board partitions (FRP installed over plywood).
- C. Products and Manufacturers
1. FRP/Gypsum Board and Accessories: Listed products establish standard of quality and are manufactured by United States Gypsum Company (USG), Chicago, IL.
 2. Steel Framing and Furring: Company acceptable to Installer.
- D. Metal Framing and Furring Materials
1. Metal Studs and Runners: ASTM C645, "C" shaped, gauge: Provide gage as indicated for studs; runner gage as recommended by stud manufacturer.
- E. Accessories
1. Metal Trim for FRP/Gypsum Board: Conform to dimensions shown on Drawings. Material or interior Work: Galvanized steel, 26 gage minimum.
- G. Installation
1. Examine substrates and adjoining construction and conditions under which Work is to be installed. Do not proceed with Work until unsatisfactory conditions are corrected.

End of Section 09260

Section 09660 - Floors

2.02 Concrete Floors:

- A. Finish Concrete floors to a smooth finish, sloped to drains and flood tested.
- B. Prepare floors for finish, washing with muriatic acid or other acceptable etching solution.
- C. Apply epoxy concrete floor sealer and finish by Dur-A-Flex, Dur-A-Chip flooring system, color to match existing building at Hole-in-the-Wall Beach on Baptist Lane, East Lyme. Apply per manufacturer's recommended specifications and with the following installation instructions:

The system to be installed will be Dur-A-Flex's MMA Cry-la-Chip Floor Coating, which consists of the following: First, we will install one coat of Cry-la-prime P101 MMA as the primer. Then we will apply one coat of Dur-A-Flex's Cry-la-glaze G201 Floor System with decorative chips added and broadcasted to excess. Then we will install a second coat of Dur-A-Flex's Cry-la-glaze G201 with decorative chips added. Then we will apply one topcoat of Dur-A-Flex's Cry-la-top T301 MMA.

The entire area will be available to the installation crews exclusively during application as this is a finish product. The Town shall provide access to water, finish lighting, electrical power and receptacle for trash removal. The protection and final cleaning of finished floor is to be done by others. Inspection of floor by Town before installation. Avoid high moisture readings for manufacturer's installation recommended levels. Provide one moisture test per project will be provided.

Section 09700 -

Section 09900 - Painting and Staining

2.05 Interior Painting and Staining

- A. Primer and paint to be Sherwin Williams or approved equals. All paints to be manufacturer's best quality.
- B. Clean, sand with 150 grit, fill all nail holes, fair and leave blemish free, caulk and prepare all surfaces for highest workmanlike quality finishes.
- C. Prime all walls and ceilings (un-tiled/FRP areas) with sealer/primer by US Gyp. Prime windows, wood doors, trim, base and casings with one (1) coat oil based primer.
- D. Caulk all nail holes, blemishes, joints, sand smooth all surfaces for final painting.
- E. Stain, seal and finish all exposed wood surfaces (two coat finish).
- F. Use fungicidal paint additive on interior surfaces of bathrooms, utility room, and office walls, ceiling and wood base trim.
- G. Paint all interior surfaces, colors by Owner, with latex based - "Eggshell" finishes:
 1. Ceilings: latex "Ceiling White", all ceiling areas. Walls: Latex semi-gloss wall.

2. Casework, Doors, Sash, & Trim: Enamel base gloss paint.

2.06 Exterior Painting and Staining

- A. Primer and paint to be Sherwin Williams or approved equals. All paints to be manufacturer's best quality. All stains to be Cabot or approved equals.
- B. Clean, sand with 150 grit, fill all nail holes, leave blemish free and caulk and prepare all surfaces for highest workmanlike quality finishes.
- C. Apply 2 coats of stain to all exposed finish siding and oil based primer to all exterior trim back & cuts.
- D. Provide Phenoseal latex or equivalent caulking at all casings, seams, trim, rakes and soffit joints. Fill all nail holes, gauges or blemishes with filler and seal.
- E. Apply two (2) finish coats, latex based paint per manufacturer's recommendations for exterior painted surfaces. Colors by Owner.
- F. Concrete or Masonry Building Exterior; apply two (2) coats Thoroseal or equivalent as per manufacturer's recommended application.
- G. Exterior Metal, powder coat-finish . Color by Owner.

End Division 9

DIVISION 10, SPECIALTIES

Section 10100

Part 1 - General

1.01 Related work described elsewhere:

- 1. Lavatory Accessories

1.02 Quality Assurance

- A. Standards: Comply with all pertinent codes and regulations, and accessibility.

1.03 Submittals

- A. Make all proposals for substitution in strict accordance with the provisions of Section 01300 of these Specifications.

1.04 Product Handling

- A. Protection:
 - 1. Use all means necessary to protect materials before, during, and after delivery to the job site and to protect the installed work and materials of all other trades.

Part 2 Products

2.01 Bathroom Area Accessories

- A. Provide and install:
 - 1. Handicap accessories by: *Amera-Products®*, Inc. or equal, grab-bars in stainless steel;
 - 2. Toilet paper dispenser: *Georgia Pacific*.

3. Hand dryer: Xlerator.
- B. Provide the following in the Utility/Storage Area:
 - 1. Floor: Concrete – pitch to hard drain;
 - 2. Maintenance sink: Swanstone.
 - C. Provide and install 24”W x 36”H mirrors in frameless stainless steel at each lavatory by American Specialties, Inc..
 - D. Provide and install Georgia Pacific soap dispensers.
 - E. Provide and install 36” back stabilizer and 36” lateral grab-rail handicap bars in compliance with ADA specifications.
 - F. Provide and install ADA compliant stainless steel flush valve wall-mounted toilets at each Bathroom by American Standard®.
 - G. Provide and install ADA compliant vitreous china sinks at each Bathroom by Kohler® with Delta Commercial faucet.
 - H. Provide and install ADA compliant vitreous china American Standard urinals at Men’s Bathroom.
 - I. Provide and install toilet, urinal, and toilet partitions as required and as shown in the Drawings.
 - J. Install Town-furnished stainless steel outdoor shower and foot sprayer as shown in the Drawings by Stern-Williams including 32-LK hose bibb and mounting plate.
 - K. Install Town-furnished concrete outdoor drinking fountains as shown in the Drawings by Haws Corp.

2.02 Bathroom Partitions

Part 1 - General

1.01 Work Included

- A. The toilet partitions shall be stainless steel with floor anchored overhead braces, installation as distributed by Amera-Products®, Inc. 800-608-6568 or www.toiletstalls.com.

1.02 Related Work

- A. Furnish labor and materials necessary for completion of work in this section as shown in approved drawings.

Part 2 - Products

2.01 Doors, Panels and Urinal Screens

- A. Stock shall be 1" thick and fabricated from tension-leveled, 22 gauge type 304 stainless steel with #4 finish.
- B. Pilasters shall be 1-1/4" thick and fabricated from tension-leveled 20 gauge type 304 stainless steel with #4 finish.
- C. Material: Doors, panels, pilasters and urinal screens shall be manufactured with a resin impregnated honeycomb core that is bonded under pressure to the stainless steel with a

- non- toxic adhesive to ensure solid construction and sound attenuation. All stainless steel components shall be assembled with a special interlocking, 20-gauge stainless steel molding welded and ground smooth at the corners.
- D. Finishes: All components shall be stainless steel with a #4 satin finish and include a PVC film for protection during shipment and installation.
 - E. Door Hardware - Shall be a "stay-level" non rising cam action hinge that permit door to remain at desired position when not in use. Hinges, one-piece strike and keeper, and coat hook shall be attached with tamper resistant barrel nuts and shoulder screws. Concealed latch assembly shall allow for emergency access. Doors for handicapped compartments shall be supplied with ADA paddle handle.
 - F. Mounting Hardware: Chrome plated Zamac stirrup brackets shall be used to mount panels and pilasters. Pilaster trim shoes shall be 304 stainless steel with #4 satin finish. Mounting hardware shall be secured with tamper resistant sheet metal screws.
 - G. Construction Design - Compartments shall be floor anchored with angle bracket mounting system. Integral leveling bolt provides proper height adjustment. Floor anchoring system shall be concealed by a stainless steel trim shoe. Aluminum head-rail with anti-grip profile shall provide overhead bracing and span all compartments and brace the end pilaster to the back wall.

Part 3 - Execution

3.01 Installation

- A. Compartments and urinal screens shall be installed in accordance with installation instructions. All components shall be rigid, straight and plumb. Doors and panels mounted 12" above the finished floor.

End Division 10

DIVISIONS 11 EQUIPMENT

- A. Provide and install ADA compliant Koala Care® Infant Changing Stations as shown on the Drawings.

DIVISIONS 12 FURNISHINGS

- A. Provide and install 36”H x 30”W enclosed bulletin and pin-up boards by Allen Display(ModelGH-PB13630VX) with bronze aluminum frame including lockable hinged doors and shatter-resistant acrylic to keep display clean and undisturbed, natural cork self-healing posting surface, and interior case depth of 1-5/16”.

DIVISIONS 13 SPECIAL CONSTRUCTION

(N/A)

DIVISIONS 14 CONVEYING SYSTEMS

(N/A)

DIVISION 15, MECHANICAL SYSTEMS

Section 15000

- A. Provide and install Ariston-T GL4 Point-of-Use 3.85 Gal. 12 amp, 110v or equal flash-heater for instantaneous hot water in both Bathrooms.
- B. No heating system shall be included at the time of construction but proper provisions for future installations shall be accommodated.
- C. The plumbing system shall have a drain-back manifold so the Town may pressure-drain the system for winter dormancy.
- D. The contractor shall submit a drain-back plan and schematic to the Town Engineer for review and approval.
- E. The Contractor shall include at the time of construction proper provisions for future installation of plumbing for hot water heater and showers.
- F. Provide and Install Wirsbo Aquapex PEX Tubing. Aquapex PEX Tubing shall be listed to ASTM F876 and F877 and certified to NSF Standards 14 and 61. Aquapex shall be

manufactured and listed to ASTM and F877 and certified to NSF Standards 14 and 61. Aquapex tubing is rated and listed by the Hydrostatic Stress Board of PPI at 200°F at 80 psi, 180°F at 100 psi and 73.4°F at 160 psi. Use only approved compatible parts, connectors, and accessories.

- G. Provide and install connection to Municipal Water supply including service main, curb box and shutoff, service entrance and required metering and distribution. The Contractor shall provide the Town Engineer with adequate schematics for review and approval.
- H. **Bathroom Fixtures** as follows:
 - 1. American Standard toilets with Sloan flush valve (see Schedule Drawing Sheet A-1);
 - 2. Kohler sinks with Delta faucets (see Schedule Drawing Sheet A-1);
 - 3. American Standard urinals with Sloan flush valve (see Schedule Drawing Sheet A-1);
 - 4. Water fountain (stainless steel) by Haws Corp (see Schedule Drawing Sheet A-1 (Town to provide));
 - 5. Outdoor shower by Stern-Williams (see Schedule Drawing Sheet A-1) (Town to provide)
 - 6. Utility sink by Swanstone™.

DIVISION 16, ELECTRICAL

Section 16000

- A. All wiring shall be copper conductor in Romex sheathing and in accordance with Electrical Codes.
- B. Switches, outlets, and dimmers to be "Decora" by Leviton, color to be ivory.
- C. Contractor to coordinate all lighting locations, fixtures and specifications with Owner.
- D. Coordinate with all utilities for necessary permits and installation requirements, including but not be limited to CL&P Electric, AT&T Telephone and MetroCast Cable.
- E. Contractor shall coordinate and supply all electrical connections for other trades and installed equipment.
- F. Provide underground service from CL&P Pole #7045.
- G. Provide all copper service and wiring per National Electrical Code.
- H. Provide and install Meter box per CL&P requirements.
- I. Provide and install 200 amp 24 gang service panel by General Electric or equal.
- J. Provide disconnect.
- K. Provide (1) ceiling mounted bathroom exhaust fans by Nutone® (Model 8310).
- L. Coordinate, cooperate and supply all electrical connections for other trades and installed equipment.
- M. Provide and install conduit for future installations which may include CAT 5E, telephone, alarm or other wiring.

End Specifications

APPENDIX



February 24, 2012

Mr. Bill Scheer P.E., L.S.
Town of East Lyme
P.O. Box 519
Niantic, CT 06357

**RE: Pre-Demolition Asbestos Containing Materials Inspection
McCooks Park – Lower Bathroom
8 Atlantic Avenue,
Niantic, Connecticut
Eagle Project No. 12-056.10**

Dear Mr. Scheer:

Attached is the report for the asbestos containing materials inspection conducted at the lower bathroom located at McCooks Park at 8 Atlantic Avenue in Niantic, Connecticut. The inspection was performed to support the demolition of the building.

Please do not hesitate to contact us if you have any questions regarding the contents of this report.

Sincerely,
Eagle Environmental, Inc.

Report Prepared By:
Chris Liberti
Project Manager

Report Reviewed By:
Peter J. Folino
Principal

\\Eagle-server\PUBLIC\2012 Files\2012 Reports\East Lyme, Town of\8 Atlantic Avenue - McCooks Park Lower Bathroom\8 Atlantic Ave- Pre Demo ACM Report.doc



EAGLE
Environmental, Inc.

- Industrial Hygiene / IAQ
- Hazardous Building Materials
- Environmental Assessments
- Laboratory Services & Training

PRE-DEMOLITION ASBESTOS CONTAINING MATERIALS INSPECTION
FOR

McCOOKS PARK – LOWER BATHROOM
8 ATLANTIC AVENUE,
NIANTIC, CONNECTICUT

PROVIDED TO

TOWN OF EAST LYME
PO BOX 519
NIANTIC, CONNECTICUT

PROVIDED BY

EAGLE ENVIRONMENTAL, INC.
531 NORTH MAIN STREET
BRISTOL, CONNECTICUT

FEBRUARY 24, 2012

EAGLE PROJECT NO. 12-056.10



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APPENDICES

- Appendix 1 Floor Plans and Roof Plans
- Appendix 2 Asbestos Bulk Sample Laboratory Reports
- Appendix 3 Eagle Environmental Inc. Licenses
- Appendix 4 Laboratory Certificates

1.0 INTRODUCTION

On February 17, 2012, Eagle Environmental, Inc. conducted an asbestos containing materials inspection of the lower bathrooms of McCooks Park located at 8 Atlantic Avenue in Niantic, Connecticut. The inspection was performed to support the demolition of the building.

1.1 Building Description

The Bath House located at 8 Atlantic Avenue in Niantic, Connecticut is a single story structure of block construction. The structure was built in 1971. The building is constructed slab on grade. There is no heating system in the building. The interior walls and ceilings are of painted concrete block and plywood. There are no windows. The door frames are metal with metal doors. The floors are concrete. The exterior facades are of block construction. The roof is pitched and consists of one layer of asphalt shingles.

2.0 SCOPE OF INSPECTION

2.1 Asbestos Containing Materials

The asbestos inspection was conducted in order to satisfy the USEPA National Emission Standard for Hazardous Air Pollutants Act (NESHAP) as amended November 20, 1990. The USEPA NESHAP final rule requires the identification and removal of all regulated ACM in a building prior to demolition.

The asbestos inspection was performed by Ben Silverman; State of Connecticut licensed Asbestos Inspectors (license # 000783).

3.0 INSPECTION PROTOCOLS

3.1 Asbestos-Containing Materials

3.1.1 Inspection

The asbestos-containing materials inspection included the accessible interior and exterior portions of the building including the roofing systems. Semi-destructive testing techniques were utilized during the inspection process. This included cutting through various layers of roofing materials to verify and sample individual layers of suspect ACM. Suspect building materials that are inaccessible for inspection and sampling are assumed to be ACM for the purpose of this report.

During the inspection, suspect materials are located, sampled, quantified and the friability of the material is determined. Friable materials are those materials that hand pressure can crumble, pulverize or reduce to powder when dry. Estimated quantities of identified ACM's are provided for positive materials only. The materials are quantified in linear or square feet, depending on the nature of the material.

3.1.2 Bulk Sampling

During the sampling process, suspect ACM is separated into three USEPA categories. These categories are: Thermal System Insulation (TSI), Surfacing Materials, and Miscellaneous materials. TSI includes all materials used to prevent heat loss or gain or water condensation on mechanical systems. Examples of TSI are pipe covering, boiler insulation, duct wrap, and mudpack fitting cement. Surfacing ACM includes all ACM that is sprayed, towed or otherwise applied to an existing surface. These applications are most commonly used in fireproofing, decorative, and acoustical applications. Miscellaneous materials include all ACM not listed in thermal or surfacing, such as linoleum, vinyl asbestos flooring, and ceiling tile.

All bulk sampling methods and number of samples collected meets or exceeds the USEPA pre-demolition requirements.

3.1.3 Bulk Sample Analysis

The samples of the suspect asbestos containing materials are sent to a State of Connecticut Department of Public Health (DPH) approved laboratory for analysis by Polarized Light Microscopy (PLM). PLM is the USEPA accepted method of analysis for identification of asbestos in bulk matrixes. Samples are collected individually or in sets. When sets of samples are collected, each set is systematically analyzed until one sample is determined to contain asbestos. Upon the determination of the presence of asbestos in one sample in the set, analysis of the remaining samples in the set is discontinued. If no asbestos is observed during analysis of the set of samples, the suspect material is determined to be negative for asbestos content.

Sample analysis results are reported in percentage of asbestos and non-asbestos components. The USEPA defines any material that contains greater than one percent asbestos, utilizing PLM, as being asbestos-containing material (ACM). Suspect materials containing greater than one percent (1%) asbestos utilizing the PLM Point Count Method and the NOB TEM method are also considered to be asbestos-containing. Materials determined to contain greater than one percent (1%) asbestos is regulated by the USEPA, the State of Connecticut Department of Public Health and Department of Environmental Protection and the United States Department of Labor. Sample results indicating "no asbestos detected" (NAD) are specified as non-asbestos containing materials. Samples results indicating "Did Not Analyze" (DNA) are not analyzed due to the stop on first positive request to the laboratory.

3.1.3.1 Friable ACM Analysis

Certain samples of friable materials shown to contain less than 10% asbestos are analyzed further by the "Point Count Method". This procedure is recommended by the United States Environmental Protection Agency to confirm friable bulk samples shown to have less than 10% asbestos by PLM to be definitively negative or positive for asbestos. This method is accepted as providing statistically reliable results when analyzing bulk samples with very low asbestos concentrations. Friable materials containing "Trace" or "less than one percent (1%)" asbestos must be analyzed by the PLM Point Count Method.

3.1.3.2 Non-Friable ACM Analysis

Certain samples of non-friable materials shown to contain "less than 1% asbestos", "TRACE" or "NAD" are recommended for analyses by the "NOB TEM ELAP 198.4 Method". This procedure is recommended by the United States Environmental Protection Agency to further evaluate non-friable bulk samples for asbestos. Suspect materials confirmed by NOB TEM to be "less than 1% asbestos", "TRACE" or "NAD" are considered non-asbestos containing.

4.0 INSPECTION RESULTS

4.1 Asbestos-Containing Materials

During the course of the building inspection fifteen (15) bulk samples of suspect ACM were collected and analyzed by PLM.

From the fifteen (15) samples analyzed, all were confirmed to be non-ACM.

The summaries of non-asbestos materials are presented in Table II of the report. The asbestos analysis laboratory reports are provided in Appendix 2.

Any suspect material not specifically identified in this report as non-ACM should be assumed to contain asbestos unless sample results prove otherwise.

For asbestos abatement projects involving less than ten (10) linear feet or twenty-five (25) square feet of asbestos-containing materials or projects where no regulated asbestos-containing materials are identified, the facility owner or any person who will be conducting demolition must submit a demolition notification to the State of Connecticut Department of Public Health post marked or hand delivered ten (10) days prior to the commencement of demolition activities.

TABLE I
ASBESTOS-CONTAINING MATERIALS SUMMARY TABLE

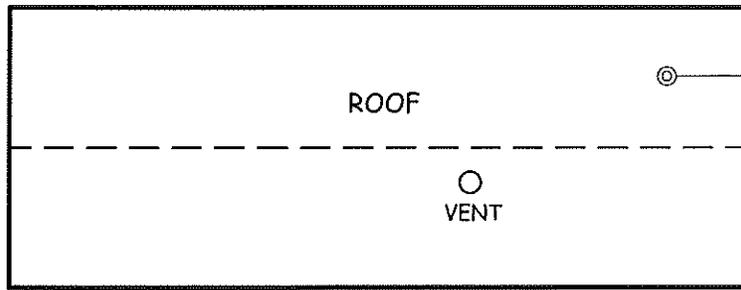
TABLE II
NON ASBESTOS-CONTAINING MATERIALS SUMMARY TABLE

TABLE II
 NON - ASBESTOS CONTAINING MATERIALS
 SUMMARY TABLE
 MCCOOKS PARKS- LOWER BATHROOM
 NANTIC, CONNECTICUT

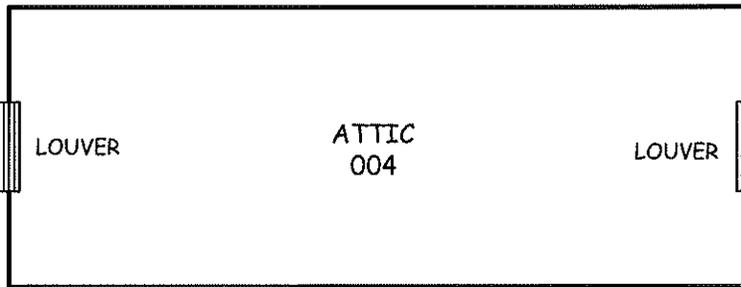
LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CLASS	BULK SAMPLE ANALYSIS RESULTS		
				PLM	PLM/PC	ACM
Room 001, 002, 003	Mortar associated with block walls	2-17-BS-13	MISC	NAD		
		2-17-BS-14		NAD		NO
		2-17-BS-15		NAD		
Façade A, B	White exterior metal door frame caulk	2-17-BS-01	MISC	NAD		
		2-17-BS-02		NAD		NO
		2-17-BS-03		NAD		
Roof	Top layer asphalt shingle	2-17-BS-04	MISC	NAD		
		2-17-BS-05		NAD		NO
		2-17-BS-06		NAD		
Roof	Second layer asphalt shingles	2-17-BS-07	MISC	NAD		
		2-17-BS-08		NAD		NO
		2-17-BS-09		NAD		
Roof	Bottom layer asphalt shingles	2-17-BS-10	MISC	NAD		
		2-17-BS-11		NAD		NO
		2-17-BS-12		NAD		
KEY				ANALYTICAL METHODS		
DNA = DID NOT ANALYZE				PLM PC=EPA 600/R-93/116 QUANTITATION 400 POINT COUNT		
NAD=NO ASBESTOS DETECTED				TEM NOB = NEW YORK ELAP 198.4 METHOD		
F = FRIABLE				PLM=EPA 600/R-93/116		
NF = NON-FRIABLE				PS=Previously Sampled		
TSI = THERMAL SYSTEMS INSULATION						
SURF = SURFACING MATERIAL						
MISC = MISCELLANEOUS MATERIAL						
BOLD TEXT IN "LOCATION" COLUMN INDICATES SAMPLE LOCATION						

APPENDIX 1
FLOOR PLANS AND ROOF PLANS

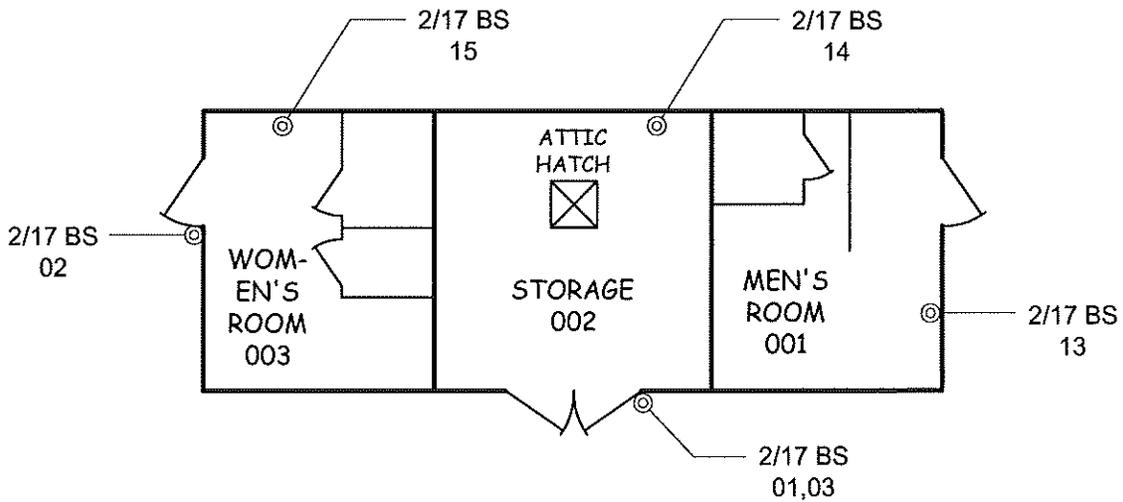
SIDE-C



ROOF PLAN



ATTIC FLOOR PLAN



FIRST FLOOR PLAN

BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS WITHIN DESIGNATED SAMPLE SET.

SIDE-A (STREET SIDE)

NOT TO SCALE



EAGLE
Environmental, Inc.

531 NORTH MAIN STREET
BRISTOL, CONNECTICUT 06010
860-589-8257

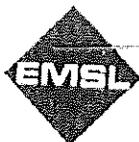
DATE: 2/23/11
PROJECT NO.: 12-056.10
DRAWN BY: MR
REVIEWED BY: PF

PRE-DEMOLITION ASBESTOS CONTAINING MATERIALS INSPECTION
McCOOKS PARK LOWER BATHROOMS
8 ATLANTIC AVENUE, NIANTIC, CONNECTICUT
SAMPLE LOCATION DIAGRAM

SHEET NO.
FP-1

SHEET 1 OF 1

APPENDIX 2
ASBESTOS BULK SAMPLE LABORATORY REPORTS



www.emsl.com

EMSL - MA
7 Constitution Way, Ste 107
Woburn, MA 01801
(781) 933-8411
(781) 933-8412 Fax

EMSL - CT
4 Fairfield Blvd.
Wallingford, CT 06492
(203) 284-5948
(203) 284-5978 Fax

EMSL - NY
307 West 38th Street
New York, NY 10018
(866) 448-3675
(212) 290-0058 Fax

EMSL - NJ
107 Haddon Avenue
Westmont, NJ 08108
(800) 220-3675
(856) 858-4960 Fax

Your Name:

Brandy LeBlanc

Company:

Eagle Environmental, Inc.

Street:

531 North Main Street

City/State/Zip:

Bristol, CT 06010

Phone:

860-589-8257 ext. 203

Project Manager: PF

Project Name

PreDemo ACM Inspection

Project Location:

McCooks Park (Lower Bathroom) - 8 Atlantic Avenue, Niantic CT

Project #: 12-056-11

Project State (US):

CT

TURNAROUND TIME

3 Hours 6 Hours 24 Hours 48 Hours 72 Hours 4 Days 5 Days 6-10 Days

SAMPLE MATRIX

Air Bulk Soil Wipe Micro-Vac Drinking Water Wastewater Chips Other

ASBESTOS ANALYSIS

PCM - Air

- NIOSH 7400 (A) Issue 2, August 1994
- OSHA w/TWA

TEM AIR

- AHERA 40 CFR Part 763 Subpart E
- NIOSH 7402 Issue 2
- EPA Level II

PLM - Bulk

- EPA 600/R-93/116
- NY Stratified Point Count
- California Air Resource Board (CARB) 435
- NIOSH 9002
- PLM HCB (Gravimetric) NYS 198.1
- EPA Point Count (400 Points)
- EPA Point Count (1,000 Points)
- Standard Addition Point Count

SOILS

- EPA Protocol Qualitative
- EPA Protocol Quantitative
- EMSL MSD 9000 Method fibers/gram
- Superfund EPA 540-R097-078 (dust generation)

TEM BULK

- Drop Mount (Qualitative)
- Chatfield SOP-1988-02
- TEM NOB (Gravimetric) NY 198.4

TEM MICROVAC

- ASTM D 5755-95 (Quantitative)

TEM WIPE

- ASTM D 6480-99
- Qualitative

TEM WATER

- EPA 100.1
- EPA 100.2
- NYS 198.2
- Other

LEAD ANALYSIS

Flame Atomic Absorption

- Wipe, SW846-7420 ASTM non ASTM
- Soil, SW846-7420
- Air, NIOSH 7082
- Chips, SW846-7420 or AOAC 5.009 (974.02)
- Wastewater, SW 846-7420
- TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption

- Air, NIOSH 7105
- Wastewater, SW846-7421
- Soil, SW846-7421
- Drinking Water, EPA 239.2

ICP - Inductively Coupled Plasma

- Wipe, SW846-6010 ASTM non ASTM
- Soil, SW846-6010
- Air, NIOSH 7300

MATERIALS ANALYSIS

- Full Particle Identification
- Optical Particle Identification
- Dust Mtes and Insect Fragments
- Particle Size & Distribution
- Product Comparison
- Paint Characterization
- Failure Analysis
- Corrosion Analysis
- Glove Box Containment Study
- Petrographic Examination of Concrete
- Portland Cement in Workplace Atmospheres (OSHA ID-143)
- Man Made Vitreous Fibers - MMVF's
- Synthetic Fiber Identification
- Other

MICROBIAL ANALYSIS

Air Samples

- Mold & Fungi by Air O Cell
- Mold & Fungi by Agar Plate count & id
- Bacterial Count and Gram Stain
- Bacterial Count and Identification

Water Samples

- Total Coliforms, Fecal Coliforms
- Escherichia Coli, Fecal Streptococcus
- Legionella
- Salmonella
- Giardia and Cryptosporidium

Wipe and Bulk Samples

- Mold & Fungi - Direct Examination
- Mold & Fungi - (Culture follow up to direct examination if necessary)
- Mold & Fungi - Culture (Count & ID)
- Mold & Fungi - Culture (Count only)
- Bacterial Count & Gram Stain
- Bacterial Count & Identification (3 most prominent types)
- Other

IAQ ANALYSIS

- Nuisance Dust (NIOSH 0500 & 0600)
- Airborne Dust (PM10, TSP)
- Silica Analysis by XRF NIOSH 7510
- HVAC Efficiency
- Carbon Black
- Airborne Oil Mist
- Other

Additional Information/Comments/Instructions:

****PLEASE STOP ON 1ST POSITIVE WITHIN SETS**

Client Sample # (S)

2/17-BS-01

2/17-BS-15

TOTAL SAMPLE #

15

Relinquished:

Ben Baber

Date:

2/17/12

Time:

2 PM

Received:

Diana Kumbach

Date:

2/17/12

Time:

Relinquished:

Diana Kumbach

Date:

2/17/12

Time:

Received:

Ally

Date:

2/18

Time:

11:37 AM

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018
 Phone/Fax: (212) 290-0051 / (212) 290-0058
<http://www.emsl.com> manhattanlab@emsl.com

EMSL Order: 031205091
 CustomerID: EEVM50
 CustomerPO:
 ProjectID:

Attn: **Brandy LeBlanc**
Eagle Environmental, Inc. (CT)
531 North Main St.
Bristol, CT 06010

Phone: (860) 589-8257
 Fax: (860) 585-7034
 Received: 02/18/12 11:37 AM
 Analysis Date: 2/20/2012
 Collected: 2/17/2012

Project: 12-056-10/ PRE DEMO ACM INSPECTION / MCCOOKS PARK (LOWER BATHROOM) / 8 ATLANTIC AVE / NIAN TIC CT

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2/17 BS 01 031205091-0001	WHITE EXTERIOR METAL DOOR FRAME CAULK / FAC A	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
2/17 BS 02 031205091-0002	WHITE EXTERIOR METAL DOOR FRAME CAULK / FAC B	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
2/17 BS 03 031205091-0003	WHITE EXTERIOR METAL DOOR FRAME CAULK / FAC A	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
2/17 BS 04 031205091-0004	TOP LAYER ASPHALT SHINGLE / ROOF	Black Fibrous Homogeneous	6% Glass	94% Non-fibrous (other)	None Detected
2/17 BS 05 031205091-0005	TOP LAYER ASPHALT SHINGLE / ROOF	Black Fibrous Homogeneous	6% Glass	94% Non-fibrous (other)	None Detected
2/17 BS 06 031205091-0006	TOP LAYER ASPHALT SHINGLE / ROOF	Black Fibrous Homogeneous	6% Glass	94% Non-fibrous (other)	None Detected

Analyst(s)

Sean Scales (15)

James Hall, Laboratory Manager
 or other approved signatory

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Initial report from 02/20/2012 03:36:28

**EMSL Analytical, Inc.**

307 West 38th Street, New York, NY 10018
 Phone/Fax (212) 290-0051 / (212) 290-0058
<http://www.emsl.com> manhattanlab@emsl.com

EMSL Order: 031205091
 CustomerID: EEVM50
 CustomerPO:
 ProjectID:

Attn: **Brandy LeBlanc**
Eagle Environmental, Inc. (CT)
531 North Main St.
Bristol, CT 06010

Phone: (860) 589-8257
 Fax: (860) 585-7034
 Received: 02/18/12 11:37 AM
 Analysis Date: 2/20/2012
 Collected: 2/17/2012

Project: 12-056-10/ PRE DEMO ACM INSPECTION / MCCOOKS PARK (LOWER BATHROOM) / 8 ATLANTIC AVE / NIANTIC CT

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2/17 BS 07 031205091-0007	SECOND LAYER ASPHALT SHINGLES / ROOF	Black Fibrous Homogeneous	6% Glass	94% Non-fibrous (other)	None Detected
2/17 BS 08 031205091-0008	SECOND LAYER ASPHALT SHINGLES / ROOF	Black Fibrous Homogeneous	6% Glass	94% Non-fibrous (other)	None Detected
2/17 BS 09 031205091-0009	SECOND LAYER ASPHALT SHINGLES / ROOF	Black Fibrous Homogeneous	6% Glass	94% Non-fibrous (other)	None Detected
2/17 BS 10 031205091-0010	BOTTOM LAYER ASPHALT SHINGLES/ ROOF	Black Fibrous Homogeneous	8% Glass	92% Non-fibrous (other)	None Detected
2/17 BS 11 031205091-0011	BOTTOM LAYER ASPHALT SHINGLES/ ROOF	Black Fibrous Homogeneous	8% Glass	92% Non-fibrous (other)	None Detected
2/17 BS 12 031205091-0012	BOTTOM LAYER ASPHALT SHINGLES/ ROOF	Black Fibrous Homogeneous	8% Glass	92% Non-fibrous (other)	None Detected
2/17 BS 13 031205091-0013	MORTAR ASSOC W/ BLOCK WALLS / ROOM 001	Gray/White Non-Fibrous Heterogeneous		35% Non-fibrous (other) 15% Ca Carbonate 50% Quartz	None Detected

Analyst(s)
 Sean Scals (15)


 James Hall, Laboratory Manager
 or other approved signatory

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Project: 12-056-10/ PRE DEMO ACM INSPECTION / MCCOOKS PARK (LOWER BATHROOM) / 8 ATLANTIC AVE / NIAN TIC CT

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
2/17 BS 14 031205091-0014	MORTAR ASSOC W/ BLOCK WALLS / ROOM 003	Gray/White Non-Fibrous Heterogeneous		35% Non-fibrous (other) 15% Ca Carbonate 50% Quartz	None Detected
2/17 BS 15 031205091-0015	MORTAR ASSOC W/ BLOCK WALLS / ROOM 002	Gray/White Non-Fibrous Heterogeneous		35% Non-fibrous (other) 15% Ca Carbonate 50% Quartz	None Detected

Analyst(s)

Sean Scales (15)

James Hall, Laboratory Manager
 or other approved signatory

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 Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC-IHLAP Lab 102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from 02/20/2012 03:36:28

APPENDIX 3
EAGLE ENVIRONMENTAL INC. LICENSES

CERTIFICATE OF ACHIEVEMENT

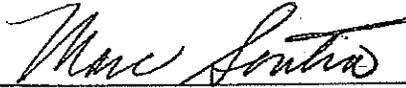
This certifies that

Ben Silverman

has successfully completed the
**Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763**

conducted by

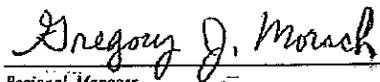
*ATC Associates Inc.
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070*



*Principal Instructor
January 26, 2012*

Date of Course

*January 26, 2013
Expiration Date*



*Regional Manager
SIAR - 4066
Certificate Number*

*January 26, 2012
Examination Date*

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME

BEN SILVERMAN

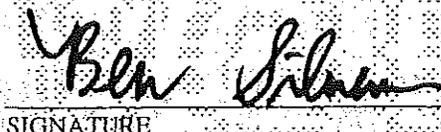
VALIDATION NO.
03-289259

LICENSE NO.
000783

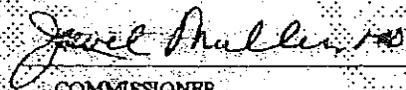
CURRENT THROUGH
08/31/12

PROFESSION

ASBESTOS CONSULTANT-INSPECTOR



SIGNATURE



COMMISSIONER

APPENDIX 4
LABORATORY CERTIFICATES

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS LICENSED
BY THIS DEPARTMENT AS A

LEAD CONSULTANT CONTRACTOR

EAGLE ENVIRONMENTAL INC.

LICENSE NO.

001723

CURRENT THROUGH

04/30/12

VALIDATION NO.

03-219659


SIGNATURE


COMMISSIONER

State of Connecticut, Department of Public Health
Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

EMSL ANALYTICAL, INC. - MANHATTAN, NY

LOCATED AT 307 West 38th Street IN New York, NY 10018
AND REGISTERED IN THE NAME OF Peter Frasca, Ph.D.

THIS CERTIFICATE IS ISSUED IN THE NAME OF James Hall WHO HAS BEEN DESIGNATED
BY THE REGISTERED OWNER/AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF
APPROVAL AS FOLLOWS:

ASBESTOS

Paint Chips, Soil, Dust Wipes

Examination For:

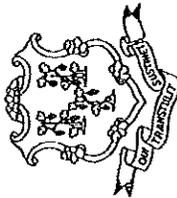
Examination For:

Bulk - Identification (PLM, TEM)
Air - Fiber Counting (PCM, TEM)
Water - TEM

Lead

SEE COMPUTER PRINT-OUT FOR SPECIFIC TESTS APPROVED

THIS CERTIFICATE EXPIRES September 30, 2012 AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH
DATED AT HARTFORD, CONNECTICUT, THIS 24th DAY OF September, 2010



Registration No.

PH-0170

SUZANNE BLANCAFLOR, MS
CHIEF, ENVIRONMENTAL HEALTH SECTION