



City of New London

Department of Finance-Purchasing Agent
13 Masonic Street • New London, CT 06320 • Phone (860) 447-5215 • Fax (860) 447-5297

Invitation for Bids

Specifications and Proposal Documents Attached

Bid No.: 2011-22

Opening Date and Time: March 15, 2011 at 2:00 P.M.

Replacement of City Hall Roof

Special Instructions:

The following information must appear in the lower left hand corner of the envelope:

Sealed Bid No.: 2011-22

Not to be opened until March 15, 2011 at 2:00 P.M.

Return Bid to:

William R. Hathaway, Purchasing Agent
City of New London
13 Masonic Street
New London, CT 06320

Bids shall not be accepted after the Opening Date and Time indicated above.



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PLEASE RETURN THIS FORM IMMEDIATELY

Acknowledgement: Receipt of Invitation for Bids

Bid No.: 2011-22

Replacement of City Hall Roof

Please take a moment to acknowledge receipt of the attached documents. Your compliance with this request will help us to maintain proper follow-up procedures and will ensure that you receive any addendum that may be issued.

Date Issued: 02/15/2011

Date documents received: _____ / _____ / _____

Do you plan to submit a response? Yes _____ No _____

Print or type the following information:

Company Name: _____

Address: _____

Telephone: _____ Fax: _____

E-mail: _____

Received by: _____

Note: Faxed or e-mailed acknowledgements are requested.

Fax No.: (860)447-5297

E-mail: whathaway@ci.new-london.ct.us

Fax this sheet only. A cover sheet is not required.



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Standard Invitation for Bids (IFB) and Contract Terms and Conditions

All Invitations for Bids issued by the City of New London (City) will bind Bidders to the terms and conditions listed below, unless specified otherwise in any individual Invitation for Bids.

Incorporated by reference into this contract are the provisions of Section 2-66 through 2-71 and Section 2-73 of the Code of Ordinances of the City of New London.

The contractor agrees to comply with the Code of Ordinances as they exist on the date of the contract and as they may be adopted or amended from time to time during the term of this contract and any amendments thereto.

Submission of Bids

1. Bids must be submitted on forms supplied by the City of New London. Telephone, facsimile or e-mail bids will not be accepted in response to an Invitation for Bids. An original and one (1) copy of the Proposal Form shall be returned to the Purchasing Agent.
2. The date and time bids are to be opened are given in each Invitation for Bids issued. Bids received after the specified date and time of the bid opening given in each Invitation for Bids will not be considered. Bid envelopes must clearly indicate the bid number as well as the date and time of the bid opening. The name and address of the bidder should appear in the upper left-hand corner of the envelope.
3. Incomplete proposal forms may result in the rejection of the bid. Amendments to bids received by the Purchasing Agent after the date and time specified for the bid opening shall not be considered. Bids shall be computer prepared, typewritten or handwritten in ink. Bids submitted in pencil shall be rejected. A person duly authorized to sign bids for the bidder shall sign all bids. Unsigned bids shall be rejected. The person signing the Proposal Form or their authorized designee must initial errors, alterations or corrections on both the original and copy of the Proposal Form to be returned. In the event an authorized designee initials a correction, there must be written authorization from the person signing the Proposal Form to the person initialing the erasure, alterations or corrections. Failure to do so shall result in rejection of the bid for those items erased, altered or corrected and not initialed.
4. Conditional bids are subject to rejection in whole or in part. A conditional bid is defined as one that limits, modifies, expands or supplements any of the terms and conditions and/or specifications of the Invitation for Bids.
5. Alternate bids will not be considered. An alternate bid is defined as one that is submitted in addition to the bidder's primary response to the Invitation for Bids.
6. Prices should be extended in decimal, not fraction, to be net and shall include delivery and transportation charges fully prepaid by the Contractor to the destination specified in the Invitation for Bids and subject only to cash discount.
7. Pursuant to Sections 12-412 and 12-412(1) of the Connecticut General Statutes, the City of New London is exempt from the payment of excise, transportation and sales taxes imposed by the Federal Government and/or the State. Such taxes must not be included in the bid prices.
8. In the event of a discrepancy between the unit price and the extension, the unit price shall govern.
9. By its submission the Bidder represents that the bid is not made in connection with any other Bidder submitting a bid for the same commodity or commodities and is in all respects fair and without collusion or fraud.

Standard Invitation for Bids (IFB) and Contract Terms and Conditions

10. All bids will be opened and read publicly and upon award are subject to public inspection.

Guaranty or Surety

11. Bid bonds, performance bonds, and labor and material bonds will be required as specified below. Guaranty or surety may be in the form of certified check. Bonds must meet the following requirements: Corporation – must be signed by an official of the corporation above their official title and the corporate seal must be affixed over the signature; Firm or Partnership - must be signed by all of the partners and indicate they are “doing business as”; Individual – must be signed by the owner and indicated as “Owner”. The surety company executing the bond or countersigning must be licensed in Connecticut and an official of the surety company must sign the bond with the corporate seal affixed over the signature. Signatures of two (2) witnesses for both the principal and the surety must appear on the bond. Power of attorney for the official signing the bond for the surety company must be submitted with the bond.

Bid Bond – Ten percent (10%) due at time of bid for all contract services and public works/construction projects that exceed twenty thousand dollars (\$20,000.00)

Performance Bond – One hundred percent (100%) of contract price for projects that exceed fifty thousand dollars (\$50,000.00).

Labor and Material Payment Bonds – One hundred percent (100%) of contract price for projects that exceed fifty thousand dollars (\$50,000.00).

Award

12. Award of this contract will be made to the lowest responsible, qualified bidder and will be based on net cost and City specifications. The City of New London reserves the right to award this contract to other than the low bidder and to make multiple awards if deemed in the best interest of the City.
13. The City of New London allows a fifteen percent (15%) local vendor preference. A New London based business will be considered the lowest responsible bidder if its bid is within fifteen percent (15%) of the low bid and it is willing to accept the award at the low bid price. Any bidder claiming to be a New London based business must provide documentation that all of its motor vehicles are registered in New London and that payment of all of its property and motor vehicle taxes are current.
14. The City of New London may reject any bidder in default of any prior contract or guilty of misrepresentation or any bidder with a member of its firm in default or guilty of misrepresentation.
15. The Purchasing Agent may correct inaccurate awards resulting from clerical or administrative errors.

Other Requirements

16. The City has an employment preference goal that jobs be offered to local residents on public prevailing wage projects with thresholds great than \$100,000 for renovation and \$400,000 for new construction. For such projects, it is understood that contractors shall make a good faith effort to employ a participating workforce comprised of twenty-five (25%) local residents of New London County, CT, with residents of the City of New London, CT getting a priority representing fifty percent (50%) of said participation, which will include twenty-five percent (25%) female and minority.
17. The City has an employee training preference goal that apprenticeship opportunities be made available for state licensed trades on public prevailing wage projects with thresholds greater than \$100,000 for renovation and \$400,000 for new construction. For such projects, it is understood that contractors shall make a good faith effort to employ a minimum of ten percent (10%) of the workforce per state licensed trade as apprentices and, of this number, a minimum of fifty percent (50) shall be in the first year of apprenticeship training.

Standard Invitation for Bids (IFB) and Contract Terms and Conditions (con't)

Contract

18. The existence of a contract shall be determined in accordance with the requirements set forth above.
19. The Contractor shall not assign or otherwise dispose its contract or its right, title or interest, or its power to execute such contract to any other person, firm or corporation without the prior written consent of the City of New London.
20. Failure of a Contractor to deliver commodities or perform services as specified will constitute authority for the City of New London to purchase these commodities or services on the open market. The contractor agrees to promptly reimburse the City of New London for excess cost of these purchases. The purchases will be deducted from the contracted quantities.
21. The Contractor agrees to hold the City of New London harmless from liability of any kind for the use of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention furnished or used in the performance of the Contract; Guarantee its products against defective material or workmanship; repair damages of any kind, for which it is responsible to the premises or equipment, to its own work or to the work of other contractors; obtain and pay for all licenses, permits, fees etc., and to give all notices and comply with all requirements of the City of New London, the State of Connecticut and the U.S.Government.
22. Insurance requirements generally apply to contract services, professional services and public works improvement/construction projects. The Contractor will carry commercial general liability insurance to protect the City of New London from loss. The following minimum limits shall be met:

Bodily Injury and Property Damage – One million dollars (\$1,000,000.00) each occurrence; two million dollars (\$2,000,000.00) aggregate

Products or Completed Operations - One million dollars (\$1,000,000.00) each occurrence; two million dollars (\$2,000,000.00) aggregate

Professional Liability (Errors and Omissions) Coverage appropriate to the contractor's operations – Two million dollars (\$2,000,000.00) each occurrence

Commercial Automobile Coverage including owned, non-owned, leased and hired vehicles (if used on City of New London property) – One million dollars (\$1,000,000.00) combined single limit for each accident.

Workers' Compensation Coverage - Will be in accordance with State of Connecticut requirements at the time of bid.

Any deductible or self-insured retention must be disclosed and any claim payments falling within the deductible shall be the responsibility of the contractor.

The Contractor shall require all subcontractors to carry the same forms and minimum coverage that it is required to provide. Evidence of this coverage must be provided to the City of New London Purchasing Agent prior to the contractor or subcontractor coming onto the work site.

All insurance policies shall be endorsed to the City of New London, its officers and employees as additional insured, and shall not be reduced or cancelled without thirty (30) days prior written notice to the Purchasing Agent. In addition, the contractor's insurance shall be primary as respects the City of New London, and any other insurance maintained by the City of New London shall be excess and not contributing insurance with the contractor's insurance.

23. Notwithstanding any provision or language in this contract to the contrary, the City Manager may terminate this contract upon approval by the City Council, whenever he/she determines that such termination is in the best interest of the City of New London. Any such termination shall be effected by delivery to the Contractor of a

Standard Invitation for Bids (IFB) and Contract Terms and Conditions (con't)

written notice of termination. The notice of termination shall be sent by registered mail to the Contractor address furnished to the City of New London for purposes of correspondence or by hand delivery. Upon receipt of such notice, the Contractor shall both Immediately discontinue all services affected (unless the notice directs otherwise) and deliver to the City of New London all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated by the Contractor in performing its duties under this contract, whether completed or in progress. All such documents, information and materials shall become the property of the City of New London. In the event of such termination, the contractor shall be entitled to reasonable compensation as determined by the City Manager, however, no compensation for lost profits shall be allowed.

Delivery

24. All products and equipment delivered must be new unless otherwise stated in the proposal specifications.
25. All deliveries will be to the locations specified by the City of New London. The City of New London does not have a loading dock therefore all Contractors will be responsible for inside delivery without assistance from City of New London personnel.
26. Payment terms are net 45 days after receipt of goods or invoice, whichever is later, unless otherwise specified.
27. Charges against a Contractor shall be deducted from current obligations. Money paid to the City of New London shall be payable to the Treasurer, City of New London.

Saving Clause

28. The Contractor shall not be liable for losses or delays in the fulfillment of the terms of the contract due to wars, acts of public enemies, strikes, fires, floods, acts of God or any other acts not within the control of or reasonably prevented by the Contractor. The contractor will give written notice of the cause and probable duration of any such delay.

Advertising

29. Contractors may not reference sales to the City of New London for advertising and promotional purposes without prior approval of the City of New London.

Rights

30. The City of New London has sole and exclusive right and title to all printed material produced for the City of New London and the Contractor shall not copyright the printed matter produced under this contract.
31. The Contractor assigns to the City of New London all rights, title and interests in and to all causes of action it may have under Section 4 of the Clayton Act, 15 USC 15, or under Chapter 624 of the Connecticut General Statutes. This assignment occurs when the contractor is awarded the contract.
32. The Contractor agrees that it is in compliance with all applicable federal, state and local regulations, including but not limited to Connecticut General Statutes Section 7-148i. The Contractor also agrees that it will hold the City of New London harmless and indemnify the City of New London from any action which may arise out of any act by the Contractor concerning lack of compliance with these laws and regulations. All purchases will be in compliance with Sections 22a-194 to 22a-194g of the Connecticut General Statutes related to product packaging.
33. This contract is subject to the provisions of Executive Order Number Three of Governor Thomas J. Meskill promulgated June 16, 1971, the provision of Executive Order Number Seventeen of Governor Thomas J. Meskill promulgated February 15, 1973 and Section 16 of Public Act 91-58, nondiscrimination regarding sexual orientation, and the provisions of Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999 regarding Violence in the Workplace Prevention Policy.



City of New London

Purchasing Agent

13 Masonic Street • New London, CT 06320 • Phone (860) 447-5215 • Fax (860) 447-5297

Bid No.: 2011-22
Replacement of City Hall Roof

Special Instructions

1. To schedule a site visit please contact Nicolle Burnham, P. E. at (203)271-1773.
2. Questions regarding this project shall be submitted in writing no later than 12:00 P.M. on February 28, 2011 to:

William R. Hathaway
City of New London
13 Masonic Street
New London, CT 06320-6403
Fax: (860)447-5297
E-mail: whathaway@ci.new-london.ct.us

3. Concrete Rehabilitation – For bidding purposes only, the contract quantity is assumed to be 175 SF. After the existing roof is removed, the City will perform a survey of the deck to determine the final contract quantity. The City shall pay the final contract quantity at the unit price quoted by the contractor that is awarded this bid.
4. On the Statement of Bidder's Qualification Form, the City of New London prefers that the response to Item No. 10. be for work completed on historic structures.
5. The City shall retain five percent (5%) of each payment approved by the Engineer. This amount will be retained until the Engineer accepts the project.

TECHNICAL SPECIFICATIONS

**CITY OF NEW LONDON
REPLACEMENT OF CITY HALL ROOF**

May 24, 2010

MMI #2389-15-33

Prepared for:

City of New London
181 State Street
New London, CT 06320

Prepared by:

MILONE & MACBROOM, INC.
99 Realty Drive
Cheshire, CT 06410
(230) 271-1773
www.miloneandmacbroom.com

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SECTION 010000

GENERAL REQUIREMENTS

01006 THE ENGINEER, HIS STATUS AND DECISIONS

The Engineer is Milone & MacBroom, Inc., 99 Realty Drive, Cheshire, CT 06410 or his accredited representative, and is referred to in the Contract Documents as "Engineer" or "Engineers" or by pronouns which imply them. As information for the Contractor, the Engineer's status is defined as follows:

The Engineer will not make interpretations or decisions directly to the Contractor.

As the authorized representative of the Owner, the Engineer is responsible for review of Shop Drawings, materials and equipment intended for the Work, in accordance with "Working Procedures During Construction", the "General Conditions" and the "Supplementary General Conditions".

01010 SUMMARY OF WORK

Bid No. 2011-05 is entitled REPLACEMENT OF CITY HALL ROOF.

The work to be completed under this Contract includes the replacement of the City Hall roof at 181 State Street, New London, Connecticut. The majority of the work is exterior and includes the removal of the existing roof; removal, handling, and disposal of asbestos material; and the installation of a new EPDM roof and flashing, roof drains, and access hatch. The work shall also include the concrete rehabilitation of the roof slab and masonry restoration of the roof parapet walls. Inside work will include the installation of an access ladder to the roof and insulation of roof drain pipes.

The City reserves the right to decrease the Scope of Work to be done under this Contract, select bid or alternate items in its best interest, or to omit any work in order to bring the cost within available funds. Exercise by the City of the above rights shall not constitute any grounds or basis of claim for damages or for anticipated profits on work omitted.

01012 PROJECT DOCUMENTS

The Specifications and Drawings describe and illustrate the materials and labor necessary for the Work of this Project.

01013 DRAWINGS FURNISHED

The General Contractor will be given a reasonable number of sets (up to 3 sets maximum) of the Contract Documents on or about the time of execution of the Contract.

01015 CONTRACTOR'S USE OF PREMISES

The Contractor shall confine his operations, including storage of apparatus, equipment and materials to the Contract limit lines as directed by the Owner/Engineer.

The areas and/or spaces, including their access, shall be maintained free and clear throughout the Contract term.

Parking for Contractor's employees will be limited to an area (or areas) designated by the Owner.

01016 OCCUPANCY

The Owner will occupy the building during the entire construction period. The Contractor shall cooperate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage. Work shall be scheduled to minimize the impact to building systems operation.

01026 SPECIAL UNIT PRICES

Not Applicable

01040 COORDINATION

The Contractor will coordinate the work of the several trades to assure the efficient and orderly sequence of installation of construction elements.

Contractor to coordinate with Tom Baude at 860-625-3732 for removing electrical extension cords and lights prior to commencing work.

Verify that characteristics of interrelated equipment are compatible. Coordinate the work of various Sections having interdependent responsibilities for installing, connecting and placing equipment in service.

Coordinate space requirements. Follow routing shown for pipes, ducts, and conduits as closely as practicable; make runs parallel with lines of building. Use spaces efficiently to maximize accessibility for other installations and for maintenance and repairs.

In finished areas (except as otherwise shown), conceal pipes and duct in the construction.

01045 CUTTING AND PATCHING

Openings and chasing may not be shown on the Drawings. It is the responsibility of the Contractor to examine all drawings and to provide chases, channels or openings where needed.

The Contractor shall install sleeves, inserts and hangers furnished by the trades needing same.

After installing work into openings, channels and/or chases, the Contractor shall close same. If finishes are to be restored, the new work shall match the original and shall be done by the trade customarily responsible for the work.

Permission shall be obtained from the Engineer before cutting beams, arches, lintels or other structural members.

Do cutting and patching to integrate elements of work and to uncover ill-timed, defective and non-conforming work. Provide penetrations of existing surfaces. Provide samples for testing. Seal penetrations through ceilings and roofs, as applicable; restore or preserve fire-rated construction. Construction and finishes shall match original work.

The Contractor shall verify dimensions for built-in work and/or work adjoining that of other trades before ordering any material or doing any work. Discrepancies shall be submitted to the Engineer before proceeding with the work.

01090 STANDARDS, CODES AND SPECIFICATIONS

For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

References to standard specifications and codes refer to the editions current at the bid due date. References include their addenda and errata, if any, and shall be considered a part of these Specifications as if they were printed here in full.

01100 MEASUREMENT AND PAYMENT

Application for payment: Submit application for payment monthly typed on AIA document G702 "Application and Certificate for Payment" and G703 "Continuation Sheets for G702".

Once each month, the Contractor shall submit a Contractor's Application for Payment to the Engineer for the value of work completed, including but not limited to the value of materials complete in place and materials not yet incorporated into the project, but approved by the engineer for payment. Five percent (5%) of the total amount approved by the Engineer for payment shall be retained by the City of New London until it accepts the project. The balance, less all previous payments, will be certified for payment. When work equaling the original contract value has been accomplished, no additional retainage will be held.

The project shall be completed ninety (90) calendar days after the Notice to Proceed is issued. Liquidated Damages shall be \$500.00 per day.

01210 PRECONSTRUCTION CONFERENCE

A Preconstruction Conference will be held prior to the start of work.

01220 PROJECT MEETINGS

A schedule for regular project meetings will be established at the Preconstruction Conference.

01340 SHOP DRAWINGS

Submit minimum 3 sets.
Details shall be large scale or full size.

The Contractor shall review the shop drawings, stamp with his approval and submit them with reasonable promptness and in an orderly sequence so as to cause no delay in his work or in the work of any other subcontractor. Shop drawings shall be identified by item, material and project number. The Contractor shall inform the Engineer, in writing, of any deviation in the shop drawings from the requirements of the Contract Documents. Shop drawings shall show adjacent and connected equipment and construction.

The Engineer will review and comment on the shop drawings with reasonable promptness so as to cause no delay but only for conformance with the design concept of the project and with the information given in the Contract Documents.

01341 SAMPLES AND SUBMITTALS

Submit samples of items where specifically required. Furnish information and data for items or materials offered "as equal" to those specified to establish their equality.

Mark samples to show:

Name and number of project.

Name, or trade, type, quality or grade and any other further designation necessary to identify the items or materials.

Manufacturer's or producer's name.

Name of Contractor, and Subcontractor, if any.

Submit samples of size and/or number sufficient to show quality, type, range of color, finish and texture.

Furnished materials shall be equal to approved samples.

01400 QUALITY CONTROL

Comply with manufacturers' instructions and specifications for storage and use of their products.

Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

When specified, require manufacturer to provide qualified personnel to observe field conditions; installation; quality of workmanship; to test, adjust and balance equipment, as applicable.

Where required by the Specifications, submit certificates to the Architect, executed by a responsible officer of the manufacturer, warranting that the product meets or exceeds specified requirements.

When required by the Specifications, submit manufacturers' data sheets, including instructions and recommendations.

01410 TESTING LABORATORY SERVICES

Not Applicable

01511 TEMPORARY UTILITIES

Electrical: There are electrical service outlets available. Power can be run using industrial grade extension cords.

The Contractor shall provide GFI protection. No current use will be permitted without the protection.

Heating: The Contractor will be responsible for providing temporary heating where and when needed to facilitate the Work of the Contract. Coordinate all repair, testing, or use of existing facilities with Owner. At the termination of construction, return the facilities to their original condition. Before operation of permanent facilities, verify that installation is approved for operation and that filters are in place.

Temporary heating shall comply with OSHA regulations and other applicable codes, statutes, rules and regulations.

Telephone: Phones are not available for use at the project site. The Contractor will need to provide his own telephone, or cellular phone service.

Water: Water is not available for use at the project site.

Toilet: Existing Facilities in the building are available to the Contractor.

Temporary Sanitary Facilities: Temporary sanitary facilities include temporary toilets, wash facilities, and drinking water fixtures and related sanitary supplies. The Contractor will

provide all temporary facilities needed to comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities.

01518 FIRE PROTECTION

The Contractor, during construction, shall be responsible for loss or damage by fire to the work of the Contract until completion. Any fire used within the structure for working purposes shall be extinguished when not in use. No flammable material shall be stored in the structure in excess of amounts allowed by the authorities. No gasoline shall be stored in or close to the building at any time. The Contractor shall assign a responsible employee to be in charge of fire protection measures.

01520 CONSTRUCTION EQUIPMENT

The Contractor shall furnish tools, apparatus and appliances, hoists and/or cranes and power for same, scaffolding, runways, ladders, temporary supports and bracing and similar work or material necessary to insure convenience and safety in the execution of the Contract except where this is specified in any Specification Section. Responsibility for design, strength and safety shall remain with the Contractor. All such items shall comply with Federal OSHA regulations and applicable codes, statutes, rules and regulations, including compliance with the requirements of the current edition of the "Manual of Accident Prevention in Construction" published by the A.G.C. and the standards of the State Labor Department.

Staging, exterior and interior, required for the execution of this Contract, shall be furnished, erected, relocated if necessary and removed by the General Contractor. Staging shall be maintained in a safe condition without charge to and for the use of all trades as needed.

01530 BARRIERS AND ENCLOSURES

Provide barriers to prevent public entry into construction areas and to protect existing facilities from damage by construction operations.

Provide covered walkways as required by governing authorities for rights-of-way and for public access to existing buildings.

Provide barriers around trees and plants designated to remain. Protect against vehicular traffic, materials dumping, chemically injurious materials, puddling or running water.

Provide temporary, insulated, weathertight closures at openings to the exterior to provide acceptable working conditions and protection for materials, to allow for temporary heating and to prevent entry of unauthorized persons. Provide doors with self-closing hardware and locks.

Barriers and enclosures shall be in conformance with code requirements. Do not block egress from occupied buildings unless necessary to further the Work of the Contract. In this case, secure the Owner's, Fire and Building Departments' approval of an alternate egress plan.

01535 PROTECTION

Protect buildings, equipment, furnishings, grounds and plantings from damage. Any damage shall be repaired or otherwise made good at no expense to the Owner.

Provide protection coverings and barricades to prevent damage or physical injury. The Contractor shall be held responsible for, and must make good at his own expense, any water or other type of damage due to improper coverings. Protect the public and building personnel from injury.

Provide temporary protection for installed products. Control traffic in immediate area to minimize damage.

Provide protective coverings for walls, projections, jambs, sills and soffits of openings. Protect finished floors and stairs from traffic, movement of heavy objects or storage. Prohibit traffic and storage on waterproofed and roofed surfaces, and on lawn and landscaped areas.

When requested by Owner, at Owner's expense provide temporary 6 mil poly to underside of ceilings at Owner-occupied work areas to prevent penetration of dust and moisture onto Owner-occupied areas and equipment. Erect framing and sheet materials with closed joints and sealed edges with duct tape at intersections with existing surfaces.

01540 SECURITY

Provide security programs and facilities to protect work, existing facilities and Owner's operations from unauthorized entry, vandalism and theft. Coordinate with Owner's security system if applicable.

The Contractor will be solely responsible for damage, loss or liability due to theft or vandalism.

01550 TRAFFIC WAYS

The Contractor may use on-site paved roads and parking areas but shall not encumber same or their access. Public highways shall not be blocked by standing trucks, parked cars, material storage, construction operations or in any other manner.

Public roads and existing paved roads, drives and parking areas on Owner's property shall be kept free from scrap or debris due to construction operations. Any damage to their surface caused by the Contractor shall be repaired by him at his own expense.

01569 CLEANING

Maintain areas under Contractor's control free from waste materials, debris and rubbish.

Maintain in a clean and orderly condition.

Remove debris and rubbish away from pipe chases, plenums, attics, crawl spaces and other closed or remote spaces before closing the space.

Periodically clean interior areas before start of surface finishing and continue cleaning on an as-needed basis.

Control cleaning operations so that dust and other particles will not adhere to wet or newly-coated surfaces.

Remove waste materials, debris and rubbish from site daily and dispose of off-site. No scrap/debris shall remain inside the building or anywhere on site upon final acceptance of the project.

01610 TRANSPORTATION AND HANDLING

Materials and equipment shall be delivered, stored and handled to prevent intrusion of foreign matter and damage by weather or breakage. Packaged materials shall be delivered and stored in original, unbroken packages.

Promptly inspect shipments to assure that products comply with requirements, that quantities are correct and products undamaged.

Packages, materials and equipment showing evidence of damage will be rejected and replaced at no additional cost to Owner.

01620 STORAGE AND PROTECTION

Store products in accordance with manufacturer's instructions with seals and labels intact and legible. Store sensitive products in weathertight enclosures; maintain within temperature and humidity range required by manufacturer.

For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.

Store loose granular material on solid surfaces in a well-drained area; prevent mixing with foreign matter.

Arrange storage to provide access for inspection. Periodically inspect to insure products are undamaged and are maintained under required conditions. Keep log showing date, time and problems, if any.

Stone, masonry units and similar materials shall be stored on platforms or dry skids and shall be adequately covered and protected against damage.

01710 FINAL CLEANING

Before final inspection, clean the Work in readiness for occupancy.

Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces; vacuum carpeted and soft surfaces. Clean equipment and fixtures. Replace filters on mechanical equipment. Also:

Remove putty stains and paint spots; wash and polish glass:

Clean and polish finish hardware.

Remove defacements, streaks, fingerprints, and erection marks.

Clean roofs, gutters and downspouts.

Clean site, sweep paved areas, rake other surfaces.

Vacuum and/or dust walls ceilings, light fixtures, ceiling diffusers and other wall and ceiling items.

Clean floors.

Remove waste and surplus materials, rubbish and construction equipment and facilities from the site.

Leave building clean and ready for occupancy. If the Contractor fails to clean up, the Owner may do so, with the cost charged to the Contractor.

01720 PROJECT RECORD DOCUMENTS

The Contractor shall keep one copy of the Specifications, Drawings, Addenda, approved Shop Drawings, Change Orders, Schedules and Instructions in good order at the site and marked to record all changes made during construction. The documents shall be available to the Architect and Owner or their authorized representative at all times.

Record Drawings During Construction:

The Contractor shall keep two sets of black (or blue) and white prints of the Contract Drawings at the site on which he shall record changes as they occur on the job. Maintain the record sets separate from documents used for construction.

Keep documents current; do not permanently conceal any work until required information has been recorded.

At the conclusion of construction, the Contractor shall turn one set of the Drawings over to the Architect or Engineer for transferring the changes to the Record Drawing originals.

01740 WARRANTIES AND BONDS

The Contractor shall guarantee all materials and workmanship for a period of one year from the date of acceptance of the Work. In addition, the Contractor shall furnish the warranties listed below. Submit four copies of each to the Architect in the supplier's standard form or in the form given below if there isn't a standard form available.

Section 07900: Joint Sealant 3-year material and workmanship

Section 07920: Sealants and Caulking 3-year material and workmanship

Section 075323: Adhered EPDM Roofing System 15-year material and workmanship

Submit certification that finish materials have fire rated finishes or treated as specified.

Bonds shall be issued by approved Surety Companies, made out to the Owner.

Guarantees or warranties supplied by Subcontractors, Suppliers or Manufacturers shall be countersigned by the Contractor.

END OF SECTION

SECTION 010500

WORKING PROCEDURES DURING CONSTRUCTION

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section discusses the minimum requirements necessary for general coordination and precautionary measures which are to be undertaken by the Contractor during the progression of work, generally specified as follows.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.01 PROJECT COORDINATION AND SCHEDULING

- A. The Contractor shall closely coordinate all construction activities with the Owner, including but not limited to demolition and general roof installation, as necessary to minimize disruption to the residents and facility operations.
- B. Sufficient notice shall be provided by the Contractor as necessary for the Owner to make the necessary arrangements to notify the building occupants of the work.
- C. Prior to the commencement of work, the Contractor shall submit a construction schedule to the Owner establishing the sequencing of work. Construction operations shall be scheduled in such a manner to accommodate the Owner and minimize disruption to facility operations and occupants.

3.02 PROTECTION AND CLEANING

- A. The Contractor shall undertake precautionary measures to minimize the migration of dust and debris resulting from the construction operations within interior building sections.
- B. Interior building sections surrounding and adjacent to the work area shall be adequately restricted and roped off where directed by the Owner. Appropriate construction signage shall be posted.
- C. The Contractor shall maintain an uninterrupted means of building egress and roadway access at all times until completion of the work. Site access at the facility is limited. Material delivery and location of refuse containers shall be closely coordinated with the Owner prior to the start of the work.

- D.** The Contractor shall attend weekly job progress meetings with the Owner to discuss construction scheduling.
- E.** Site areas and adjacent roof surfaces surrounding the work shall be thoroughly cleaned removing all accumulated debris on a daily basis.
- F.** Contractor personnel access to the main roof may be made from the building interior via the building stair towers. Prior to the commencement of the work, the Owner shall determine the designated access route to the roof that shall be followed for the duration of the project.
 - 1.** The Contractor shall be responsible for maintaining the cleanliness of the access route on a daily basis. Temporary flooring protection shall be provided where determined by the Owner at the contractor's expense.
 - 2.** The designated access route shall be utilized only for personnel egress to and from the work area. Material and equipment transport will not be permitted.

END OF SECTION

SECTION 020800

REMOVAL, HANDLING, AND DISPOSAL OF ASBESTOS MATERIAL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. In general, the work involves the complete removal, handling, and disposal of existing asbestos-containing materials.

1.02 LOCATION AND DESCRIPTION OF ASBESTOS CONTAINING MATERIAL

- A. Based on a hazardous materials inspection conducted on the site by a Connecticut Licensed Asbestos and Lead Paint Inspector, the black tarlike flashing around the flag pole, green air ducts, penetrations, seams of parapet wall, and on seams of rubber membrane roof was determined to contain asbestos. The approximate square footage of the material is estimated at 500 square feet. The testing report is included at the end of this section.
- B. Any of the non-asbestos roofing materials with flashing attached will need to be treated as asbestos-contaminated and be cut out with the flashing when it is abated a minimum of 6" away from material.
- C. Any suspect material encountered during the renovation that has not been identified as being non-asbestos containing shall be brought to the Engineer's immediate attention for resolution.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.01 REMOVAL, HANDLING, DISPOSAL

- A. The removal, handling and disposal of asbestos containing materials shall be conducted in strict accordance with all current Local, State and Federal laws and regulations.
- B. All suspected asbestos-containing material must be removed by a State of Connecticut Licensed Asbestos Abatement Contractor prior to building demolition. This is a requirement of the State of Connecticut Department of Public Health Standards for Asbestos Abatement.
- C. At the completion of this work, the Contractor shall submit to the Owner project documentation, including but not limited to, air monitoring lab reports, daily logs, notification certificates, etc. The Contractor shall also submit to the building Owner written verification (i.e. waste manifest) certifying that asbestos containing materials were properly transported and disposed of.



Mystic Air Quality Consultants, Inc.

1204 North Road (Rt. 117) Groton, Connecticut 06340

May 21, 2010

Mr. Scott Bristol
Milone and MacBroom
99 Realty Drive
Cheshire, CT 06410

Re: **Limited and Directed Asbestos Pre-Renovation Inspection (5/14/10)**
181 State Street
New London, CT

Dear Mr. Bristol:

As requested, Mystic Air Quality Consultants, Inc. conducted a limited and directed pre-renovation asbestos survey of accessible materials at the location noted above on May 14, 2010. This survey was conducted by our State of Connecticut licensed asbestos inspector, Brian Woodard, to determine the presence of asbestos-containing materials. The samples were analyzed at Environmental Hazards Services (NVLAP # 101882-0) in Virginia.

Summary of the findings

Upon testing by polarized light microscopy, the following samples were found to be asbestos containing:

<u>Sample #s</u>	<u>Material/Location</u>	<u>Estimated Affected Area</u>
1-3	Flashing/Around flagpole & on green ducts-roof	5 ducts & 1 flagpole
4-6	Flashing/Around penetrations, seams of parapet wall & on seams of rubber membrane-roof	All

Special Considerations

Any of the non-asbestos roofing materials with flashing attached will need to be treated as asbestos-contaminated and be cut out with the flashing when it is abated.

Non asbestos containing materials

The roster of suspect materials (*Enclosure 3*), lists the materials tested. Those that are not already referred to as asbestos containing or assumed asbestos, can be categorized as non-asbestos containing materials.

Implications of the findings

As required by state and federal regulations prior to renovation or demolition, all the asbestos-containing materials that will be disturbed by renovation, will need to be removed by a licensed asbestos abatement contractor -employing trained and certified personnel who follow all pertinent asbestos abatement regulations.

Communications (24 hours): _____

Office: (860) 449-8903

FAX: (860) 449-8860

Toll Free: 1 (800) 247-7746

website: www.mysticair.com

e-mail: maq2@aol.com



Mystic Air Quality Consultants, Inc.

1204 North Road (Rt. 117) Groton, Connecticut 06340

Limitations of the survey

This survey and report only deal with accessible areas of the buildings. Additionally, there may be other non-accessible materials above ceilings, behind walls, and below floors that become evident during your renovation activity. Should the requisite EPA/OSHA competent person working for the contractor discover such materials they will need to be tested for asbestos content so determinations of their abatement and disposal (if required) can be made.

Please do not hesitate to contact us with questions relating to the sample results. We thank you for the opportunity to conduct this survey.

Sincerely,

Christopher J. Eident CIH, CSP, RS
CEO

Enclosure 1: Asbestos Lab Results
Enclosure 2: Chain of Custody
Enclosure 3: Roster of Suspect Materials
Enclosure 4: Daily Log

Communications (24 hours): _____

Office: (860) 449-8903

FAX: (860) 449-8860

Toll Free: 1 (800) 247-7746

website: www.mysticair.com

e-mail: maq2@aol.com



Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237
Telephone 800.347.4010

Asbestos Bulk Analysis Report

Report Number: 10-05-02260

Client: Mystic Air Quality Consultants
1204 North Road Rt. 117
Groton, CT 06340

Received Date: 05/17/2010
Analyzed Date: 05/19/2010
Reported Date: 05/20/2010

Project/Test Address: 181 State St; New London, CT

Client Number:
07-2564

Laboratory Results

Fax Number:
860-449-8860
FR

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
10-05-02260-001	1		Black Tar-Like	8% Chrysotile	92% Non-Fibrous
				Total Asbestos: 8%	
10-05-02260-002	2			Did Not Analyze (Positive Stop)	
10-05-02260-003	3			Did Not Analyze (Positive Stop)	
10-05-02260-004	4		Black Rubber; Black Tar-Like; Black Fib.	Trace <1% Chrysotile	10% Cellulose 90% Non-Fibrous
				Total Asbestos: Trace <1%	
8% Chrysotile present in Black Fibrous material.					
10-05-02260-005	5		Black Rubber	NAD	100% Non-Fibrous
10-05-02260-006	6		Black Rubber	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 07-2564

Report Number: 10-05-02260

Project/Test Address: 181 State St, New London, CT

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
10-05-02260-007	7		Black Tar-Like; Black Fib.; Black Rubber	NAD	35% Cellulose 65% Non-Fibrous
10-05-02260-008	8		Black Tar-Like; Black Fib.	NAD	45% Cellulose 55% Non-Fibrous
10-05-02260-009	9		Black Tar-Like; Black Fib.	NAD	45% Cellulose 55% Non-Fibrous
10-05-02260-010	10		Yellow Adhes.	NAD	100% Non-Fibrous
10-05-02260-011	11		Yellow Adhes.	NAD	100% Non-Fibrous
10-05-02260-012	12		Yellow Adhes.	NAD	100% Non-Fibrous


Environmental Hazards Services, L.L.C

Client Number: 07-2564

Report Number: 10-05-02260

Project/Test Address: 181 State St; New London, CT

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
QC Sample:	26-NIST REF				
QC Blank:	SRM 1866 Fiberglass				
Reporting Limit:	1% Asbestos				
Method:	EPA Method 600/R-93/116				
Analyst:	Araceli Enzler				

Reviewed By Authorized Signatory: 
 Howard Verner
 General Manager

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM), (for enhanced detection capabilities) for materials regulated by EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

* All California samples analyzed by Polarized Light Microscopy, EPA Method 600/M4-82-020, Dec. 1982.

LEGEND: NAD = no asbestos detected



Environmental Hazards Services, LLC
 www.eh&m.com 7469 Whitepine Rd
 (800)347-4070 Richmond, VA
 (804)275-4907 (fax) 23237

Asbestos Chain-of-Custody

10-05-02260



Due Date:
05/20/2010
(Thursday)

JK

City/State/Zip: Groton, Ct. 06340

Acct. Number: 07-2564
 City/State(Required): New London, CT

Address: 1204 North Rd., Groton, CT 06340

E-mail: maqc2@aol.com

Fax: 860 449 8903

Project Name and Address: 181 STATE ST

Mystic Air Client:

Signature: *Brian Woodard*

Turn around time: Standard One day (will call ahead)

No.	Client's Sample No.	Date Collected	PLM Analysis	Other Analysis Specify	Material Description	Sample Location	Comments
1	1-3	5/14/10	X		FLASHING	See ROSTER	BULK <i>POSITIVE</i>
2	4-6				FLASHING		
3	7-9				ROOF UP ROOFING		
4	10-12	X	X		Rubber weather gvc	X	X
5							STOP <i>POSITIVE</i>
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Released by: *Brian Woodard* Signature: *Brian Woodard* date: 5/14/10
 Received by: *T. Wood* Signature: *T. Wood* date: 5/14/10



Mystic Air Quality Consultants, Inc.

1204 North Road (Rt. 117) Groton, Connecticut 06340

Asbestos Containing Suspect Materials Roster

Site: 181 STATE ST

NEW London, CT

Roof replacement

Type Of Material	Amount of Material	Condition of Material	Specific Location of Suspect ACM at Site
1-3 FLASHING	5 SHEETS ± FLEXIBLE	Damaged OLD/HARD	Around Flanges ^{on} Green Dets - ROOF.
4-6 FLASHING	All	New/Soft	Around Penetrations, Seams of Parapet Wall, and on Seams of Rubber membrane - ROOF
7-9 BUILT UP ROOFING	4500 FT ²		ROOF - UNDER INSULATION
10-12 Rubber membrane - Glue	4500 FT ²	X	ROOF - TOP LAYER

EPA considers the materials above as "suspect" asbestos-containing materials.

Date: 5/14/10

Inspector Brian Woodard

ENCLOSURE 3 PAGE 1 OF 1

Telecommunications (24 hours):

Office: (203) 449-8903

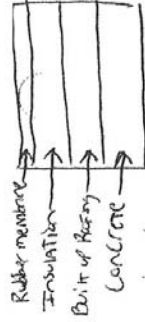
FAX: (203) 449-8860

CT Toll Free: 1 (800) 247-7746

NE Toll Free: 1 (800) 722-7746



Mystic Air Quality Consultants
 1204 North Road (Rt. 117)
 Groton, CT 06340



Date 5/14/10

DAILY JOB LOG

Page ___ of ___

Client Milone f. Mabeck Site supervisor _____

Site Location 181 STATE ST - NEW LONDON, CT

GENERAL OBSERVATIONS

Containment Location ROOF

- TOOK BULK SAMPLES FROM ROOF
- TOOK 12 SAMPLES

Telecommunications
 Office: 860 449 8903
 Nights & Weekends: 860 464 2050
 FAX: 860 449 8860
 Toll Free: 1 800 247 7746

HYGIENIST'S NAME Brian Woodard HYGIENIST'S SIGNATURE Brian Woodard
 TIME ON SITE: 9:00 TIME OFF SITE: 9:45

ENCLOSURE 4 PAGE 1 OF 1

Communications (24 hours):

Office: (860) 449-8903

FAX: (860) 449-8860

Toll Free: 1 (800) 247-7

website: www.mysticair.com

e-mail: maq2@aol.com

END OF SECTION

2389-15-33-m1710-2-spec (Section 020800).doc

SECTION 030131

CONCRETE REHABILITATION

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Masonry Restoration: Section 040121.
- B. Joint Sealers: Section 079200.

1.02 REFERENCES

- A. Except as shown or specified, the Work of this Section shall conform to the requirements of International Concrete Repair Institute (ICRI), 3166 S. River Rd., Suite 132, Des Plaines, IL 60018, (847) 827-0830, www.icri.org.
 - 1. ICRI Guideline No. 310.1R-2008 Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion (formerly Guideline No. 03730).

1.03 SUBMITTALS

- A. Product Data: Manufacturer's specifications and installation instructions for factory packaged products.

1.04 QUALITY ASSURANCE

- A. Field Examples: Prior to performing the Work of this Section, prepare a sample panel, or a portion of existing concrete which is to be repaired, to represent each type of rehabilitation work required. Approved samples will be used as quality standards for the Work. Maintain approved samples at the site until the Work is completed.
- B. Material Container Labels: Material containers shall bear the manufacturer's label indicating manufacturer's name, trade name of product, lot number, shelf life of product, and mix ratio (if applicable).

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the site in original, sealed containers. Do not deliver materials that have exceeded shelf life limitation set forth by the manufacturer.

- B. Comply with manufacturer's printed instructions for storing and handling materials.

1.06 PROJECT CONDITIONS

- A. Environmental Requirements: Comply with the product manufacturer's printed limitations and instructions.

PART 2 PRODUCTS

2.01 COMPANIES

- A. The Euclid Chemical Company, 19218 Redwood Rd., Cleveland, OH 44110-2799, (800) 321-7628, www.euclidchemical.com.
- B. Sika Corporation, 201 Polito Ave., Lyndhurst, NJ 07071, (800) 933-7452, www.sikausa.com.
- C. Kaufman Products, Inc., 3811 Curtis Ave., Baltimore, MD 21226, (800) 637-6372, www.kaufmanproducts.net.
- D. L&M Construction Chemicals, Inc., 14851 Calhoun Rd., Omaha, NE 68152, (800) 362-3331, www.lmcc.com.
- E. Conproco Corp., 17 Production Dr., Dover, NH 03820, (800) 258-3500, www.conproco.com.
- F. BASF Building Systems, 889 Valley Park Dr., Shakopee, MN 55379, (800) 433-9517, www.buildingsystems.basf.com.

2.02 MATERIALS

- A. The following brand names are specified to establish product generic type and standard of quality. Other comparable products in the manufacturer's same product series may be required to closely fit the particular job conditions. Use appropriate product for depth of patch and temperature at time of application. More than one product may be required for a particular type of patching mortar. When a color choice is available, select the color to match adjoining concrete as closely as practicable. A bonding agent/primer and/or sealer shall be used as recommended by the patching mortar manufacturer.
- B. Cement/Acrylic/Latex Base Patching Mortars:

1. Type C-1 Patching Mortar: “Verticoat”, by The Euclid Chemical Company; “SikaTop 122 Plus” or “SikaTop 123 Plus” by Sika Corp; “Patchwell VO” or “HiCap Plus” by Kaufman Products, Inc.
 2. Type C-2 Patching Mortar: “SikaTop 121 Plus”, “SikaTop 122 Plus” or “SikaTop 111 Plus” by Sika Corp.; “Patchwell Kit”, “Patchwell Deep”, “SureFlow 040”, or “SureFlow 042” by Kaufman Products, Inc.; “Thincoat” or “Concrete Coat” by The Euclid Chemical Company;
 3. Type C-3 Patching Mortar: “Patchwell VO”, “HiCap”, “HiCap Plus” or “DressUp” by Kaufman Products, Inc.; “SikaTop 123 Plus” or “SikaTop 144” by Sika Corp.; or “Verticoat Supreme” by The Euclid Chemical Company.
- C. Epoxy Base Patching Mortars:
1. Type E-1 Patching Mortar: 100 percent solids, low modulus, low viscosity, moisture insensitive, epoxy resin and aggregate system; “Sikadur 21 Lo-Mod LV” by Sika Corporation; “Flexocrete Epoxy System” by The Euclid Chemical Company; “SurePoxy LMLV” by Kaufman Products, Inc.
 2. Type E-2 Patching Mortar: 100 percent solids, low modulus, high viscosity, moisture insensitive, epoxy resin and aggregate system; “Sikadur 23 Lo-Mod Gel” by Sika Corporation; “Flexocrete Gel” by The Euclid Chemical Company; “SurePoxy LM Gel” by Kaufman Products, Inc.;
 3. Type E-3 Patching Mortar: High modulus, medium/low viscosity, moisture insensitive, epoxy resin and aggregate system; “Sikadur 35” or “Sikadur 62” by Sika Corporation, “Duralcrete” by The Euclid Chemical Company or “SurePoxy HM”, “SurePoxy HM, Class B”, “SurePoxy HMLV”, “SurePoxy HMLV, Class B”, “SurePoxy HMSLV”, “SurePoxy HiBild” by Kaufman Products, Inc.
 4. Type E-4 Patching Mortar: High modulus, high viscosity, moisture insensitive, epoxy resin and aggregate system; “Sikadur 31 Hi-Mod Gel” or “Sikadur 31 Hi-Mod Gel SBA Slow Set” by Sika Corporation; “Duralcrete Gel” by The Euclid Chemical Company; or “SurePoxy HM Gel”, or “SurePoxy 117” by Kaufman Products, Inc.
 5. Aggregate: As recommended by the patching mortar manufacturer for the binder and application.
- D. Rapid-hardening Cementitious Patching Mortar:
1. Type R-1 Patching Mortar: “Durapatch” by L&M Construction Chemicals, Inc.; or “SikaSet Roadway Patch” by Sika Corp or “Duracrete II”, “Duracrete II HW”, “Duracrete II FR”, Duracrete II HWFR”, by Kaufman Products, Inc.;

- E. Rebar Coating: “SurePoxy HMEPL” or SurePoxy HM 12” by Kaufman Products, Inc.; “ECB” by Conproco Corp.; or “Emaco P22” or “Emaco P24” by BASF Building Systems.
- F. Cleaning Agent, Bonding Agent/Primer, Sealer/Topcoat: As recommended by the patching mortar manufacturer, including primer for the reinforcing steel and primer for the concrete substrate.
- G. Concrete and Bonding Agent (for concrete): Normal weight cast-in-place concrete and adhesive bonding agent as specified in Section 033000 or 033001.
- H. Accessories:

PART 3 EXECUTION

3.01 PREPARATION

- A. Protection: Cover or otherwise protect adjacent surfaces not being repaired.
- B. Surface Preparation:
 - 1. Prepare surfaces to be repaired in accordance with the product manufacturer’s printed instructions and as specified.
 - 2. Cut out and remove cracked, spalled, and disintegrated concrete. Cut back to sound concrete. Cut edges of patch perpendicular to surface of patch, unless otherwise recommended by mortar manufacturer. If steel reinforcing bars are exposed, chip concrete out from behind exposed length of bars as required for a minimum clearance around circumference of bar of 3/4 inch. In addition, cut a minimum one inch length of sound concrete away from each end of exposed length of reinforcing bars.
 - 3. Clean exposed steel reinforcement; remove bits of concrete and loose rust. If reinforcement is bowed out toward surface of the concrete, bend reinforcement back from surface.
 - 4. Remove paint, oils, grease, dirt, salt deposits, laitance and other contaminants from surfaces to be patched. Use cleaning agent where required.
 - 5. Clean areas to be patched with oil-free air or water under pressure, except as otherwise recommended by the mortar manufacturer.

3.02 COATING REBAR

- A. Coat reinforcing as soon as possible after completion of surface preparation.
- B. Place reinforcement coating complying with manufacturers printed instructions.

3.03 PATCHING CONCRETE

- A. Patch concrete as soon as possible after completion of surface preparation.
- B. Mixing Patching Mortar: Comply with mortar manufacturer's printed instructions. Proportion components and sizes of aggregate as recommended by mortar manufacturer for the particular job conditions.
- C. Patch concrete in accordance with the product manufacturer's printed instructions.
 - 1. Coat contact surfaces of existing concrete and steel reinforcing with a bonding agent/primer as recommended in the product manufacturer's instructions.
- D. Bring patches out to the original surfaces in true planes. Finish patches to match texture of adjoining concrete as close as possible.
- E. Cure patches in accordance with the product manufacturer's printed instructions.

3.04 CLEANING

- A. Clean up spatters and droppings.

3.05 PROTECTION

- A. Protect mortar after placement in accordance with the product manufacturer's printed instructions.

END OF SECTION

SECTION 040121

MASONRY RESTORATION

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Concrete Rehabilitation: Section 030131.
- B. Joint Sealers: Section 079200.

1.02 SUBMITTALS

- A. Product Data:
 - 1. Portland Cement: Brand and manufacturer's name.
 - 2. Lime: Brand and manufacturer's name.
 - 3. Mortar Pigments: Brand and manufacturer's name.
 - 4. Packaged Products: Manufacturer's specifications and application instructions for products specified.
 - 5. Sand: Location of pit, name of owner, and previous test data.
- B. Samples: Deliver to the Site for comparison with existing masonry.
 - 1. Mortar for Exposed Joints and Cracks: Each required type, minimum 12 inches long by full thickness, showing finish and color.

1.03 QUALITY ASSURANCE

- A. Field Examples: Prior to performing the Work of this Section, prepare a sample panel of not less than 12 sq ft for each type of masonry restoration Work required. Do not proceed further with the Work until the sample panel has been approved by the Director's Representative. Approved samples will be used as quality standards for the Work. Maintain approved samples at the Site until the Work is completed.
 - 1. Sample panels may be a portion of existing masonry which is to be restored, at a location directed by the Director's Representative.
 - 2. Apply the field example required in Section 071900 over the field examples required in this Section and adjoining unrestored masonry surfaces for comparison of the effect of the water repellent coating on the new and existing masonry.
- B. Material Container Labels: Material containers shall bear the manufacturer's label indicating manufacturer's name, trade name of product, lot number, shelf life of product, and mix ratio (if applicable).

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Products:
 - 1. Deliver materials to the site in manufacturer's original, sealed containers. Do not deliver materials which have exceeded shelf life limitation set forth by the manufacturer.
 - 2. Comply with manufacturer's printed instructions for storing and protecting materials.
- B. Bulk Aggregate: Store in a manner which will keep aggregate clean and protected from the weather elements.

1.05 PROJECT CONDITIONS

- A. Environmental Requirements:
 - 1. For factory packaged products, comply with the manufacturer's printed limitations and instructions.
 - 2. At temperatures below 40 degrees F, maintain mortar temperature between 40 degrees F and 120 degrees F unless otherwise recommended by the material manufacturer. If necessary, heat mixing water and sand to produce the required results.
 - 3. At temperatures between 32 degrees F and 20 degrees F, provide wind breaks and cover the restored masonry to prevent wetting and freezing. Maintain restored masonry above freezing for not less than 16 hours using auxiliary heat or insulating blankets.
 - 4. At temperatures below 20 degrees F, provide heated enclosures for performing the Work. At the end of the workday, maintain the enclosures and keep the Work from freezing for not less than 24 hours.
 - 5. Do not lower freezing point of mortar by use of antifreeze, calcium chloride, or other additives.
 - 6. Do not use frozen materials or materials coated with ice or frost.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Mortar Types:
 - 1. Type N Mortar: ASTM C 270, Type N.
 - 2. Modified Type N Pointing Mortar: ASTM C 270, Type N, modified with an acrylic additive in accordance with the additive manufacturer's printed instructions for the intended usage.
 - 3. Type C-1 Patching Mortar: "Thorite" by Thoro System Products; "Sonopatch" by Sonneborn Building Products; "Deco-Rez TPM

722” or “Deco-Rez TPM 723” by General Polymers Corp.; “SikaTop 122” or “SikaTop 123” by Sika Corp.; “Emaco R300 CI” or “Emaco R320 CI” or “Emaco R350 CI” or “Emaco S88 CI” by Master Builders, Inc.

- B. Mortar Color: For exposed Type N mortar and Modified Type N pointing mortar, select materials (complying with the requirements) and proportion pigments with other ingredients as necessary to match the color of existing corresponding materials.
- C. Mortar Pigments: High purity, finely ground, chemically inert, unfading, lime proof mineral oxides specially prepared for use in mortar.
- D. Acrylic Additive: “Acryl 60” by Thoro System Products; “Sonocrete” by Sonneborn Building Products; “Anchor - IT” by Anti-Hydro Waterproofing Co.
- E. Accessories:

PART 3 EXECUTION

3.01 PREPARATION

- A. Protection: Protect adjacent surfaces not being restored. Protect sills, ledges, and projections from material droppings.
- B. Surface Preparation:
 - 1. Prepare surfaces to be restored in compliance with product manufacturer’s printed instructions and as specified.
 - 2. Remove dirt, dust, and foreign material from surfaces to be restored.
 - 3. Clean areas to be restored with compressed air or water flushing, except as otherwise recommended by the mortar manufacturer.
- C. Materials Preparation:
 - 1. Dry concrete masonry units and stone that have become wet. Do not wet these masonry units.
 - 2. Wet bricks that have a high absorption rate. Wet bricks until water runs off. Install bricks when surface is slightly damp.
 - 3. Prepare exposed Type N mortar and Modified Type N pointing mortar to match the color and appearance of existing adjoining mortar.

3.02 REPOINTING JOINTS

- A. Rake or cut out joints to a minimum depth of 5/8 inch and until sound surface is reached. Where cutting is required to remove existing mortar and joint filler, use a rotary power masonry saw wherever possible without damaging masonry. Cut the mortar and joint filler cleanly from the sides of the joints, leaving square corners. Flush joints clean with water or compressed air.
- B. Dampen joints slightly before application of mortar, making sure there is no free water. Backpack joints tightly out to a depth of 5/8 inch from the face of masonry with Modified Type N pointing mortar. After backpacking mortar has attained initial set, redampen remaining 5/8 inch depth of joints, fill with Modified Type N pointing mortar, and finish joints to match existing adjoining joints.
 - 1. Where joint sealant is required, backpack the joints tightly out to a uniform depth of 1/4 inch.
 - 2. Where joint sealant is required, cut out the joints or backpack the joints (as required by existing conditions) to the depth shown on the Drawings.

3.03 FILLING JOINTS

- A. Rake out loose mortar until sound surface is reached. Flush joints clean with water or compressed air.
- B. Dampen joints slightly before application of mortar, making sure there is no free water. Fill joints with Modified Type N pointing mortar flush with adjoining masonry.

3.04 FILLING CRACKS

- A. Non-Moving Cracks: Clean cracks with water flushing or compressed air. Dampen contact surfaces. Fill cracks with Modified Type N pointing mortar flush with adjoining masonry.
 - 1. Enlarge cracks 1/8 inch or less in width to 1/4 inch wide by minimum 3/8 inch deep prior to cleaning and filling. Use masonry saw or power chisel.
- B. Moving Cracks: Cut out cracks more than 1/8 inch in width (for sealant) as required to provide joint configuration shown on the Drawings. Use masonry saw or power chisel. Clean and dry the contact surfaces.

3.05 PATCHING MASONRY SURFACES

- A. Remove all loose and deteriorated material. Prepare substrate surface. Remove paint, oil, grease, and salt deposits from surface to be restored. Use cleaning agent, recommended by manufacturer of patching mortar,

where required. Fill the depressed area or void with Type C-1 patching mortar. Provide a uniform wood float finish, flush and even with the adjacent existing surfaces. If necessary, apply the patching mortar in layers to fill the depression. Comply with manufacturer's printed instructions.

3.06 CLEANING

- A. As the Work proceeds and after completion of Work, remove excess mortar, droppings, smears, stains, and other soiling substances resulting from the Work of this Section. Remove misplaced materials from surfaces immediately.

END OF SECTION

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SECTION 075050

REMOVAL OF EXISTING ROOFING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. In general, work involves the complete removal of existing roofing, base and perimeter membrane flashings as detailed on the Contract Drawings or as required.
- B. Work also includes the disposal of removed materials and protection of all roofing over which traffic from these operations will move as generally specified herein.

1.02 PROTECTION

- A. Provide barriers, fences, chutes, and the like to protect pedestrians, building tenants, building personnel, the existing structure, site, and vehicles while performing work.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.01 ROOFING REMOVAL

- A. Roofing removal shall be generally as follows:
 - 1. The existing roofing and insulation shall be removed in its entirety down to the metal decking.
- B. Prior to the commencement of any work, the location of trash chutes and receptacles shall be coordinated with the Owner.
- C. **Materials resulting from this work must be removed from the roof. No stacking will be permitted.**
- D. Additional Requirements:
 - 1. Debris receptacle locations shall be where so directed and must be coordinated with the Owner.
 - 2. Receptacles are to be removed from the site as soon as they are filled and the contents disposed of off the premises.

3. **All dust and debris resulting from these operations that might have fallen or been blown onto buildings, roofs, equipment and the grounds must be thoroughly cleaned up at the end of each day's work.**
 4. Debris shall be removed from the roof by means of a chute, via crane, or other accepted means. **FREE FALLING DEBRIS WILL NOT BE ALLOWED.**
 5. Any damage to the building structure and/or site caused from removal of debris, shall be restored to its original condition at the Contractor's expense.
 6. The Contractor shall undertake all necessary precautions to minimize disturbance of existing electrical conduit, cables, wires, etc., (where applicable). Temporarily disconnect these items as necessary to successfully complete the work. Restore to previous operational condition when work is complete. Any damage incurred to these items as a result of this work shall be repaired/replaced at the Contractors own expense.
- E. Asbestos containing materials to be removed in conjunction with the roofing work are assumed to be in the roofing felts and base flashings.
1. Removal and disposal of all asbestos containing roofing materials (ACRM) shall be in strict accordance with all current Local, State, and Federal laws and regulations.
 2. At the completion of the work, the Contractor shall submit to the Owner project documentation, including but not limited to, air monitoring lab reports, daily logs, notification certificates, etc. The Contractor shall also submit to the building Owner written verification (i.e. waste manifest) certifying that asbestos contaminated roofing materials were properly transported and disposed of.

END OF SECTION

SECTION 075323

ADHERED EPDM ROOFING SYSTEM

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Wood Nailers and Blocking: Section 061053.
- B. Flashing and Trim: Section 076000.
- C. Roof Accessories: Section 077200.

1.02 DEFINITIONS

- A. Company Field Advisor; An individual meeting the requirements of either subparagraph below:
 - 1. An employee of the company producing or manufacturing the system (or the company which lists and markets the primary components of the system under their name) who is certified in writing by the company to be technically qualified in design, installation, and servicing of the required products, and has experience in the installation of the required products. Personnel involved solely in sales do not qualify.
 - 2. An individual employed by an organization (other than the company producing or manufacturing the system), certified in writing by the company producing or manufacturing the system, that the individual is technically qualified in design, installation and servicing of the required products and is capable to act as company field advisor in their behalf, and has experience in the installation of the required products. Personnel involved solely in sales do not qualify.
- B. "Named Brand": One of the roof systems identified by the system's name, and the manufacturer's name in PART 2 PRODUCTS, Acceptable Systems.

1.03 SYSTEM DESCRIPTION

- A. Adhered EPDM System: Bonding adhesive provided between membrane and cover board, cover board and insulation, and insulation and structural deck for a fully adhered system.

1.04 SUBMITTALS

- A. Waiver of Submittals:
 - 1. "Named Brand" Roofing Systems: The "Waiver Of Certain Submittal Requirements" in Section 013300 applies to this Section only if a "Named Brand" roofing system is furnished.
 - 2. "Or Equal" Roofing Systems: The "Waiver Of Certain Submittal Requirements" in Section 013300 does not apply to this Section if an "or equal" is submitted.

- B. "Named Brand" Submittals: Submit for approval, one of the "named brand" roofing systems and any proposed deviations from the Contract Documents. Submit Product Data, Samples, Applicator's Certification, and Material's Certification, to the Owner's Representative at the site for information purposes only.

- C. "Or Equal" Submittals: Submit for approval, product data, samples, quality control submittals, and any proposed deviations from the Contract Documents.

- D. Approvals: Approval of a "named brand" or "or equal" roofing system is with the understanding that the requirements of the Contract Documents will be met. Approval of a roofing system does not constitute blanket approval of the manufacturer's installation specifications or details.
 - 1. If the requirements of the Contract Documents differ from or are more stringent than the requirements of the approved roof system manufacturer, the Contract Documents have precedence over the requirements of the approved manufacturer.

- E. Proposed Deviations From The Contract Documents: Submit for approval proposed deviations when the roofing system is submitted. Proposed deviations submitted after the roofing system has been approved will not be considered for approval and may be cause for rejection of the previously approved roofing system.
 - 1. Manufacturer's Details: Do not use or submit manufacturer's standard details unless there is an omission or a proposed deviation from the Contract Documents. In such instances, submit the revised detail for approval. Label each revised detail with the words "PROPOSED DEVIATION".
 - 2. Manufacturer's Specifications and Installation Instructions: When there is a proposed deviation from the Contract Documents, submit the proposed deviation for approval. Label each specification and instruction revision with the words "PROPOSED DEVIATION".

- F. Product Data: Catalog sheets, specifications, installation instructions for each material specified.
- G. Samples:
1. Sheet Membrane: One 6 inch square piece.
 2. Sheet Flashing: One 6 inch square piece.
 3. EPDM Cover Tape: One 12 inch square piece.
 4. Inseam Tape: One piece 3 inches wide by 12 inches long.
 5. Adhesive: One stick/tube.
 6. Insulation: One 3 inch square piece.
 7. Coverboard: One 3 inch square piece.
- H. Quality Control Submittals:
1. Fire Hazard Certification: Written certification that the roof system, including the specific insulation, has been tested in conjunction with the type of structural roof deck and roof slope applicable to the project and has achieved an Underwriters Laboratories Class A external fire resistance rating.
 - a. Acceptable Certification: Letter from Underwriters Laboratories, or a copy of the Underwriters Laboratories classification listing for the roofing system.
 2. Wind Uplift Certification: Submit written certification that the roof system, including the specific insulation and adhesive, has been tested in conjunction with the type of structural roof deck applicable to this project, and has achieved a Factory Mutual Class 1-90 Wind Uplift rating.
 - a. Acceptable Certification: Letter from Factory Mutual, or a copy of the Factory Mutual Approval Report for the roofing system.
 3. Material Certification: Written certification from the roofing membrane manufacturer certifying that the insulation, insulation adhesive (if any), flashings and accessory products provided by the membrane manufacturer are approved for use with the roofing system and are included in the "15 year full system warranty".
 4. Membrane Manufacturer's Certification:
 - a. Written certification that the manufacturer has been actively marketing the submitted system for the past 5 years.
 - b. Names and addresses of 5 previous EPDM roofing projects installed within the past 5 years. Include the type and size of each project, and name and telephone number of a contact person at the project locations.
 5. Installer's Certification:
 - a. Written certification from the membrane manufacturer certifying that the installer is licensed or approved to install the roof system.

- b. Names, addresses, and telephone numbers of 3 buildings where the installer has installed EPDM sheet membrane roof systems that have had the manufacturer's warranty issued. Include the types of EPDM systems installed, the manufacturer's names, and the warranty numbers.
 - c. Written certification that the job supervisor or crew chief and at least one other member of the roofing crew have installed at least 3 EPDM sheet membrane roof systems and are thoroughly familiar with all aspects of the installation.
 - 6. Warranty: Sample copy of the full system warranty specified.
- I. LEED Design Submittals:
 - 1. MR Credit 4.1 and MR Credit 4.2: Identify manufacturer's name, the percentage of post-consumer recycled content by weight, the pre-consumer recycled content by weight, and the cost of the product.
 - 2. MR Credit 5.1 and MR Credit 5.2: Identify source, cost, and the fraction by weight that is considered regional.
 - 3. MR Credit 6: Identify the manufacturer's name, the rapidly renewable content of the product submitted, and the cost of the product.
- J. Contract Closeout Submittals:
 - 1. Warranty: Warranties as specified.
- K. Material Safety Data Sheets (MSDS): Do not include the MSDS in the Submittals Package. Submit the MSDS to the Owner's Representative at the Pre-Installation Conference.
- L. Submit all items, except contract closeout submittals and MSDS, at one time as a complete package. Partial submittals will not be considered.

1.05 QUALITY ASSURANCE

- A. Fire Hazard Classification: The sheet membrane roof system shall have an Underwriters Laboratories Class A External Fire Resistance rating, as determined by tests conducted in conformity with UL-790 "Tests for Fire Resistance of Roof Covering Materials".
 - 1. The roof system, which includes a specific generic type of insulation and in some instances a specific name brand insulation, shall have been tested in conjunction with the type of structural roof deck and roof slope applicable to the project.

- B. **Material Classification Identification:** Materials delivered to the site that are a component of the roofing system shall bear the UL Classification mark.
- C. **Membrane Manufacturer's Qualifications:**
1. The manufacturer shall have been actively marketing an EPDM roof system in the United States for a minimum of 5 years.
 2. The manufacturer shall have the technical expertise and qualified technical representatives to resolve questions or problems that may arise both during and after the Work is completed.
 3. The manufacturer shall furnish the names, addresses, and telephone numbers of at least 5 previous projects of comparable size, scope, and complexity as the Work of this Section.
 4. The manufacturer shall require that the roof system be installed by a licensed or approved applicator.
- D. **Installer's Qualifications:** The installation of the roofing system shall be performed by an installer licensed or approved by the membrane manufacturer. The installer shall have previously installed at least 3 EPDM sheet membrane systems for which the manufacturer's warranty was issued.
1. **Workers:** The supervisor or crew chief and at least one other member of the roofing crew shall have installed at least 3 EPDM sheet membrane roof systems and shall be thoroughly familiar with all aspects of the installation.
- E. **Pre-Installation Conference:** Before the roofing work is scheduled to commence, a conference will be called by the Owner's Representative at the site for the purpose of reviewing the Drawings and the Specifications and discussing requirements for the Work. The conference shall be attended by the Contractor, the authorized roofing applicator, and the Company Field Advisor.

1.06 ROOFING MANUFACTURER'S COMPANY FIELD ADVISOR

- A. The manufacturer of the roofing system, issuing the final system guarantee on this roofing project, must supply a Company Field Advisor, as a technical representative, with the following minimum qualifications:
1. Documentation of 5 years of field experience on the same type of roofing system.
 2. Documentation of 10 projects where role was a Company Field Advisor; include contact names and phone numbers for each project.
 3. Documentation of attendance at a roof specific instructional seminar within the last two years.

- B. Secure the services of the Company Field Advisor for a minimum of 3 site visits. The site visits shall include the pre-installation meeting, one site visit during installation and one site visit after completion of the work, to inspect the workmanship of the roofing system installer.
- C. Company Field Advisor Duties and Responsibilities:
1. Become familiar with the Contract Documents and approved submittals prior to the pre-roofing conference.
 2. Attend the pre-roofing conference and the beginning of the actual membrane installation for the purpose of:
 - a. Rendering technical assistance to the Contractor regarding installation procedures of the system.
 - b. Familiarizing the Owner's Representative with all aspects of the system including inspection techniques.
 - c. Answering questions that might arise.
 3. Be objective, unbiased and impartial in each inspection, recommendation, conversation, action and written report.
 - a. Inspect and approve the existing substrate, flashing, blocking, and related materials as being acceptable for the installation of the roofing system.
 - b. Ensure proper fastening patterns and fastener sizes of wood blocking, insulation, edge flashing, and related components.
 4. Immediately report non-compliant conditions, if any, to the Owner's Representative.
 5. Provide to the Owner's Representative a written report, submitted prior to leaving the Project Site each day the Company Field Advisor is present. Each daily written report shall contain at a minimum:
 - a. Date of report and inspection.
 - b. Weather conditions at the start, middle, and end of the work day.
 - c. Work performed including Contractor activity, contractor crew size, supervisor's name, area of activity, and progress and quality of the work as observed.
 - d. Discussions with Contractor regarding work anomalies and resolution.
 - e. Conditions that are not in compliance with the Contract documents.
 - 1) Continue documenting non-compliance issues in subsequent reports until the issue has been resolved. Document resolution of non-compliance issues when resolved.

6. Report to the Owner's Representative in writing failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
7. Confirm, after completion of the roofing work and based on the Company Field Advisor's inspections and tests, that the Company Field Advisor has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to the site in the manufacturer's labeled, unbroken containers.
- B. Storage and Handling: Store materials in a dry, well-ventilated place protected from the weather.
 1. Do not store materials so as to overload the deck or structural assembly.
 2. Store all materials on raised platforms covered with properly secured breathable water resistant covers. Slit shrink wrapping to not permit condensation and cover with breathable tarp.
 3. Remove all materials that become wet from the site.
 4. Store volatile liquids in a separate storage building or trailer, or removed from the site at the end of each workday.
 - a. Store volatile liquids at temperatures recommended by the manufacturer.
 5. Do not remove materials from factory packaging until ready for use.
 6. Store adhesives, and sealants at temperatures between 60 degrees F and 80 degrees F.

1.08 PROJECT CONDITIONS

- A. Unless otherwise directed, do not execute the work of this Section if the Owner's Representative is not present.
- B. Do not execute the work of this Section unless the substrate is dry and free of dirt and debris.
- C. Moisture Protection:
 1. Cover, seal or otherwise protect the roof and flashings so that water cannot accumulate or flow under completed portions. When and where necessary to accomplish this, provide temporary water cut-offs in accordance with the membrane manufacturer's written specifications.

2. Limit the removal of existing materials to areas that can be completely re-roofed or temporarily protected within the same day. At the discretion of the Owner's Representative, a watertight built-up vapor retarder may be acceptable temporary protection for a maximum of 48 hours.

D. Do not smoke or use open flames near volatile materials.

1.09 WARRANTY

A. **Warranty Extension:** The one year period required by Paragraph 9.8 of the General Conditions is extended to 2 years for the Work of this Section. Refer to Supplementary Conditions.

B. **Manufacturer's Warranty:** In addition to the 2 year period specified above, furnish the membrane manufacturer's printed 15 Year Full System Warranty, covering workmanship, materials, and wind related damage, for the Work of this Section.

1. The warranty shall include, but not be limited to, repair of leakage and the repair and/or replacement of the roofing system as necessary to correct defects or damage caused by; materials or workmanship.

- a. Materials shall include the membrane, coverboard, insulation, fasteners, adhesives and tapes, flashing originally provided by the manufacturer, and all accessory products.

- b. Repair and/or replacement of the roofing system shall include the replacement of wet insulation. For the purpose of this specification, insulation will be considered wet if either of the following exists:

- 1) Free water is visible when the insulation is compressed.
- 2) No free water is visible when the insulation is compressed, but the insulation is damp to the touch over a large enough area, as determined by the Owner's Representative, to jeopardize the integrity of the roof system and any of its components, or to significantly lower the specified R value of the insulation.

PART 2 PRODUCTS

2.01 EPDM SHEET MEMBRANE, SHEET FLASHING, AND RELATED PRODUCTS

- A. The EPDM sheet membrane shall be visually free of streaks, particles of foreign matter, undispersed raw material, pinholes, cracks, tears, and shall be uniform in thickness. When unrolled in a relaxed position, the membrane shall be free of wrinkles, distortions, and blisters.
- B. EPDM (Ethylene, Propylene, Diene, Monomer) Sheet Membrane:
 - 1. One of the following types as required to achieve a UL Class A external fire rating:
 - a. 60 mil, unreinforced, EPDM membrane.
 - b. 60 mil, fire retardant, unreinforced, EPDM membrane.
 - 2. The following systems are listed in the UL Materials Directory as having a UL Class A Exterior Fire Rating when installed with the type of deck, insulation, and roof slope applicable to this Project.
 - a. "Sure Seal Adhered Roofing System" by Carlisle Syntec Systems, P.O. Box 7000, Carlisle, PA 17013, (800) 479-6832, www.carlisle-syntec.com
 - b. "Adhered Rubbergard Roofing System" by Firestone Building Products Company, 525 Congressional Blvd., Carmel, IN 46032, (800) 428-4442, www.firestonebpco.com
 - c. "GenFlex Fully Adhered Roofing System", by Genflex Roofing Systems, P.O. Box 637, Maumee, OH 43537, (800) 443-4272, www.genflex.com
 - d. "UltraGuard Adhered Roofing System" by Manville Roofing Systems, P.O. Box 5108, Denver, CO 80217-5108, (800) 654-3103, www.jm.com
 - e. "VersiGard Fully Adhered Roofing System" by Versico Incorporated, P.O. Box 6424, Akron, OH 44312, (800) 992-7663, www.versico.com
- C. Sheet Flashing: Membrane manufacturer's cured and uncured EPDM as specified.
- D. Inseam Tape: Membrane manufacturer's minimum 3 inch wide self adhering tape consisting of cured butyl double sided adhesive tape, for inseam splicing of rubber to rubber.
- E. Cured EPDM Cover Tape: Membrane manufacturer's minimum 5 inch wide self adhering tape consisting of cured butyl adhesive laminated to cured EPDM, for installation over EPDM seams, cuts in field membrane, and for stripping in metal work.
- F. Uncured EPDM Cover Tape: Membrane manufacturer's minimum 5 inch wide self adhesive tape, consisting of, cured butyl adhesive laminated to uncured EPDM, for installation over base flashing corners, inside and outside corners, pipe flashings and other detail work.

- G. Related Products: Membrane manufacturer's bonding adhesive, splicing cement, lap sealant, water cut-off mastic, nite seal, pourable sealer, splice joint cleaning agent and primer, insulation adhesive, and all other products related to the sheet membrane system.

2.02 INSULATION

- A. The total insulation thermal resistance averaged over the entire roof area shall produce an R-20.
- B. The indicated insulation thickness is nominal, allowing for differences in insulating properties of various name brands. Minor variation in thickness is acceptable, provided the specified thermal value and other requirements of this Contract are met.
- C. Approval of the insulation is contingent upon certification by the membrane manufacturer that the insulation is approved for use with the specified roof system and that the insulation is included in the full system warranty specified.
- D. Uniform Thickness isocyanurate insulation and Tapered isocyanurate insulation: Membrane manufacturers approved closed cell isocyanurate foam core insulation skinned on both sides with factory applied fiberglass facers suitable for installation with hot asphalt and cold adhesive. ASTM C1289-02, Type II, Class 1, Grade 2. UL Classified and Factory Mutual Approved for direct application over steel deck. Minimum LTTR : 6.0 per inch thickness.
 - 1. Board Size:
 - a. Adhesively Secured Insulation: Maximum board size 4 feet x 4 feet.
- E. Tapered Insulation System: Membrane manufacturer's approved 1/4 inch per foot factory tapered polyisocyanurate insulation.
- F. Coverboard Insulation: 1/4 inch thick gypsum roof board composed of a silicone treated gypsum core with fiberglass facers.
 - 1. Acceptable Product: "Dens-Deck" by Georgia-Pacific Corporation, Gypsum Division, 133 Peachtree Street, N.E., Atlanta, GA 30303, (800) 225-6119, www.gp.com
 - 2. Adhesively Attached Barrier Board: Maximum board size 4 feet x 4 feet.
- G. Tapered Cricket System: Membrane manufacturer's approved 1/2 inch per foot factory tapered polyisocyanurate insulation.
- H. Tapered Edge Strips: Membrane manufacturer's approved 1/2 inch per foot factory tapered polyisocyanate insulation.

2.03 FASTENERS

- A. Base Flashing Fasteners (use along top edge of base, beneath in-wall cap flashings):
 - 1. Concrete and/or Masonry Surfaces: Hardened masonry nails or zinc alloy hammer driven expansion anchors with stainless steel drive pins through 1 inch minimum sheet metal discs.
- B. Termination Bar and Fasteners:
 - 1. Termination Bar: Use materials as recommended by the roofing manufacturer.
 - 2. Fasteners:
 - a. Concrete or Masonry Surfaces: Slotted hex washer head masonry screws or zinc alloy hammer driven expansion anchors. Length as required to securely hold the compression bar tight against the wall surface.

2.04 INSULATION ADHESIVE

- A. Coverboard and Insulation Adhesive: Two-Part, Lowrise polyurethane foam adhesive, or the manufacturer's recommended insulation adhesive.
 - 1. OlyBond Adhesive Fastener, by Olympic Manufacturing Group
 - 2. Weather-Tite Adhesive, by Millenium Adhesive Products Inc.
 - 3. I.S.O. Stick, by Firestone Building Products Company.

2.05 MISCELLANEOUS MATERIALS

- A. Pipe Flashing: Membrane manufacturer's cured premolded EPDM pipe boot.
- B. Compression Clamp (for factory fabricated flashings only): Stainless steel or cadmium plated steel worm drive clamp.
- C. Expansion Joint Tube: Compressible neoprene or polyethylene tube, twice the diameter of the width of the expansion joint.
- D. Walkway, Protection Pads: Textured rubber pads, 3 feet wide by manufacturer's standard width and thickness; "Roof-Gard Pads" by Humane Manufacturing Co., P.O. Box 24, 805 Moore St., Baraboo, WI 53913, (800) 369-6263, www.humanemfg.com or "VersiGard Walkway Pads" by Versico, Inc., P.O. Box 6424, Akron, OH 44312, (800) 992-7663, www.versico.com
- E. Roof Drains: Metal roof drains designed specifically for installation into an existing conductor pipe. The drain shall be formed with an expandable

drop tube or with an expandable rubber boot to form a watertight seal between the drop tube and the existing conductor pipe. The drain shall also have a large flashing flange, clamping ring and an aluminum strainer.

- F. Pitch Pocket Filler Material:
 - 1. Mortar: ASTM C 270, Type S.
 - 2. Pourable Sealer: Membrane manufacturer's 2 component liquid urethane.

- G. Sealant: One-part, low modulus, silicone sealant: Dow Corning's 790, General Electric's Silpruf, Pecora's 864, or Tremco's TremPro 646.

PART 3 EXECUTION

3.01 SURFACE PREPARATION

- A. Ensure roof drain strainers are in place and secured during removal of insulation and other debris. Provide cast iron strainers where existing strainers are missing. Do not allow removal debris to enter drains.

- B. Cleaning: Before the roofing installation commences, sweep and/or vacuum all surfaces as required to remove all dirt, dust, loose aggregate, foreign matter, and debris left from removals of existing roofing.

3.02 PREPARATION

- A. Testing Existing Roof Drains and Conductor Pipes: Before commencing with the Work of this Section, water test existing roof drains and conductor pipes and submit a written report to the Owner's Representative indicating which drains or conductors, if any, are not functioning properly. Repair of existing drains and conductors is not included in the Work. Repair work (if any) may, at the Owner's option, be accomplished by an Order on Contract.

- B. Testing of adhesive: Before commencing with the roofing work, in the presence of the Owner's Representative, conduct an adhesive pull out tests to determine if the pull out values meet the requirements of the Contract Documents and the membrane manufacturer.
 - 1. Conduct the tests at representative locations and/or where selected by the Owner's Representative as follows:
 - a. Up to 5,000 square feet: 3 tests.
 - b. 5,000 to 10,000 square feet: 6 tests.
 - c. 10,000 to 50,000 square feet: 10 tests.
 - d. 50,000 to 100,000 square feet: 20 tests.

2. Patch holes at the test locations.
3. Do not proceed with the roofing work if the pull out resistance of the fasteners is less than specified in this Section.

3.03 INSTALLING INSULATION

- A. Keep insulation absolutely dry at all times. Discard insulation that contains moisture.
 1. Install only as much insulation as can be covered with roofing membrane the same day.
 2. Discard all units with broken corners or similar defects.
 3. At roof drains, terminate the insulation with tapered edge strips so that all flashing and coverstrip joint laps can be made within the tapered portion.
- B. Installing Adhesively Secured Insulation: Set each board in insulation adhesive applied in accordance with manufacturer's printed instructions. Press insulation into the adhesive immediately and as necessary thereafter to assure proper bonding. Maintain pressure on the adhesive until the adhesive has completely set (20 to 45 minutes).
- C. Installing Insulation Board: Install the insulation in a minimum of two layers, top layer joints staggered and offset from the joints of the insulation below. Cut base layer of insulation to a 2 foot width as a starter. Butt edges and ends snugly so there are no gaps between the insulation boards. Discard boards with broken corners and boards that are warped.
- D. Installing Tapered Insulation System: Install the tapered insulation following the manufacturer's shop drawings and instructions for laying out the tapered insulation system. Install each layer of insulation with joints staggered. Butt edges and ends snugly so that there are no gaps between the insulation boards.
- E. Install coverboard insulation over the polyisocyanurate insulation, staggering and offsetting joints from the insulation below.
- F. Install the cricket insulation over the coverboard insulation. Cut and fit the cricket insulation in accordance with the manufacturer's instructions.

3.04 INSTALLING COVERBOARD

- A. Install coverboard over the insulation to provide protection from insulation facer delamination and to provide protection from foot traffic, etc.
- B. Installing Coverboard With Adhesive:

1. Install the coverboard over the insulation with the long joints running in a continuous straight line with end joints staggered. Butt edges and ends snugly so there are no gaps between the boards.
2. Set each board in serpentine ribbons of the adhesive applied at the manufacturer's recommended rate. Press the cover board into the adhesive immediately and as necessary thereafter to assure proper bonding. Maintain pressure on the adhesive until the adhesive has completely set (20 to 45 minutes).

3.05 INSTALLING EPDM ROOF MEMBRANE

- A. Install the membrane with the minimum number of field formed joints. Use the largest size factory formed sheets as is practicable.
 1. If possible start at high points of the roof and work towards the low points. Lap sheets so the flow of water is not against the edges of the sheet.
 2. Position the membrane so it is free of buckles or wrinkles. Do not stretch the membrane. Lay the sheets with a minimum 6-inch lap.
 - a. When the edges of the EPDM sheet are not straight so that the inseam tape and cover tape can be applied without distortion, snap a chalk line on the edge of the top sheet and cut the sheet so that the edge is straight.
 3. Allow the membrane to relax for a minimum of 1/2 hour before securing or splicing. When installing membrane in cold weather, allow the membrane to relax for a longer period of time as recommended by the manufacturer.
- B. Adhering Roofing Membrane To The Substrate:
 1. Adhere the roofing membrane to the substrate with the manufacturer's bonding adhesive. Mating surfaces must be clean and dry before adhering the membrane.
 2. Apply a uniform coating of bonding adhesive to both mating surfaces at the rate recommended by the manufacturer. Do not leave "skips" or "holidays". Do not allow the bonding adhesive to puddle.
 3. Do not allow bonding adhesive to come in contact with areas to be spliced.
 4. Allow the adhesive to dry until it does not stick to the dry finger touch. Do not attempt to adhere the membrane if the bonding adhesive is wet to the touch.
 5. Adhere the membrane to the substrate so it is free of wrinkles, fishmouths, or voids.
 6. Broom the membrane to achieve maximum adhesion. Do not try to reposition the sheet once it has been adhered to the substrate.

- C. Splicing EPDM Roof Membrane Lap Joints:
1. Splice side and end lap joints of the sheet membrane with the manufacturer's in-seam splicing tape and seam cover tape. Do not use splicing cement.
 2. Mark the bottom sheet along the edge of the top sheet with a marking crayon.
 3. Cleaning and Preparing The Lap Joint:
 - a. Remove dirt and dust. Detergent-wash the splice area where dirt has adhered to the membrane. Rinse with clean water and allow to dry thoroughly.
 - b. Solvent wash surfaces that will be in contact with in-seam tape and cover tape with natural fiber rags soaked in the manufacturer's recommended cleaning agent. Clean the splice area until the sheet is clean and black, with no streaks, and there is no trace of talc or foreign matter left in the splice area. Change rags frequently to avoid spreading the talc or dirt.
 - c. The solvent wash is mandatory and cannot be eliminated regardless of the manufacturer's requirements.
 4. Installing In-seam Splicing Tape:
 - a. Apply the manufacturer's primer to surfaces that will be in contact with the in-seam tape. Allow the primer to dry completely before completing the splice.
 - b. Position the tape on the bottom sheet with the edge aligned with the previously made markings. Roll the surface of the tape to insure good adhesion.
 - c. Fold the top sheet over the tape. Trim the sheet as necessary so that 1/4-inch of the tape is exposed.
 - d. Remove the release paper from the top surface of the tape and allow the membrane to come in contact with the tape as the paper is being removed.
 - e. Roll the surface of the splice to insure good adhesion.
 5. Installing Cover Tape:
 - a. Apply the manufacturer's primer to surfaces that will be in contact with the cover tape. Allow the primer to dry completely before completing the splice.
 - b. Apply the cover tape centered over the seam. Roll the tape into position while the release paper is being removed.
 - c. Adhere the tape to the underlying sheet so it is free of wrinkles, fishmouths and voids.
 - d. Roll the surface of the splice to insure good adhesion.
- D. Securing EPDM Roof Membrane At Base Of Walls and Sloped Intersections:

1. At base of walls, and at sloped intersections with inclines greater than 2 inches to the foot, turn the EPDM roofing membrane up onto the vertical surface so that it is self flashing.
 2. Before turning the membrane up onto the vertical or inclined surface, install a minimum 6 inch wide reinforced EPDM membrane strip over the coverboard. Fully adhere the strip to the insulation with bonding adhesive.
 - a. Adhere the roof membrane to the EPDM strip with splicing cement.
 3. Work the membrane into the intersection of the deck and the vertical or inclined surface so that there is no bridging. Adhere the membrane to the vertical or inclined surface with bonding adhesive.
 4. If wrinkles or loose membrane develop on the vertical surface, cut the membrane so that it will lay flat and tight to the surface. Adhere a one-foot wide patch of EPDM over the cut membrane.
 - a. Apply lap sealant around the perimeter of the patch.
- E. Sealing "T" Joints In The EPDM Roof Membrane:
1. Where two spliced seams ("T" joints) running perpendicular or on a bias to each other intersect, apply lap sealant at the edges of the cover tape. Extend the lap sealant a minimum of 6 inches beyond each intersecting corner.

3.06 INSTALLING EPDM FLASHINGS

- A. Splicing EPDM Flashing:
1. Remove dirt and dust. Detergent wash mating surfaces where dirt has adhered to the membrane. Rinse with clean water and allow to dry thoroughly.
 2. Solvent wash mating surfaces with natural fiber rags soaked in the manufacturer's cleaning agent. Clean the splice area until the sheet is clean and black, with no streaks, and there is no trace of talc or foreign matter left in the splice area. Change rags frequently to avoid spreading the talc or dirt.
 - a. Brush-apply a uniform coating of splicing cement to both mating surfaces at the rate recommended by the manufacturer. Do not leave any "skips" or "holidays". Do not allow the splicing cement to puddle.
 - b. Allow the splicing cement to dry until it does not stick to the dry finger touch. Do not complete the splice if the splicing cement is wet.
 - c. Adhere the top sheet to the underlying sheet so it is free of wrinkles, fishmouths, and voids.
 - d. Roll the splice with a steel roller to insure good adhesion.

- e. Apply a bead of lap sealant along exposed edges and tool to a slightly convex surface. Lap sealant must be applied the same day the splice is completed.

B. Adhering EPDM Flashings To The Substrate:

1. Adhere the flashings to the substrate with the manufacturer's bonding adhesive. Mating surfaces must be clean and dry and smooth before adhering the membrane. Do not adhere membrane directly to masonry surfaces.
2. Apply a uniform coating of bonding adhesive to both mating surfaces at the rate recommended by the manufacturer. Do not leave any "skips" or "holidays". Do not allow the bonding adhesive to puddle.
3. Do not allow bonding adhesive to come in contact with areas to be spliced.
4. Allow the adhesive to dry until it does not stick to the dry finger touch. Do not attempt to adhere the flashing if the bonding adhesive is wet to the touch.
5. Adhere the flashing to the substrate so it is free of wrinkles, fishmouths, or voids.
6. Roll the surface of the flashings to achieve maximum adhesion. Do not try to reposition the flashing once it has been adhered to the substrate.

C. Installing EPDM Base Flashing At Equipment Curbs, Skylight Curbs, and At Walls Where The Roof Membrane Cannot Be Turned Up In One Piece:

1. Complete the splice between the sheet flashing and the roof membrane before bonding the flashing to vertical surfaces. Extend the splice a minimum of 3 inches beyond fastener plates that secure the membrane.
2. Apply bonding adhesive to the substrate. Roll the flashing into the bonding adhesive so there are no wrinkles and no bridging at the base of the flashing. Work the surface of the flashing to insure good adhesion.
3. At inside and outside corners cut and fold the membrane around the corner as recommended by the manufacturer. Apply uncured EPDM corner patches.
4. Apply lap sealant at edges and ends of the flashing.
5. If the base flashing terminates beneath a cap flashing, secure the top edge of the flashing with fasteners 12 inches on center.

D. Installing EPDM Expansion Joint At Building Wall Base:

1. At the base of the wall, secure the roofing membrane to a reinforced EPDM membrane strip.

2. Install a minimum 6 inch wide reinforced EPDM membrane strip over the coverboard. Fully adhere the strip to the insulation with bonding adhesive.
 3. Adhere the roof membrane to the EPDM strip with splicing cement.
 4. Install premolded joint filler or batt fiberglass insulation in the expansion joint. Install 2 inch round premolded expansion joint filler tube. Set the tube so that it extends above the roof surface at least 1-1/2 inches.
 5. Apply bonding adhesive to the wall surface. Extend the membrane over the tube and up the wall surface. Work the membrane into the bonding adhesive to insure good adhesion.
 6. If wrinkles or loose membrane develop on the vertical surface, cut the membrane so that it will lay flat and tight to the surface. Adhere a one-foot wide patch of EPDM over the cut membrane.
 - a. Apply lap sealant around the perimeter of the patch.
 7. Secure the top edge of the membrane with fasteners one foot on center.
- E. Installing EPDM Expansion Joint In Field Of Roof:
1. Install a minimum 6 inch wide reinforced EPDM membrane strip over the insulation on each side of the expansion joint. Fully adhere the strip to the insulation with bonding adhesive. Mechanically fasten the strip to the structural deck with screws and stress plates one foot on center.
 2. Install premolded joint filler or batt fiberglass insulation in the expansion joint. Install 2 inch round premolded expansion joint filler tube. Set the tube so that it extends above the roof surface at least 1-1/2 inches.
 3. Apply splicing cement to the membrane and the reinforced EPDM strips. Fold the membrane over the joint and splice the membrane to the strip. Roll the surface to insure good adhesion.
- F. Installing Termination Bar:
1. Where base flashing does not terminate beneath a cap flashing, seal the top edge as follows:
 - a. Set the top one-inch of the flashing in water cut off mastic.
 - b. Install a continuous metal termination bar over the flashing and secure one foot on center.
 - c. Apply a bead of lap sealant along the top edge.
- G. Installing Scupper Flashing:
1. Strip in flanges of the metal scupper with uncured EPDM covertape. Completely cover the metal flanges. Extend the

flashing a minimum of 3 inches beyond the flanges onto the roofing membrane. Apply lap sealant at exposed edges.

H. Installing Pipe Flashing:

1. Wherever possible flash pipes through the roof with the manufacturer's premolded pipe flashing.
 - a. Cut the flashing to the proper diameter. Apply splicing cement to the bottom of the flashing and to the contact surface of the membrane. Apply water cut-off mastic between the contact surface of the pipe and the flashing. Install the premolded flashing.
 - b. Install clamping ring around top of flashing. Apply lap sealant around the splice edge of the flashing flange.
2. Where premolded pipe flashings cannot be used, use field fabricated uncured EPDM covertape flashing.
 - a. Apply the manufacturer's primer to surfaces that will be in contact with the cover tape. Allow the primer to dry completely before completing the flashing.
 - b. Install a square shaped piece of flashing over the membrane. Turn the flashing up onto the pipe 1/2 inch.
 - c. Wrap a second piece of flashing around the pipe. Extend the flashing 1/2 inch onto the horizontal portion of previously installed flashing.
 - d. Roll the surface of the splice to insure good adhesion.
 - e. Adhere the tape to the underlying sheet so it is free of wrinkles, fishmouths and voids.
 - f. Apply lap sealant at splice edges and at the top of the flashing.

I. Installing Pitch Pockets:

1. Install the metal pitch pocket over the roofing membrane. Completely cover the pitch pocket with sheet flashing set in splicing cement. Turn down the flashing 1/2 inch into the pitch pocket and a minimum of 3 inches beyond the horizontal flanges of the pitch pocket. Seal edges and splice joints with lap sealant.
2. Cover the bottom half of the pitch pocket with mortar. Remove misplaced mortar from the portion of the pitch pocket to be filled with pourable sealer. Fill the remaining half of the pitch pocket with pourable sealer.

J. Flashing Retro Fit Roof Drains:

1. Before installing the retro fit drain, apply water cut off mastic on the bottom side of the drain flange.
2. Prime the top surface of the drain flange and the roof membrane with the roof membrane manufacturer's primer.

3. Strip in the drain flange with EPDM sheet membrane cover strips. Extend the cover strips from the edge of the conductor pipe cut out to a minimum of one foot beyond the drain flange onto the roof surface.
 4. Apply lap sealant at edges and lap joints of the coverstrips.
- K. Flashing New Cast Drains:
1. Apply the manufacturer's water cut-off mastic around the perimeter of the drain body in the location of the clamping ring. Embed the membrane into the mastic. Install the clamping ring and strainer.
- L. Flashing Existing Cast Drains:
1. Remove the existing clamping ring, coverstrips, and lead flashing. Clean the contact area of the drain body down to bare metal removing all traces of asphalt. Liberally apply the manufacturer's water cut-off mastic around the perimeter of the drain body in the location of the clamping ring. Embed the membrane into the mastic. Install the clamping ring and strainer.
 - a. Secure the clamping ring with new bolts to match the existing.
- M. Installing Walkway/Protection Pads:
1. Apply bonding adhesive to the pad and to the roofing membrane. Install the pads over the membrane. Apply sufficient pressure to insure a good bond. Apply lap sealant to the full perimeter of the pad.

3.07 PHASING OF MEMBRANE INSTALLATION

- A. At the end of each working day temporarily seal the loose edge of the membrane so that water does not flow beneath the covered portion. Spud off existing aggregate (if any) in the area to be sealed, remove dirt, dust, and foreign matter. Unless instructed otherwise, provide temporary seals in the presence of the Owner's Representative. Install the temporary seal using one of the following methods:
1. Method 1: Apply a 12 inch wide application of hot bitumen over the area to be sealed. While hot, embed the EPDM membrane into the bitumen. Before the Work resumes cut off and discard portions of the membrane that have been embedded in the hot bitumen.
 2. Method 2: Apply the membrane manufacturer's nite seal over the area to be sealed. Embed the EPDM membrane into the nite seal. Apply a continuous weight over the membrane and nite seal. Before the Work resumes cut off and discard portions of the membrane that have been embedded in the nite seal.

3. Install flashings as the membrane is being installed (same working day). If the flashing cannot be completely installed in one day, progress the installation until the flashing is in a watertight condition.

3.08 FIELD QUALITY CONTROL

- A. As the joints are completed or at the end of each workday, in the presence of the Owner's Representative closely examine joints in the membrane and flashing. Cut out and repair areas of the joints that are not fully bonded or that contain "fishmouths" or "wrinkles". Repair the membrane so it is restored to its full waterproof integrity. Lap patches a minimum of 6 inches beyond cuts.

END OF SECTION

2389-15-33-d110-6-spec (Section 075323).doc

SECTION 076000

FLASHING AND TRIM

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. EPDM Sheet Roofing System: Sections 075323, 075324, or 075553.

1.02 REFERENCES

- A. SMACNA: Sheet Metal and Air Conditioning Contractors' National Association, 4201 Lafayette Center Dr., Chantilly, VA 20151-1209, (703) 803-2980, www.smacna.org.
- B. CDA: Copper Development Association Inc., 260 Madison Ave., New York, NY 10016, (212) 251-7200, www.copper.org
- C. ASTM: ASTM International, 100 Barr Harbor Dr., PO Box C700, West Conshohocken, PA, 19428-2959, (610) 832-9500, www.astm.org.

1.03 SYSTEM DESCRIPTION

- A. Metal flashings, trim, and related accessories that form terminations and waterproof connections.

1.04 SUBMITTALS

- A. Shop Drawings: Show the manner of forming, jointing, and securing the metal flashings and trim. Include expansion joint connections, and the method of forming waterproof connections to adjoining construction. Provide shop drawings for the following:
 - 1.
- B. Product Data: Catalog sheets, specifications, installation instructions for each item specified except for shop or job formed items, solder, flux, and bituminous paint.
- C. Samples:
 - 1. Materials for Flashings: One 6 inch sq piece, for each type material specified.
 - 2. Anchors: Six, each type required.
 - 3. Cap Flashings: Full section, 6 inches long.
 - 4. Gravel Stop: Full section, 6 inches long.

5. Coping: Full section, 12 inches long.
- D. LEED Design Submittals:
1. MR Credit 4.1 and MR Credit 4.2: Identify manufacturer's name, the percentage of post-consumer recycled content by weight, the pre-consumer recycled content by weight, and the cost of the product.
 2. MR Credit 5.1 and MR Credit 5.2: Identify source, cost, and the fraction by weight that is considered regional.

1.05 QUALITY ASSURANCE

- A. Except as otherwise shown or specified, comply with applicable recommendations, details, and standards of CDA, and SMACNA.
- B. Manufacturer's Recommendations: For factory fabricated items, follow the manufacturer's recommendations and installation instructions unless specifically shown or specified otherwise.

1.06 PROJECT CONDITIONS

- A. Do not execute the Work of this Section unless the Director's Representative is present, or unless he directs that the Work be performed during his absence.
- B. Make the roof and all uncompleted flashings watertight at the end of each work day.

PART 2 PRODUCTS

2.01 MATERIALS FOR FLASHING FABRICATION

- A. Plain Copper Sheet: Cold rolled copper, ASTM B 370.
- B. Zinc-Tin Coated Copper Sheet: Cold rolled copper, ASTM B 370. Fifty percent Zinc, 50 percent Tin coating; ASTM B 350, Type 1 0.5 mils thick per sq ft applied to both sides.
- C. Hypalon Coated Metal: Membrane manufacturer's Hypalon coated metal. Refer to Section 075002.
- D. PVC Coated Metal: Membrane manufacturer's PVC coated metal. Refer to Section 075418.

- E. Stainless Steel Sheet: Dead soft fully annealed stainless steel sheet, ASTM A 666, Type 302/304, 2D dull finish.
- F. Galvanized Steel Sheet: Commercial quality hot dip galvanized steel sheet, ASTM A 525 and ASTM A 526.
 - 1. Mill phosphatized by the sheet manufacturer to prepare the surface for painting.
- G. Prefinished Galvanized Steel Sheet: Commercial quality, extra smooth, hot dip galvanized, mill phosphatized galvanized steel sheet, ASTM A 525/526.
 - 1. Finish: Fluorocarbon coating (Polyvinylidene Fluoride, PVDF). Reverse side primed. Shipped with strippable protective tape.
 - 2. Color: As selected by the Director's Representative from manufacturer's standard colors.
- H. Aluminum Sheet: Standard mill finish aluminum sheet. ASTM B 209, 3003-H14 alloy.
- I. Prefinished Aluminum Sheet: ASTM B 209, 3003-H14 alloy.
 - 1. Finish: Fluorocarbon coating (polyvinylidene Fluoride PVDF). Reverse side primed. Shipped with strippable protective tape.
 - 2. Color: As selected by the Director's Representative from manufacturer's standard colors.
- J. Sheet Lead: ASTM B 29. Minimum Wgt. 4 lbs per sq ft.

2.02 FASTENERS

- A. Nails: "Stronghold" type large flat head roofing nail.
 - 1. For Copper: Hardened copper.
 - 2. For Stainless Steel: Stainless steel.
 - 3. For Aluminum: Hard aluminum alloy or stainless steel.
 - 4. For Galvanized: Galvanized.
- B. Screws, Bolts, and Other Fastening Accessories:
 - 1. For Copper: Copper or brass.
 - 2. For Stainless Steel: Stainless steel.
 - 3. For Aluminum: Hard aluminum alloy or stainless steel.
 - 4. For Galvanized: Stainless steel.
- C. Anchors: Provide one of the following types:
 - 1. Hammer driven anchors, consisting of a stainless steel drive pin and a plastic or corrosion resistant metal expansion shield inserted thru a stainless steel disc with an EPDM sealing washer.

2. Self-tapping, corrosion resistant, concrete and masonry screw inserted thru a stainless steel disc with an EPDM sealing washer.

2.03 MISCELLANEOUS MATERIALS

- A. Solder: Composition of block tin/pig lead of proportion recommended by the metal manufacturer.
- B. Flux: Paste or acid type as recommended by the metal manufacturer.
- C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.
- D. Type 2 Sealant: One-part acrylic polymer sealant; Pecora AVW-920, PTI 738, or Tremco Mono.
- E. Type 3 Sealant: One-part butyl rubber sealant; Pecora BC-158, PTI 707, or Bostik Chem-Calk 300 (not SWRI).
- F. Type 4 Sealant: One-part silicone sealant for high temperatures; Bostik 9732 High Temp Red, Dow Corning Silastic 736 RTV, Dow Corning High Temp, General Electric RTV 106.
- G. Thru Wall Flashing Joint Sealant: Trowel grade asphalt roof cement.

2.04 FABRICATION

- A. Where practicable, form and fabricate sheet metal Work in the factory or shop. Produce bends and profiles accurately to the indicated shapes. Where not indicated or specified, follow the applicable requirements of the reference standards listed in PART 1.
- B. Cap Flashing:
 1. Copper: 16 oz.
 2. Zinc-Tin Coated Copper: 16 oz.
 3. Stainless Steel: 26 ga (.018 inch).
 4. Galvanized Steel: 24 ga (.023 inch).
 5. Pre Finished Galvanized Steel: 24 ga (.023 inch).
- C. Cap Flashing With In-Wall or Thru-Wall Cap Receiver: Three way mortar bond type receiver with snap fit cap flashing; “Keystone Two-Piece Cap Flashing” by Keystone Flashing Co., 5119 N. Second Street, Philadelphia, PA 19120, (800) 526-8348, www.keystoneflashing.com.
 1. Copper: 16 oz.
 2. Zinc-Tin Coated Copper: 16 oz.
 3. Stainless Steel: 26 ga (.018 inch).

- D. Base Flashing:
1. Copper: 20 oz.
 2. Zinc-Tin Coated Copper: 20 oz.
 3. Stainless Steel: 24 ga (.025 inch).
 4. Aluminum: .032 inch.
 5. Prefinished Aluminum: .032 inch.
 6. Prefinished Galvanized Steel: 24 ga (.023 inch).
 7. Hypalon Coated Metal: Specified under Section 075002.
 8. PVC Coated Metal: Specified under Section 075418.
- E. Formed Gravel Stops:
1. Copper: 20 oz.
 2. Zinc-Tin Coated Copper: 20 oz.
 3. Stainless Steel: 24 ga (.025 inch).
 4. Galvanized Steel: 24 ga (.023 inch).
 5. Prefinished Galvanized Steel: 24 ga (.023 inch).
 6. Aluminum: .040.
 7. Prefinished Aluminum: .040.
 8. Hypalon Coated Metal: Specified under Section 075002.
 9. PVC Coated Metal: Specified under Section 075418.
- F. Extruded Aluminum Gravel Stop and Fascia Sump: Complete system including fascia, water dam, splice plates, corners, and intersections, and all other accessory components by Viridian Systems, 30700 Solon Industrial Parkway, Solon, OH 44139; Metal ERA, 1600 Airport Rd., Waukesha, WI 53188, (800) 558-2162, www.metalera.com; or IMETCO (Innovative Metals Company, Inc.) 2070 Steel Dr., Tucker, GA 30084, (800) 646-3826, www.imetco.com.
1. Face Height: Closest manufacturer's standard dimension to face height shown on Drawings.
 2. Style: Specifically Designed For:
 - a. Conventional Built-Up roofing Membrane.
 - b. Protected Built-Up Roofing Membrane.
 - c. One Ply Roofing Membrane.
 - d. Protected One Ply Roofing Membrane.
 3. Finish: Fluorocarbon Coating (Polyvinylidene Fluoride, PVDF)/Clear Anodized/ Color Anodized.
 4. Color: As selected by the Director's Representative from manufacturer's standard colors.
- G. Extruded Aluminum Gravel Stop: Complete system including gravel stop, extruded aluminum joint cover plates, concealed .025 inch aluminum joint flashing, fasteners, corners, and intersections and all other accessory components. Type F gravel stop by Architectural Products Company,

1290 Aviation Blvd., Suite 200, P.O. Box 630, Hebron, KY, (800) 837-1001, www.archprod.com.

1. Face Height: Closest manufacturer's standard dimension to face height shown on drawings.
2. Finish: Fluorocarbon Coating (Polyvinylidene Fluoride, PVDF)/ Clear Anodized/ Color Anodized.
3. Color: As selected by the Director's Representative from manufacturer's standard colors.

H. Thru Wall Scupper:

1. Copper: 20 oz.
2. Zinc-Tin Coated Copper: 20 oz.
3. Stainless Steel: 24 ga (.025 inch).
4. Galvanized Steel: 24 ga (.023 inch).
5. Prefinished Galvanized Steel: 24 ga (.023 inch).
6. Hypalon Coated Metal: Specified under Section 075002.
7. PVC Coated Metal: Specified under Section 075418.

I. Shop Formed Coping:

1. Copper: 20 oz.
2. Zinc-Tin Coated Copper: 20 oz.
3. Stainless Steel: 24 ga (.025 inch).
4. Galvanized Steel: 24 ga (.023 inch).
5. Prefinished Galvanized Steel: 24 ga (.023 inch).
6. Aluminum: .040 inch.
7. Prefinished Aluminum: .040 inch.

J. Factory Fabricated Formed Coping: Complete system including .063 inch aluminum coping, anchor plates, joint drainage system, concealed joint covers, corners, and intersections, and all other accessory components by Viridian Systems, 30700 Solon Industrial Parkway, Solon, OH 44139; Metal ERA, 1600 Airport Rd., Waukesha, WI 53188, (800) 558-2162, www.metallera.com; or IMETCO (Innovative Metals Company, Inc.) 2070 Steel Dr., Tucker, GA 30084, (800) 646-3826, www.imetco.com.

1. Finish: Fluorocarbon Coating (Polyvinylidene Fluoride PVDF)/ Clear Anodized/ Color Anodized.
2. Color: As selected by the Director's Representative from manufacturer's standard colors.

K. Metal Expansion Joint Cover:

1. Copper: 20 oz.
2. Zinc-Tin Coated Copper: 20 oz.
3. Stainless Steel 24 ga (.025 inch).

4. Aluminum: .040 inch.
 5. Galvanized Steel: 24 ga (.023 inch).
- L. Bellows Type Expansion Joint Cover: Factory fabricated unit with neoprene bellows backed with closed cell foam, anchored to metal flange. Include prefabricated corners, and intersections (if any), joint splice plater, and all other accessory components.
1. Metal Flange: Copper/Galvanized Steel/Aluminum.
- M. Roof Drain Flashing: Sheet lead, 4 lbs per square.
- N. Flashing Pipe thru-Roof:
1. Copper: 16 oz.
 2. Zinc-Tin Coated Copper 16 oz.
 3. Stainless Steel: 26 ga (.018 inch).
- O. Pitch Pockets:
1. Copper: 16 oz.
 2. Zinc-Tin Coated Copper: 16 oz.
 3. Stainless Steel: 26 ga (.018 inch).
 4. Hypalon Coated Metal: Specified under Section 075002.
 5. PVC Coated Metal: Specified under Section 075418.
- P. Eave and Rake Flashing:
1. Copper: 16 oz.
 2. Zinc-Tin Coated Copper: 16 oz.
 3. Galvanized Steel: 24 ga (.023 inch).
 4. Prefinished Galvanized Steel: 24 ga (.023 inch).
 5. Aluminum: .032 inch.
 6. Prefinished Aluminum: .032 inch.
- Q. Valley Flashing:
1. Copper: 16 oz.
 2. Zinc-Tin Coated Copper: 16 oz.
 3. Aluminum: .032 inch.
 4. Prefinished aluminum: .032 inch.
 5. Prefinished Galvanized Steel: 24 ga (.023 inch).
- R. Crickets:
1. Copper: 20 oz.
 2. Zinc-Tin Coated Copper: 20 oz.
 3. Aluminum: .032 inch.
 4. Prefinished Aluminum: .032 inch.
 5. Prefinished Galvanized Steel: 24 ga (.023 inch).

- S. Snow Guards: Zaleski Snow-Guards for Roofs, Inc., 11 Alden St., New Britain, CT 06053, (860) 225-1614, www.snowguards.com. Designed specifically for installation on:
1. Slate Roof: Model No. 4 snow guard.
 2. Asphalt Shingle Roof: Model No. 4 snow guard with hook tab removed and drilled for nailing.
 3. Tile Roof: Model No. 6 snow guard.
 4. Copper Roof: Model No. 7 snow guard.
 - a. Adhesive: Snow guard manufacturer's standard or recommended sealant adhesive or 2 sided tape to suit roofing material.
- T. Snow Flashing:
1. Copper: 16 oz.
 2. Zinc-Tin Coated Copper: 16 oz.
 3. Aluminum: .032 inch.
 4. Prefinished Aluminum: .032 inch.
- U. Thru Wall Flashing:
1. Copper Fabric: 7 oz copper sheet with asphalt impregnated glass fabric bonded to both sides.
 - a. Joint Sealant: Trowel grade asphalt roofing cement.
- V. Door and Window Flashing:
1. Copper Fabric: 7 oz copper sheet with asphalt impregnated glass fabric bonded to both sides.
 - a. Joint Sealant: Trowel grade asphalt roofing cement.
- W. Door and Window Flashing:
1. Copper: 10 oz.
 2. Stainless Steel: 30 ga (.012 inch).
 3. Aluminum: .032 inch.
- X. Cleats:
1. Copper: 16 oz.
 2. Galvanized Steel: 24 ga (.023 inch).
 3. Aluminum: .040 inch.
- Y. Continuous Edge Strip:
1. Copper: 20 oz.
 2. Galvanized Steel: 24 ga (.023 inch).
 3. Aluminum: .040 inch.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Coordinate the Work of this Section with other Work for the correct sequencing of items that make up the entire system of weatherproofing or waterproofing.

3.02 PREPARATION

- A. Do not install the Work of this Section unless all necessary nailers, blocking and other supporting components have been provided.
- B. Do not install the Work of this Section unless all substrates are clean and dry.

3.03 INSTALLATION

- A. Isolation: Separate dissimilar metals from each other with bituminous paint.
- B. Tinning and Soldering:
 - 1. Remove all factory applied finishes to bare metal at all areas to be soldered.
 - 2. Clean, flux and tin all surfaces to be soldered.
 - 3. Sweat solder thoroughly into seams, completely filling the seam for the full width.
 - 4. Upon completion of soldering, remove all traces of flux residue, and if required, apply a neutralizing wash followed by a clean water wash.
- C. Touch-Up Painting: After all prefinished galvanized steel flashings have been installed, apply the metal coating manufacturer's touch-up paint to all soldered areas and all other areas where the finish has been damaged.
- D. Installing In-Wall and Thru-Wall Cap Flashing Receivers:
 - 1. Set the receiver so there is mortar above and below the built-in portion.
 - 2. Do not mallet, bend or deform the exposed portion.
 - 3. Lap all end joints so they interlock at the first raised rib. Apply Type 3 sealant between the mating surfaces of the built-in portion of the receiver before interlocking end joints.
- E. Installing Cap Flashing:
 - 1. Form and install the cap to provide a spring tight fit against the base flashing. Lap all end joints and base flashing a minimum of 3 inches. Extend the cap continuously around corners or provide lock seams.

2. Cap Flashing for Installation In Reglets:
 - a. Extend the built in portion of the cap a min of 3/4 inch into the reglet. Form the edge of the built in portion with a 1/4 inch hook dam.
 - b. Secure the cap with lead wedges 8 inches oc. Fill joint completely with Type 2 sealant and tool to a slightly concave surface.
 2. Surface Mounted Cap Flashing:
 - a. Form the top portion of the cap flashing which comes in contact with the wall surface with a one-inch wide bearing surface. Form a 45 degree x 1/4 inch wide stiffener and caulking flange along the top edge.
 - b. Apply Type 2 sealant on the back side of the bearing surface.
 - c. Secure the cap flashing to the wall with fasteners spaced one foot oc thru the bearing surface.
 - d. Apply Type 2 sealant along the caulking flange.
 2. In-Wall Cap Flashing:
 - a. Extend the built-in portion of the cap a minimum of 4 inches into the wall. Form the edge of the built in portion with a 1/4 inch hook dam.
 - b. Set the cap so there is mortar above and below the built-in portion.
 2. Cap Flashing For Installation in Receivers:
 - a. Insert the cap flashing into the receiver locking slot. Apply upward pressure along the entire length of the cap flashing so that it is securely locked into position.
- E. Dressing Down Existing Cap Flashing:
1. Turn up all cap flashings as required to perform the Work. Upon completion of the Work dress down all disturbed cap flashings so they lay flat against the base flashing.
 2. Secure the cap flashing to the wall surface with fasteners spaced 18 inches oc.
 3. Install matching metal patches at corners of cap flashings that have been cut to perform the Work. Lap the patches a minimum of one inch on each side of the cap flashing.
 - a. Secure the patch by pop riveting or by soldering.
- F. Installing Base Flashings:
1. Form the base flashing with locked and soldered joints into lengths not more than 24 feet oc.
 2. Provide expansion joints a maximum of 24 feet oc on straight runs and a maximum of 4 feet from corners. Form expansion joints with a 3 inch loose locked seam filled with Type 3 Sealant.

- a. Expansion Joint: Slit the cross folded portion of the flashing where it is bent at a right angle. Solder a patch over the slit to avoid binding at the cross fold.
 - 3. Extend the vertical portion of the base flashing a minimum of 3 inches up behind the cap flashing.
 - a. Where shown on the drawings lock the base flashing to the cap flashing with a minimum 3/4 inch loose lock joint.
 - 4. Extend the horizontal portion of the base flashing onto the roof surface a minimum of 4 inches and terminate in a 1/2 inch folded edge. Secure with nails spaced 3 inches oc staggered.

- G. Installing Base Flashing:
 - 1. Form the base flashing into lengths not more than 8 feet long. Install the base flashing with a 1/4 inch space between each length to accommodate expansion.
 - 2. Extend the vertical position of the base flashing a minimum of 3 inches up behind the cap flashing.
 - 3. Extend the horizontal portion of the base flashing onto the roof surface a min of 4 inches and terminate in a 1/2 inch folded edge. Secure with nails spaced 3 inches oc staggered.

- H. Installing Base Flashing:
 - 1. Form the base flashing from individual pieces 9 inches long. Extend the base flashing onto the roof surface 5 inches and up beneath cap flashings a minimum of 3 inches.
 - a. Lace the base flashing in with the shingles. Set each piece 1/2 inch up from the butt of the shingles. Nail the flashing to the roof surfaces only, with 2 nails along the concealed top edge.

- I. Installing Base Flashing:
 - 1. Form the base flashing into lengths not exceeding 8 ft long.
 - 2. Extend the vertical portion of the base flashing a min of 3 inches up behind the cap flashing.
 - 3. Extend the horizontal portion of the base flashing onto the roof surface a min of 4 inches and terminate in a 1/2 inch folded edge.
 - 4. Lap ends a min of 6 inches. Apply type 3 sealant between the mating surfaces of each length of flashing.
 - 5. Secure the flashing to the roof surfaces with 2 inch wide cleats (same material) hooked over the folded edge and nailed to the roof deck. Install cleats 8 inches oc.

- J. Installing Formed Metal Gravel Stops:
 - 1. Form the gravel stop into lengths not exceeding 8'-0". Allow 1/4 inch between sections for expansion.
 - 2. Install a continuous edge strip secured 8 inches oc.

3. Install a 12 inch wide concealed splice plate at all joints. Form the splice plate to the exact shape of the gravel stop. Center the splice plate beneath the joints of the gravel stop and secure to the roof deck.
 4. Apply the membrane manufacturer's recommended sealant between the contact surface of the horizontal portion of the splice plate and the gravel stop.
 5. Extend the horizontal portion of the gravel stop onto the roof surface a minimum of 4 inches and terminate in a 1/2 inch folded edge. Secure with nails spaced 3 inches oc staggered. Hook the drip edge of the gravel stop over a continuous metal edge strip.
 6. Where gravel stop face height exceeds 8 inches provide a longitudinal break at the center line unless shown otherwise on the Drawings.
- H. Installing Thru Wall Scupper:
1. Form the scupper with 4 inch wide flashing flanges.
 2. Lock and solder, or rivet and solder all construction joints of the scupper.
 3. Lock, or lap and rivet all construction joints of the scupper.
 4. Secure the scupper to the roof deck and the inside face of the wall with fasteners installed thru the flashing flanges.
 - a. On the outside face of the wall lock the scupper on four sides to a surface mounted receiver formed from the same metal as the scupper.
 - b. Form the receiver with a 1/4 inch wide caulking flange.
 - c. Apply Type 2 sealant on the lock side of the flange.
 - d. Secure the flange to the wall with fastener 6 inches oc.
 - e. Apply Type 2 sealant along the caulking flange.
- I. Installing Extruded Aluminum Gravel Stops/and Fascia Sump:
1. Install the gravel stop in strict accordance with the manufacturer's written instructions unless shown or specified otherwise.
- J. Installing Extruded Aluminum Gravel Stop:
1. Install 12 inches wide .025 inch concealed aluminum flashing beneath the gravelstop at all joints.
 2. Apply the membrane manufacturer's recommended sealant between the contact surfaces of the horizontal portion of the splice plate and the gravel stop.
 3. Secure the gravel stop at the mid point, and at ends of each 10 ft. section. Allow a 1/2 inch space between each section for expansion.
 4. Install a 4 inch wide exposed aluminum cover plate at all joints.
- K. Installing Formed Metal Coping:

1. Form the coping into lengths not exceeding 8'-0".
 2. Join coping sections with 1-1/2 inch loose locked seams filled with Type 3 sealant.
 3. Hook the front and back edges of the coping over continuous metal edge strips. Nail the edge strip 6 inches oc.
- L. Installing Factory Fabricated Formed Metal Coping:
1. Install in accordance with the manufacturer's written instructions unless shown or specified otherwise.
- M. Installing Expansion Joint Cover:
1. Install combination edge strip and cap flashing over the base flashing. Secure the edge strip along the top of the curb and lap the base flashing a minimum of 3 inches. Lap each individual length a minimum of 3 inches.
 2. Form the expansion joint cover with standing seam joints not to exceed 10'-0" oc.
 3. Turn the edges of the cover over the edge strip. Allow clearance of one half the width of the expansion joint between all edges of cover and edge strip.
- M. Installing Bellows Type Expansion Joint Cover:
1. Install the expansion joint in continuous lengths. No more than one splice joint will be allowed on straight runs less than 50 feet long. Install the expansion joint in strict accordance with the manufacturer's written instructions unless shown or specified otherwise.
 2. Where expansion joints intersect gravel stops, provide the manufacturer's prefabricated expansion joint section. Install the expansion joint before installing the gravel stop.
- N. Roof Drain Flashing:
1. Install 30 inch square lead flashing over the roofing membrane. Turn flashing into drain body.
- O. Reflashing Existing Drains:
1. Remove the existing dome strainer, clamping ring and lead flashing from existing roof drains. Install 30 inches square lead flashing turned into drain body and reinstall clamping ring and strainer. If necessary, tap existing clamping ring bolt holes and install new clamping ring bolts.
- P. Installing Pipe Flashing:
1. Extend the base flashing a minimum of 4 inches onto the roof surface and terminate in a 1/2 inch folded edge. Solder the base

flashing to the tube flashing. Provide one of the following cap flashings.

- a. Provide a cap flashing fabricated to slip over the tube flashing and the pipe. Lap the tube flashing a minimum of 3 inches and the pipe a minimum of one inch. Solder all seams.
- b. Provide a split cap and compression clamp fabricated of the same material and gage as the tube and base flashing. Form the cap with a caulking flange. Apply Type 2 sealant around the pipe. Install the split cap and secure with compression clamp. Pop rivet the lap joint of the cap. Apply additional Type 2 sealant around the caulking flange.

P. Installing Pipe Flashing:

1. Extend the base flashing a minimum of 5 inches onto the roof surface. Terminate the bottom exposed edge with a 1/2 inch folded seam. Solder the base flashing to the tube flashing.
2. Install the flashing after the course of shingles immediately below the pipe is installed so that the bottom side of the flashing is over the shingle and the sides and top are beneath the shingles. Nail the top and sides of the flashing only.
3. Provide a cap flashing fabricated to slip over the tube flashing and the pipe. Lap the tube flashing a minimum of 3 inches and the pipe a minimum of one inch. Solder all seams.

Q. Installing Pitch Pockets:

1. Form the pitch pocket with 4 inch wide flashing flanges. Extend the pitch pocket a minimum of 3 inches above the roof membrane and a minimum of one inch beyond the roof penetration.
2. Solder all construction joints.
3. Lock, or lap and rivet all construction joints.
4. Secure the pitch pocket thru the flashing flanges with nails 3 inches oc.

R. Installing Valley Flashing:

1. Install in lengths not to exceed 10'-0". Lap ends a minimum of 8 inches and nail on the concealed top edge only.
2. The exposed portion of the valley must be 5 inches wide at the top and increase in width 1/8 inch per ft toward the eaves. The concealed portion of the valley must extend 5 inches beneath the shingles.
3. Terminate the concealed edges in a 1/2 inch fold and secure 2 ft oc with 2 inch wide cleats.

S. Installing Eave and Rake Flashing:

1. Install in lengths not to exceed 10'0". Lap ends a minimum of 3 inches.
 2. At eaves install the flashing under the 15 lb felt. At rakes install the flashing over the 15 lb felt.
 3. Secure the flashing to the roof deck with nails spaced 8 inches oc.
- T. Installing Standing Seam Snow Flashing:
1. Equally space all seams at centers not to exceed 24 inches.
 2. Form all seams with a double lock to a finished height of 1-1/4 inches. Install 2 inches wide cleats 1'-0" oc in all seams.
 3. Hook the front edge of the snow flashing over the continuous edge strip and terminate the concealed edge in a 1/2 inch fold. Secure with 2 inches wide cleats spaced 1'-0" oc.
- U. Installing Crickets:
1. Form the cricket with flanges that extend onto the roof surface 6 inches and up beneath the cap flashing a min of 3 inches. Extend the roof deck flange a min of 5 inches beneath the shingles and terminate with a 1/2 inch folded edge. Secure the cricket to the roof deck with 2 inch wide cleats one ft oc.
- V. Installing Snow Guards:
1. Unless shown otherwise, install a minimum of 30 snow guards per 100 sq. ft. Space and install the snow guards in accordance with the manufacturer's instructions.
 2. Set each snow guard in a full bed of adhesive with no skips or voids. Remove excess adhesive from the edges of snow guards after each piece is installed.
- W. Installing Thru Wall, and Door and Window Flashing:
1. Install the flashing in continuous lengths with the minimum number of joints.
 2. At corners, beams, columns, etc. cut out fit flashing to the proper contour.
 3. Form all joints with 1-1/2 inch folded lock seams completely filled with trowel grade asphalt roof cement. Roll or press the joints firmly to insure complete adhesion of the cement.
 4. Build the flashing into masonry walls so there is mortar above and below the flashing.
 5. Terminate the flashing 1/2 inch back from the exposed face of masonry wall.
 6. Extend the flashing 6 inches beyond the sides of all openings and turn up 1/4 inch to form a pan.
- X. Door and Window Flashing:
1. Install the flashing in one continuous length from side to side.

END OF SECTION

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SECTION 077200

ROOF ACCESSORIES

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Adhered EPDM Roofing System: Section 075323.
- B. Flashing and Trim: Section 076000.

1.02 SUBMITTALS

- A. Shop Drawings: Show relationship with adjoining Work and anchorage methods. Include plans, sections, and details.
- B. Product Data: Manufacturer's catalog sheets, specifications, and installation instructions.
- C. Contract Closeout Submittals:
 - 1. Operation and Maintenance Data: Deliver 2 copies, covering the installed products, to the Director's Representative.

1.03 SEQUENCING AND SCHEDULING

- A. Coordinate installation of roof accessories with roofing and flashing.

PART 2 PRODUCTS

2.01 ROOF HATCHES

- A. Manufacturers
 - 1. Acceptable manufacturer: Nystrom Building Products, Inc., which is located at 9300 73rd Avenue North, Brooklyn Park, MN 55428; toll free 800-547-2635, telephone no. 763-488-9200; email tparsons@nystrom.com; web www.nystrom.com, Model RHA, or approved equal.
- B. Aluminum units consisting of an insulated and weatherstripped hinged cover on an insulated curb fitted with integral cap flashing.
 - 1. Cover: 11 gage mill finish aluminum with 3 inch beaded or hemmed flange, 1 inch thick fiberglass insulation covered by an 18 gage aluminum liner, and neoprene or closed cell rubber gasket

seal around perimeter. Cover shall open to 90 degrees, except hatches designed for vertical ladder access shall open to 70 degrees.

- a. Single leaf.
2. Curb: 11 gage mill finish aluminum with 3-1/2 inch flange at bottom with holes for securing to roof deck, 11 gage aluminum cap flashing at top, and 1 inch thick rigid fiberboard insulation on exterior of curb.
3. Fabrication: Continuously weld metal joints.
4. Size: As shown on the plans.
5. Hardware: Type 316 stainless steel; heavy pintle hinges, enclosed spring operators, positive slam latch with turn handles inside and outside, padlock hasp inside, and automatic hold-open/ operating arm with one hand grip release handle.
6. Seals: EPDM draft seal on door.

2.02 PIPE INSULATION

- A. Manufacturer: Owens Corning Insulating Systems, LLC, One Owens Corning Parkway, Toledo, OH 43659; Phone: 1-800-pink; web: www.owenscorning.com.
- B. Products
 1. Molded pipe insulation shall be manufactured to meet ASTM C585 for sizes required molded fibrous glass pipe insulation shall comply with the requirements of ASTM C547.
 2. Use Fiberglass Evolution Paper-Free ASJ pipe insulation.

2.03 FIXED LADDER

- A. Manufacturer: U.S.F. Fabrication, Inc., 3200 West 84th Street, Hialeah, FL 33018; Telephone: 1-800-258-6873; Fax: 305-882-1577; Web: www.USFFAB.com or approved equal.
- B. Product
 1. Ladders shall be aluminum with base support and top support with a length as shown on the plans.
 2. Ladder shall have a retractable safety ladder post at the top. Post shall extend min. 42" above last rung.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install units in accordance with the manufacturer's instructions, unless shown otherwise on the Drawings. Securely anchor units in place to the substrate by bolting, screwing or welding.

- B. Where mounting flanges are set directly in the roofing, embed the flanges in roofing cement or other waterproof mastic or adhesive as recommended by the manufacturer of the roofing. On sloping surfaces, integrate mounting flanges with roofing elements to properly shed water.

END OF SECTION

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SECTION 079200

JOINT SEALERS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Glazing Sealants: Section 088100.

1.02 SUBMITTALS

- A. Product Data: Catalog sheets, specifications, and installation instructions for each product specified except miscellaneous materials.
- B. Samples:
 - 1. Sealants: One pint or standard tube.
 - 2. Joint Fillers: 24 inch long full section.
 - 3. Gaskets: 24 inch long full section.
 - 4. Joint Primer/Sealer/Conditioners: One pint.
 - 5. Backer Rods: 24 inch long full section.
 - 6. Bond Breaker Tape: 24 inch long full section.
- C. Quality Control Submittals:
 - 1. Installer's Qualifications Data: Affidavit required under Quality Assurance Article.
 - 2. Company Field Advisor Data: Name, business address, and telephone number of Company Field Advisor.
- D. LEED Design Submittals:
 - 1. MR Credit 4.1 and MR Credit 4.2: Identify manufacturer's name, the percentage of post-consumer recycled content by weight, the pre-consumer recycled content by weight, and the cost of the product.
 - 2. MR Credit 5.1 and MR Credit 5.2: Identify source, cost, and the fraction by weight that is considered regional.
 - 3. MR Credit 6 – Identify the Manufacturers Name, the rapidly renewable content of the product submitted, and the cost of the product.
 - 4. EQ Credit 4.1: Identify the manufacturer's name, the product name, specific VOC data and the allowable VOC from the reference standard for each indoor adhesive, sealant or sealant primer utilized on the project. Identify the manufacturer's name,

the product name, specific VOC data and the allowable VOC from the reference standard for each indoor aerosol adhesive utilized on the project. Provide a narrative description of any special circumstances or non-standard compliance paths taken.

1.03 QUALITY ASSURANCE

- A. **Installer's Qualifications:** The persons installing the sealants and their supervisor shall be personally experienced in the installation of sealants and shall have been regularly employed by a company engaged in the installation of sealants for a minimum of two years.
 - 1. Furnish to the Director the names and addresses of five similar projects which the foregoing people have worked on during the past two years.
 - 2. Furnish a letter from the sealant manufacturer, stating that the foregoing people are authorized to install the manufacturer's sealant materials and that the manufacturer's specifications are applicable to the requirements of this Project.

- B. **Pre-Work Conference:** Prior to starting the Work and before materials are ordered, a conference will be held at the Site to discuss the specifications, details, and application requirements. The meeting shall be attended by the Contractor, the sealant applicator and the sealant manufacturer's Company Field Advisor.

- C. **Container Labels:** Include manufacturer's name, trade name of product, kind of material, federal specification number (if applicable), expiration date (if applicable), and packaging date or batch number.

- D. **Test and validate sealants used for exterior weathersealing per the Sealant Waterproofing Restoration Institute (SWRI).**

- E. **Warranties:**
 - 1. Silicone sealants: 20 years Weatherseal Warranty.
 - 2. Polyurethane or Silicone: 5 year Weatherseal Warranty.
 - 3. Sealants for Granite, Marble and Limestone: 20 year Non-Stain Warranty.

1.04 PROJECT CONDITIONS

- A. **Environmental Requirements:**
 - 1. **Temperature:** Unless otherwise approved or recommended in writing by the sealant manufacturer, do not install sealants at temperatures below 40 degrees F or above 85 degrees F for non silicone sealants and below minus 20 degrees F or above 125 degrees F for silicone sealants.

2. Humidity and Moisture: Do not install the Work of this section under conditions that are detrimental to the application, curing, and performance of the materials.
 3. Ventilation: Provide sufficient ventilation wherever sealants, primers, and other similar materials are installed in enclosed spaces. Follow manufacturer's recommendations.
- B. Protection:
1. Protect all surfaces adjacent to sealants with non-staining removable tape or other approved covering to prevent soiling or staining.
 2. Protect all other surfaces in the Work area with tarps, plastic sheets, or other approved coverings to prevent defacement from droppings.

PART 2 PRODUCTS

2.01 SEALANTS

- A. Type 1 Sealant, any of the following generic types:
1. One-part, low-modulus silicone sealant: Dow Corning 790, Dow Corning 791, Dow Corning 795, General Electric Silpruf, Pecora 864, Pecora 890, Pecora 890FTS.
 2. One-part, non-sag silicone or polyurethane sealant: Bostik Chem-Calk 900, Bostik Chem-Calk 915, Bostik Chem-Calk 916 Textured, Bostik Chem-Calk 2020, Pecora Dynatrol I, Sika Sikaflex 1a, Sonneborn Sonolastic NP I, or Tremco DyMonic (not SWRI), Dow Corning Contractors Weatherproofing Sealant (CWS), Dow Corning Concrete Sealant (CCS), Pecora 895.
 3. Two-part, non-sag silicone or polyurethane sealant: Bostik Chem-Calk 500 (not SRWI), Pecora Dynatrol II, Dow Corning CWS or CCS.
- B. Type 1A Sealant:
1. For Horizontal Joints: Two-part, self-leveling silicone or polyurethane sealant for traffic bearing construction; Bostik Chem-Calk 550 (not SWRI), Tremco Vulkem 255, Pecora Urexpam NR-200, Pecora Silicone 310SL, Bostik Chem-Calk 550, Dow Corning Parking Structure Sealant FC or SL, Dow Corning Contractors Concrete Sealant, Sikaflex 2c SL
 2. For Vertical Joints: Two-part, non-sag silicone or polyurethane sealant; Bostik Chem-Calk 500 (not SWRI), Tremco Vulkem 227, Pecora Dynatrol II, Pecora Silicone 311NS, Dow Corning Parking Structure Sealant NS, Dow Corning CCS, Sikaflex 2c NS EZ.

- C. Type 1B Sealant:
1. For Horizontal Joints: One-part, self-leveling silicone or polyurethane sealant for traffic bearing construction; Bostik Chem-Calk 955-SL, Tremco Vulkem 45, Pecora Urexpan NR-201, Pecora 300-SL, Pecora 310-SL, Sika Sikaflex-1CSL, Dow Corning CCS.
 2. For Vertical Joints: One-part, non-sag silicone or polyurethane sealant; Tremco Vulkem 116, Pecora Dynatrol I, Sika Sikaflex Textured Sealant, Dow Corning CCS or CWS, Pecora 301-NS, Pecora 311-NS.
- D. Type 1C Sealant:
1. One-part, non-sag polysulfide base sealant: Pecora's Synthacalk GC-9, Products Research and Chemical's PRC Rubber Calk 7000, or Sonneborn's Sonolastic One Part Polysulfide Sealant.
 2. Two-part, non-sag polysulfide base sealant: W.R. Meadow's CM-60 2-Part, Pecora's Synthacalk GC-5, or Sonneborn's Sonolastic Two Part Polysulfide Sealant.
- E. Type 1D Sealant: One-part, mildew resistant silicone sealant; Dow Corning 786, Dow Corning Tub and Ceramic, Pecora 898 Sanitary Silicone, General Electric Sanitary SCS1700, or Bostik Silicone Rubber Bathroom Caulk.
- F. Type 2 Sealant: One-part acrylic polymer sealant; Pecora AVW-920, PTI 738, or Tremco Mono.
- G. Type 2A Sealant: One-part acrylic or elastomeric sealant for sealing small joints; PTI 200 or Tremco Small Joint Sealant, Pecora AC-20.
- H. Type 3 Sealant: One-part butyl rubber sealant; Pecora BC-158, PTI 707, or Bostik Chem-Calk 300 (not SWRI).
- I. Type 4 Sealant: One-part silicone sealant for high temperatures; Bostik 9732 High Temp Red, Dow Corning Silastic 736 RTV, Dow Corning High Temp, General Electric RTV 106.
- J. Type 5 Sealant: Flame and smoke resistant intumescent sealant; Metacaulk MC 150+, 3M Fire Barrier Caulk CP 25, Dow Corning 790.
- K. Type 6 Sealant (Flexible Security Sealant):
1. Two part, non-sag, cold applied, chemically-curing elastomeric polyurethane; Pecora Dynaflex, Sikaflex 2c NS EZ TG.
 2. One-component 50 percent movement silicone or aliphatic elastomeric polyurethane; ChemRex/Sonneborn Sonolastic Ultra, Dow Corning 756 SMS Silicone Building Sealant, Pecora 895, Pecora 864.

- L. Type 7 Sealant: Two component hydrophobic hybrid polyurethane; Roadware Flexible Cement II, 2100 Wentworth Avenue, South Saint Paul, Minnesota 55075, (612) 457-6122.
- M. Pre-formed Sealant: Preformed paintable sealant strips of open cell, compressible urethane foam, saturated with non-drying, non-staining, and non-migrating butylene compound.
- N. Sealant Colors: For exposed materials provide color as indicated or, if not indicated, as selected by the Director from manufacturer's standard colors. For concealed materials, provide the natural color which has the best overall performance characteristics.

2.02 JOINT FILLERS

- A. Self-Expanding Cork Joint Filler: Resilient, non-extruding type pre-molded cork units; ASTM D 1752, Type III.
- B. Cork Joint Filler: Resilient, non-extruding type pre-molded cork units; ASTM D 1752, Type II.
- C. Closed Cell Neoprene Joint Filler: ASTM D 1056, Class SC (oil resistant and medium swell), 2 to 5 psi compression deflection.
- D. Expanded Polyethylene Joint Filler: Flexible, compressible, closed-cell polyethylene of not less than 10 psi compression deflection (25 percent).
- E. Closed Cell Polyurethane Joint Filler: Resilient, compressible, semi-rigid; W.R. Meadows Ceramar or A.C. Horn Closed Cell Plastic Foam Filler, Code 5401.

2.03 GASKETS

- A. Hollow Neoprene Gasket: Hollow or compartmentalized neoprene extrusion, designed to withstand compression to 40 percent of normal width without extrusion from joint, and with full recovery; heavy, durable top member, suitable for long-term exposure to weather and traffic, hardness of 55 Shore A; ASTM D 2628.
- B. Adhesive Closed-Cell PVC Gasket: Closed-cell, flexible, self adhesive, non-extruding, polyvinylchloride foam gaskets; ASTM D 1667.

2.04 MISCELLANEOUS MATERIALS

- A. Joint Primer/Sealer/Conditioner: As recommended by the sealant manufacturer for the particular joint surface materials and conditions.

1. For Type 6 Sealant (two part):
 - a. Bostik Prime Coat, porous and masonry substrates.
 - b. Pecora No. 100 for steel/tile.
 - c. Pecora No. 200 for masonry.
 2. For Type 6 Sealant (one component):
 - a. Bostik Prime Coat, porous and masonry substrates.
 - b. ChemRex/Sonneborn No. 733 for steel/tile, and all horizontal applications.
 - c. ChemRex/Sonneborn No. 766 for masonry.
- B. Backer Rod: Compressible rod stock of expanded, extruded polyethylene.
- C. Bond Breaker Tape: Polyethylene or other plastic tape as recommended by the sealant manufacturer; non-bonding to sealant; self adhesive where applicable.
- D. Cleaning Solvents: Oil free solvents as recommended by the sealant manufacturer. Do not use re-claimed solvents.
- E. Masking Tape: Removable paper or fiber tape, self-adhesive, non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine all joint surfaces for conditions that may be detrimental to the performance of the completed Work. Do not proceed until satisfactory corrections have been made.

3.02 PREPARATION

- A. Clean joint surfaces immediately before installation of sealant and other materials specified in this Section.
1. Remove all loose materials, dirt, dust, rust, oils and other foreign matter that will impair the performance of materials installed under this Section.
 2. Remove lacquers, protective coatings and similar materials from joint faces with manufacturer's recommended solvents.
 3. Do not limit cleaning of joint surfaces to solvent wiping. Use methods such as grinding, acid etching or other approved and manufacturer's recommended means, if required, to clean the joint surfaces, assuring that the sealant materials will obtain positive and permanent adhesion.

- B. Set joint fillers at proper depth and position as required for installation of bond breakers, backer rods, and sealants. Do not leave voids or gaps between the ends of joint filler units.
 - 1. Smooth Edged Joints: For joints between two concrete slabs or where new concrete abuts smooth edged materials use either cork joint filler or closed cell polyurethane joint filler.
 - 2. Irregular Edged Joints: For joints where new concrete abuts granite curbs or other irregular edges use closed cell polyurethane joint filler.

- C. Priming Joint Surfaces:
 - 1. Prime joints which are to receive Type 1A and 1B Sealants.
 - 2. Prime joints which are to receive Type 6 Sealants.
 - 3. Prime joints which are to receive Type 7 Sealants.
 - 4. Prime joints of friable (crumbly, chalky) masonry surfaces which are to receive Type 1 Sealant.
 - 5. Prime joints other than those above if so recommended by the manufacturer's printed instructions.
 - 6. Do not allow the primer/sealer to spill or migrate onto adjoining surfaces.

3.03 JOINT BACKING INSTALLATION

- A. Install bond breaker tape in relaxed condition as it comes off the roll. Do not stretch the tape. Lap individual lengths.

- B. Install backer rod of sufficient size to fill the joint width at all points in a compressed state. Compress backer rod at the widest part of the joint by a minimum of 25 percent. Do not cut or puncture the surface skin of the rod.

3.04 SEALANT INSTALLATION

- A. Except as shown or specified otherwise, install sealants in accordance with the manufacturer's printed instructions.

- B. Install sealants with ratchet hand gun or other approved mechanical gun. Where gun application is impractical, install sealant by knife or by pouring as applicable.

- C. Types 2 and 2A Sealants: If low temperature makes application difficult, preheat sealants using manufacturer's recommended heating equipment.

- D. Type 4 Sealant: Allow sealant to cure for a minimum of 3 days before backfilling.

- E. Finishing: Tool all vertical, non-sag sealants so as to compress the sealant, eliminating all air voids and providing a neat smoothly finished joint. Provide slightly concave joint surface, unless otherwise indicated or recommended by the manufacturer.
 - 1. Use tool wetting agents as recommended by the sealant manufacturer.

3.05 FIELD QUALITY CONTROL

- A. Test Samples:
 - 1. Where directed, for each 1000 linear feet of joint installed, cut out and carefully remove a 6 inch long sample of the undisturbed sealant and joint backer material from the newly installed Work. Remove the samples in the presence of the Director's Representative who will retain them for evaluating and testing.
 - 2. Reseal cut out areas with the same materials.

3.06 CLEANING

- A. Immediately remove misapplied sealant and droppings from metal surfaces with solvents and wiping cloths. On other materials, remove misapplied sealant and droppings by methods and materials recommended in writing by the manufacturer of the sealant material.
- B. After sealants are applied and before skin begins to form on sealant, remove all masking and other protection and clean up remaining defacement caused by the Work.

END OF SECTION

CONTRACT FORMS

CONTRACT FOR SERVICES

THIS AGREEMENT made and entered into this ___ day of _____, by and between _____ (legal name and address), hereinafter called "**Contractor**" and the City of New London, 181 State Street, New London, CT 06320, hereinafter called "**City**."

WHEREAS, the City desires to enter into a contract for services, and the Contractor represents itself as competent and qualified to accomplish the specific requirements of this contract to the satisfaction of the City, therefore this contract is entered into under the following terms and conditions:

1. The Contractor agrees to perform the services described below or in attachments if applicable. (Attachments must be specifically labeled; for example, "Attachment A, consisting of _____ pages, attached hereto and made a part hereof," and be initialed by authorized representatives of both parties.) Only those attachments specifically referenced in this Contract for Services shall apply. The terms and conditions as contained in this Contract for Services shall take precedence over any conflicting terms as may be attached hereto.

2. **Term of the Contract:** The start date for this Contract shall be _____ and the completion date of this Contract shall be _____.

3. **Contract Price:** The City shall pay the Contractor for the performance of the Contract in current funds, for the total quantities of work performed for the price of \$ _____.

4. **Contract Documents:** The Contract Documents consist of this Agreement, the Standard Bid and Contract Terms and Conditions, the Instructions to Bidders, the Contractor's bid as accepted by the City, the General and Special Conditions of the Work, the Technical Specifications, the drawings and all Addenda attached hereto.

The Contract Documents are complementary and what is called for by any one shall be as binding as if called for by all. In the event of any conflict or inconsistency between the provisions of this Agreement and the provisions of any of the other Contract Documents, the provisions of the Agreement shall prevail.

Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the edition of the standard specification, manual, code or laws or regulations identified in the reference. In the event a particular edition is not identified, the reference shall mean the latest edition in effect at the time of receipt of the bid. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of the City, the Contractor or any of their consultants, agents or employees from those set forth in the Contract Documents.

5. **Obligations And Liability Of The Contractor:** The Contractor shall do all the work and perform and furnish all the labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies and all other things (except as otherwise expressly provided herein) necessary and as herein specified for the proper performance and completion of the Work in the manner and within the time hereinafter specified, in strict accordance with the Drawings, Specifications and other Contract Documents, in conformity with the directions and to the satisfaction of the City, and at the prices herein agreed upon therefor.

All parts of the Work and all fixtures, equipment, apparatus and other items indicated on the Drawings and not mentioned in the Specifications, or vice versa, and all work and material usual and necessary to make the Work complete in all its parts, including all incidental work necessary to make it complete and satisfactory and ready for use and operation, whether or not they are indicated on the Drawings or mentioned in the Specifications, shall be furnished and executed the same as if they were called for both by the Drawings and by the Specifications.

The Contractor shall coordinate his operations with those of any other contractors who may be employed on other work of the City, shall avoid interference therewith, and shall cooperate in the arrangements for storage of materials and equipment.

The Contractor shall conduct his work so as to interfere as little as possible with private business and public travel. Wherever and whenever necessary or required, he shall maintain fences, furnish watchmen, maintain lights, and take such other precaution as may be necessary to protect life and property.

The Contractor shall indemnify and save harmless the City and its officers, agents, servants and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, on account of bodily injury, sickness, disease or death sustained by any person or persons or injury or damage to or destruction of any property, directly or indirectly arising out of, relating to or in connection with the Work, whether or not due to or claimed to be due in whole or in part to the active, passive or concurrent negligence or fault of the Contractor, his officers, agents, servants or employees, any of his subcontractors, the City or any of their respective officers, agents, servants or employees and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false or fraudulent; and the Contractor shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suits and proceedings, provided, however, that the Contractor shall not be required to indemnify the City, its officers, agents, servants, or employees, against any such damages occasioned solely by acts or omissions of the owner other than supervisory acts or omissions of the City in the Work.

The Contractor shall have complete responsibility for the Work and the protection thereof, and for preventing injuries to persons and damage to the Work and property and utilities on or about the Work, until final completion and final acceptance thereof. He shall in no way be relieved of his responsibility by any right of the City to give permission or directions relating to any part of the Work, by any such permission or directions given, or by failure of the City to give such permission or directions. The Contractor shall bear all costs, expenses, losses and damages on account of the quantity or character of the Work or the nature of the land (including but not limited to subsurface conditions) in or under or on which the Work is done being different from that indicated or shown in the Contract Documents or from what was estimated or expected, or on account of the weather, elements, or other causes.

The Contractor shall conduct his operations so as not to damage existing structures or work installed either by him or by other contractors. In case of any such damage resulting from his operations, he shall repair and make good as new the damaged portions at his own expense with the consent of the damaged party. In the event that consent is not given, the Contractor shall continue liable for the damage caused.

The Contractor shall be as fully responsible to the City for the acts and omissions of his subcontractors, their officers, agents, servants and employees as he is for his own acts and omissions and those of his own officers, agents, servants and employees.

Should the Contractor sustain any loss, damage or delay through any act or omission of any other contractor or any subcontractor of any such other contractor, the Contractor shall have no claim against the City therefor, other than for an extension of time, but shall have recourse solely to such other contractor or subcontractor.

If any other contractor or any subcontractor of any such other contractor shall suffer or claim to have suffered loss, damage or delay by reason of the acts or omissions of the Contractor or of any of his subcontractors, the Contractor agrees to assume the defense against any such claim and to reimburse such other contractor or subcontractor for such loss or damage.

The Contractor agrees to and does hereby indemnify and save harmless the City from and against any and all claims by such other contractors or subcontractors alleging such loss, damage or delay and from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, arising out of, relating to or resulting from such claims.

The Contractor shall promptly pay all federal, state and local taxes which may be assessed against him in connection with the Work or his operations under this Agreement and/or the other Contract Documents, including, but not limited to, taxes attributable to the purchase of material and equipment, to the performance of services, and the employment of persons in the prosecution of the Work.

6. Supervision Of Work: The Contractor shall be solely responsible for supervision of the Work, shall give the work the constant attention necessary to ensure the expeditious and orderly progress thereof, and shall cooperate with the City, its officers, agents or employees in every possible way.

At all times, the Contractor shall have as his agent on the Work a competent superintendent capable of reading and thoroughly understanding the Drawings and Specifications, with full authority to execute the directions of the Engineer without delay and to supply promptly such labor, services, materials, equipment, plant, apparatus, appliances, tools, supplies and other items as may be required. Such superintendent shall not be removed from the Work without the prior written consent of the City. If, in the opinion of the City, the superintendent or any successor proves incompetent, the Contractor shall replace him with another person approved by the City; such approval, however, shall in no way relieve or diminish the Contractor's responsibility for supervision of the Work.

Whenever the Contractor or his agent or superintendent is not present on any part of the Work where it may be necessary to give directions or instructions with respect to such work, such directions or instructions may be given by the City to and shall be received and obeyed by the foreman or any other person in charge of the particular work involved.

7. Insurance: The Contractor shall procure and maintain insurance of the types specified below, and to the limits for this insurance specified in the Standard Bid and Contract Terms and Conditions and the City of New London Code of Ordinances, Article IV., Section 2-71. All insurance shall be obtained from companies satisfactory to the City.

Insurance shall be in such forms as will protect the Contractor from all claims and liability for damages for bodily and personal injury, including accidental death, and for property damage, which may arise from operations under the Contract, whether such operations be by himself, his subcontractors, or by anyone directly or indirectly employed or engaged by him.

The following types of insurance shall be provided before starting and until final completion and acceptance of the Work and expiration of the guarantee period provided for in the Agreement.

- a. Workmen's Compensation and Employer's Liability Insurance.
- b. Bodily Injury Insurance for operations and completed operations and Contractor's Protective Bodily Injury Insurance.
- c. Property Damage Insurance for operations and completed operations and Contractor's Protective Property Damage Insurance, each including coverage for injury to or destruction of wires or pipes and similar property and appurtenant apparatus and the collapse of or structural injury to any building or structure except those on which work under the Contract is being done. Blasting and explosion coverage shall be obtained if there is a need for blasting under the Contract, and no blasting shall be performed until such insurance has been secured.
- d. Bodily Injury Insurance covering the operation of all motor vehicles owned by the Contractor.
- e. Personal Injury Insurance to cover claims for personal injury and including claims brought by employees.
- f. Property Damage Insurance covering the operation of all motor vehicles owned by the Contractor.
- g. Insurance to cover bodily injuries and property damage resulting from the use of motor vehicles not owned by the Contractor, while such vehicles are being operated in connection with the prosecution of the Work.
- h. Contractual Liability Insurance covering the liability assumed by the Contractor under the fifth paragraph of that subsection titled "Obligations and Liability of Contractor" of this Agreement.
- i. Owner's Protective Liability and Property Damage Insurance to protect the City and any Engineer against claims for Property damage and for bodily injuries, including accidental death, caused by the operations of the Contractor or his subcontractors on the Work. The policy shall indicate the City and any Engineer as the named insured. A copy of the policy shall be furnished to the City and a Certificate of Insurance shall be furnished to any Engineer.

All policies shall be so written that the owner will be notified in writing of cancellation or restrictive amendment at least 30 days prior to the effective date of such cancellation or amendment.

Certificates from the Contractor's insurance carriers stating the coverages provided, the limits of liability, and expiration dates shall be filed in triplicate with the Engineer before operations are begun. Such certificates shall be on the form furnished by the Engineer.

Renewal certificates must be furnished by the Contractor prior to the expiration date of any of the initial insurances.

No insurance required or furnished hereunder shall in any way relieve the Contractor of or diminish any of his responsibilities, obligations and liabilities under the Contract.

8. Contract: This Agreement, which includes all the Contract Document elements listed in paragraph 1 above, forms the Contract between the parties identified in the heading of this document. In the event that any provision of the Contract conflicts with any other provision of this Contract, the decision of the City will be final.

9. Funding and Fiscal Year Appropriations: Appropriations for expenditures by the City and authorization to spend for a particular purpose are ordinarily made on a fiscal year basis. The fiscal year of the City is the twelve (12) month period ending June 30 of each year. The obligations of the City under this Contract for the present or any subsequent fiscal year following the fiscal year in which this Contract is executed are subject to the appropriation of funds sufficient to discharge the City's obligation, which accrues in this or any subsequent fiscal year. In the absence of such appropriation or authorization, this Contract shall be terminated immediately upon the Contractor's receipt of notice to said effect without liability for damages, penalties or other charges arising from early termination. Expenditures for Contracted services that will extend beyond a single fiscal year shall not exceed in any fiscal year the amount appropriated and authorized for said fiscal year. The Contractor's yearly costs, as contained herein, may not exceed the amount appropriated for said year.

10. Termination: The Contract may be terminated without cause by either party by giving written notice to the other at least thirty (30) calendar days prior to the effective date of termination stated in the notice. If Contractor fails to fulfill his obligations, the City may terminate this Contract by giving written notice to the Contractor at least seven (7) calendar days before the effective date of termination stated in the notice. The notice shall state the circumstances of the alleged breach and may state a period during which the alleged breach may be cured, which cure shall be subject to approval by the City.

11. Obligations in Event of Termination:

A. Upon termination, all finished or unfinished documents, data, studies, and reports prepared by the Contractor pursuant to this Contract, shall become the property of the City.

B. The City shall promptly pay the Contractor for all services performed to the effective date of termination, subject to indemnification provisions of Paragraph 5 hereof and subject to offset of sums due the Contractor against sums owed by the Contractor to the City.

12. Record keeping, Audit, and Inspection of Records: The Contractor shall maintain books, records and other compilations of data pertaining to the requirements of the Contract to the extent and in such detail as shall properly substantiate claims for payment under the Contract. All such records shall be kept for a period of six (6) years or for such longer period as is specified herein. All retention periods start on the first day after final payment under this Contract. If any litigation, claim, negotiation, audit or other action involving the records is commenced prior to the expiration of the applicable retention period, all records shall be retained until completion of the action and resolution of all issues resulting therefrom, or until the end of the applicable retention period, whichever is later. The Federal grantor agency, the State Auditor, the City, or any of their duly authorized representatives or designees shall have the right at reasonable times and upon reasonable notice, to examine and copy, at reasonable expense, the books, records, and other compilations of data of the Contractor which pertain to the provisions and requirements of this Contract. Such access shall include on-site audits, review, and copying of records.

13. Publicity, Publication, Reproduction and Use of Contract Products or Materials: Unless provided otherwise by law or the City, title and possession of all data, reports, programs, software, equipment, furnishings, and any other documentation or product paid for with City funds shall vest with the City at the termination of the Contract. The Contractor shall at all times obtain the prior written approval of the City before it, any of its officers, agents, employees or subcontractors, either during or after termination of the Contract, makes any statement bearing on the work performed or data collected under this Contract to the press or issues any material for publication through any medium of communication. If the Contractor, or any of its subcontractors, publishes a work dealing with any aspect of performance

under the Contract, or of the results and accomplishments attained in such performance, the City shall have a royalty-free non-exclusive and irrevocable license to reproduce, publish or otherwise use and to authorize others to use the publication. The Contractor shall use reasonable means to inform the public that the City provides financial support for its operations and services by explicitly stating on publicity material, stationery, posters and other written materials, and on its premises the following: "This program is supported in part (in full) by the City of New London."

14. Assignment by Contractor and Subcontracting: The Contractor shall not assign or in any way transfer any interest in this Contract without the prior written consent of the City, nor shall he subcontract any services without the prior written approval of the City.

15. Connecticut Law: It is agreed that this contract shall be governed by, construed, and enforced in accordance with the internal laws of the State of Connecticut.

16. Venue: In the event of litigation, the parties do agree to be contractually bound to submit themselves to the personal jurisdiction of the state courts of Connecticut. The venue for any court proceeding shall be in the Superior Court for the Judicial District for New London at New London, Connecticut.

17. Waiver of Jury Trial: CONTRACTOR HEREBY EXPRESSLY WAIVES ANY AND ALL RIGHTS IT MAY HAVE TO TRIAL BY JURY OF ANY CLAIM, DEMAND, ACTION OR CAUSE OF ACTION (1) ARISING UNDER THIS AGREEMENT OR ANY OTHER INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith, OR (2) IN ANY WAY CONNECTED WITH OR RELATED OR INCIDENTAL TO THE DEALINGS OF THE PARTIES HERETO OR ANY OF THEM WITH RESPECT TO THIS AGREEMENT OR ANY OTHER INSTRUMENT, DOCUMENT OR AGREEMENT EXECUTED OR DELIVERED IN CONNECTION HERewith, OR THE TRANSACTIONS RELATED HERETO OR THERETO, IN EACH CASE WHETHER NOW EXISTING OR HEREAFTER ARISING, AND WHETHER SOUNDING IN CONTRACT OR TORT OR OTHERWISE; AND CONTRACTOR HEREBY AGREES AND CONSENTS THAT ANY SUCH CLAIM, DEMAND, ACTION OR CAUSE OF ACTION SHALL BE DECIDED BY COURT TRIAL WITHOUT A JURY, AND THE CITY MAY FILE AN ORIGINAL COUNTERPART OR A COPY OF THIS SECTION WITH ANY COURT AS WRITTEN EVIDENCE OF CONTRACTOR'S CONSENT TO THE WAIVER OF ITS RIGHT TO TRIAL BY JURY.

18. Nondiscrimination and affirmative action provisions, nondiscrimination provisions regarding sexual orientation, Executive Order Number Three and guidelines and rules, Executive Order Number Seventeen, Executive Order Number Sixteen and sexual harassment policy:

For the purposes of this article, the word "contractor" is substituted for and has the same meaning and effect as if it read "Contractor's name." Section A of this article is inserted in connection with subsection (a) of Section 4a-60 of the General Statutes of Connecticut, as revised. Section B of this article is inserted in connection with subsection (a) of Section 4a-60a of the General Statutes of Connecticut, as revised.

A. (a) For the purposes of this section, "minority business enterprise" means any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a minority, as such term is defined in subsection (a) of Conn. Gen. Stat. Section 32-9n; and "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. "Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements.

For the purposes of this section, "Commission" means the Commission on Human Rights and Opportunities.

For the purposes of this section, "public works contract" means any agreement between any individual, firm, or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance, or guarantees.

(b) (1) The contractor agrees and warrants that in the performance of the contract such contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation, or physical disability, including, but not limited to, blindness,

unless it is shown by such contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut. The contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation, or physical disability, including, but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the work involved; (2) the contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the contractor agrees to provide each labor union or representative of workers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a notice to be provided by the Commission advising the labor union or workers' representative of the contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the contractor agrees to comply with each provision of this section and Conn. Gen. Stat. Sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to Conn. Gen. Stat. Sections 46a-56, 46a-68e, and 46a-68f; (5) the contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records, and accounts concerning the employment practices and procedures of the contractor as they relate to the provisions of this section and Conn. Gen. Stat. Section 46a-56. If the contract is a public works contract, the contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works project.

(c) Determination of the contractor's good faith efforts shall include, but shall not be limited to, the following factors: The contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.

(d) The contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.

(e) The contractor shall include the provisions of subsection (b) of this section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor, or manufacturer unless exempted by regulations or orders of the Commission. The contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Conn. Gen. Stat. Section 46a-56; provided, if such contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

(f) The contractor agrees to comply with the regulations referred to in this section as they exist on the date of this contract and as they may be adopted or amended from time to time during the term of this contract and any amendments thereto.

B. (a) (1) The contractor agrees and warrants that in the performance of the contract such contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the contractor agrees to provide each labor union or representative of workers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said commission pursuant to Section 46a-56 of the Connecticut General Statutes; (4) the contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records, and accounts concerning the employment practices and procedures of the contractor that relate to the provisions of this section and Section 46a-56 of the Connecticut General Statutes.

(b) The contractor shall include the provisions of subsection (a) of this section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor, or manufacturer unless exempted by regulations or orders of the Commission. The contractor shall

take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Section 46a-56 of the Connecticut General Statutes; provided, if such contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

(c) The contractor agrees to comply with the regulations referred to in this section as they exist on the date of this contract and as they may be adopted or amended from time to time during the term of this contract and any amendments thereto.

C. This contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill promulgated June 16, 1971, and, as such, this contract may be cancelled, terminated, or suspended by the State Labor Commissioner for violation of or noncompliance with said Executive Order No. Three, or any State or federal law concerning nondiscrimination, notwithstanding that the State Labor Commissioner is not a party to this contract. The parties to this contract, as part of the consideration hereof, agree that said Executive Order No. Three is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the State Labor Commissioner shall have continuing jurisdiction in respect to contract performance in regard to nondiscrimination, until the contract is completed or terminated prior to completion.

The contractor agrees, as part consideration hereof, that this contract is subject to the Guidelines and Rules issued by the State Labor Commissioner to implement Executive Order No. Three, and that he will not discriminate in his employment practices or policies, will file all reports as required, and will fully cooperate with the State of Connecticut and the State Labor Commissioner.

D. This contract is subject to the provisions of Executive Order No. Seventeen of Governor Thomas J. Meskill promulgated February 15, 1973, and, as such, this contract may be cancelled, terminated, or suspended by the contracting agency or the State Labor Commissioner for violation of or noncompliance with said Executive Order No. Seventeen, notwithstanding that the State Labor Commissioner may not be a party to this contract. The parties to this contract, as part of the consideration hereof, agree that Executive Order No. Seventeen is incorporated herein by reference and made a part hereof. The parties agree to abide by said Executive Order and agree that the contracting agency and the State Labor Commissioner shall have joint and several continuing jurisdiction in respect to contract performance in regard to listing all employment openings with the Connecticut State Employment Service.

E. This contract is subject to the provisions of Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, and, as such, the contract may be canceled, terminated, or suspended by the State for violation of or noncompliance with said Executive Order No. Sixteen. Executive Order No. Sixteen is attached hereto and made a part hereof. The parties agree to comply with such executive order. In addition, the contractor agrees to include a copy of Executive Order No. Sixteen, and the requirement to comply with said executive order, in all contracts with its contractors, subcontractors, consultants, sub-consultants, and vendors.

F. This contract is subject to the provisions of the City of New London Sexual Harassment Policy ("Policy") and, as such, the contract may be canceled, terminated, or suspended by the City in the event that the contractor, its employees, contractors, subcontractors, consultants, sub-consultants, or vendors engages in behavior prohibited by the provisions of the Policy (a copy of the Policy is attached hereto). The contractor agrees to include a copy of the Policy, and the requirement to prevent behavior as defined in such Policy, in all contracts with its contractors, subcontractors, consultants, sub-consultants, and vendors.

19. Force Majeure: Neither party shall be liable to the other or be deemed to be in breach of this Contract for any failure or delay in rendering performance arising out of causes beyond its reasonable control and without its fault or negligence. Such causes may include, but are not limited to, acts of God or of a public enemy, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or unusually severe weather. Dates or times of performance shall be extended to the extent of delays excused by this section, provided that the party whose performance is affected notifies the other promptly of the existence and nature of such delay.

20. Compliance with Laws and Indemnification of the City of New London: The Contractor shall comply with all applicable laws, rules, regulations, ordinances, orders or requirements of the State of Connecticut and any governmental authority relating to the delivery of the services specified in this Contract. The City may require the Contractor to pay fines, penalties, and damages that may arise out of or may be imposed because of, the Contractor's breach or failure to comply with the provisions of this Contract. Unless otherwise provided by law the Contractor shall indemnify and hold harmless the City, its agents, officers and employees against any and all liability, loss,

damages, penalties, costs or expenses for personal injury or damage to real or tangible personal property which the City may sustain, incur or be required to pay resulting from, arising out of, or in connection with the services performed or delivered under this Contract by reason of acts, inactions, omissions, negligence, reckless or intentional misconduct of the Contractor, its agent(s), officers, employees or subcontractors; provided that the Contractor is notified of any claim within a reasonable time after the City becomes aware of it, and the Contractor is afforded an opportunity to participate in the defense of such claim. In such event, no negotiated settlement agreement shall be binding on the Contractor without the Contractor's concurrence.

21. Waivers And Severability: All conditions, covenants, duties and obligations contained in this Contract can be waived only by written agreement. Forbearance or indulgence in any form or manner by a party shall not be construed as a waiver, nor in any way limit the legal or equitable remedies available to that party. A waiver or breach of any term, condition, or covenant by a party shall not constitute a waiver or breach of any other term, condition or covenant. If any court of competent jurisdiction declares a provision of this Agreement invalid, illegal, or otherwise unenforceable, the remaining provisions of the Agreement shall remain in full force and effect.

22. Amendments: No amendment to this Contract shall be effective unless it is signed by authorized representatives of both parties and complies with all other regulations and requirements of law.

23. Entire Agreement: The parties understand and agree that this Contract and attachments (if any), which includes all Contract Documents, supersede all other verbal and written agreements and negotiations by the parties relating to the services under this Contract.

24. Notice: Unless otherwise specified in an attachment hereto, any notice hereunder shall be in writing addressed to the persons and addresses indicated in the caption of this Contract on page 1.

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed in two (2) original copies on the day and year first above written.

OWNER:

CONTRACTOR:

Its Duly Authorized Agent

Its Duly Authorized Agent

Approved as to form:

Thomas J. Londregan, Esq., Director of Law

Date Signed _____

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 _____
_____ as Obligee (hereinafter called Owner), for the use and
benefit of claimants as hereinbelow defined;
in the amount of _____ Dollars (\$
_____) for the payment whereof the Principal and Surety bind themselves, their heirs, executors,
administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____ entered into a Contract with the
owner for _____

_____ 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 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 Owner or any other forbearance on the part of either the Owner 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 for 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 judgment and have the 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 _____, 20____, the name and corporate seal of each corporate party being hereto affixed and these presents signed by its undersigned representative, pursuant to authority of its governing body.

(Corporate Principal)

Attest:

(Business Address)

_____ By

Affix
Corporate
Seal

(Corporate Surety)

Attest:

(Business Address)

_____ By

Affix
Corporate
Seal

Countersigned
by _____

Attorney-in-Fact, State of _____, Power-of- Attorney for person signing for
Surety Company must be attached to Bond.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That _____ as Principal, hereinafter called Contractor, and _____ as Surety, hereinafter called Surety, are held and firmly bound unto _____ as Obligee, hereinafter called Owner, in the amount of _____ Dollars (\$ _____), for payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contract has by written agreement dated _____ entered into a Contract with Owner for _____

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 Contractor shall promptly and faithfully perform said Contract, including such remedial work as may be required under the guaranty during the period of guaranty and shall certify in writing that all wages paid under said Contract to any mechanic, laborer or workman were equal to the rates or wages customary or then prevailing for the same trade or occupation in Connecticut, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default or shall promptly:

- (1) Complete the Contract in accordance with its terms and conditions, by another Contractor acceptable to the Owner, said other Contractor to act as an agent for the Surety, or
- (2) Obtain a Bid or Bids for submission to the Owner for completing the Contract in accordance with its terms and conditions, and upon determination by the Owner and Surety of the lowest responsible Bidder, arrange for a Contract as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price, but not exceeding, including, other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The terms "balance of the contract price", as used in this paragraph, shall mean the total amount payable by the Owner to the Contractor under the Contract and any amendments thereto, less the amount properly paid by the Owner to the Contractor.

Unless otherwise required by law, any suit under this Bond must be instituted before the expiration of one (1) year from the date on which the guaranty period under the Contract expires.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators and successors of the Owner.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and these presents signed by its undersigned representative, pursuant to authority of its governing body.

No extension of time or other modification of this Bid Bond shall be valid unless agreed in writing by the parties to this Bond.

(Corporate Principal)

Attest:

(Business Address)

By

Affix
Corporate
Seal

(Corporate Surety)

Attest:

(Business Address)

By

Affix
Corporate
Seal

Countersigned
by _____

Attorney-in-Fact, State of _____, Power-of- Attorney for person signing for Surety Company must be attached to Bond.

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____ certify that I am the _____ of the Corporation named as Principal in the within bond; that _____ who signed the said bond on behalf of the Principal was then the _____ of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed, and attested to for and in behalf of said corporation by authority of this governing body.

Affix
Corporate
Seal

Title _____

BID FORMS

Your response should only include an original and one (1) copy (unless otherwise indicated in the specifications) of all documents after this page.

Do not use 3-ring binders!



City of New London

Department of Finance-Purchasing Agent
 13 Masonic Street • New London, CT 06320 • Phone (860) 447-5215 • Fax (860) 447-5297

Bid Proposal Form Page 1 of 2

Bid No.: 2011-22	Bid Opening Date: March 15, 2011	Bid Opening Time: 2:00 P.M.	Bid Surety: 10%	Date Issued: February 15, 2011
----------------------------	--	---------------------------------------	---------------------------	--

Commodity:

Replacement of City Hall Roof

REQUEST FOR PROPOSALS: Pursuant to the provisions of Section 2-69 of the Code of Ordinances of the City of New London, sealed proposals will be received by the Purchasing Agent for the City of New London, at the address above for furnishing the commodities and/or services herein listed.

IMPORTANT: Both pages of this form must be completed, signed and returned by the proposer as part of the proposal package.

NOTE: Proposer means Individual/Sole Proprietor, Partnership or Corporation name.

Section 1 of 3 – Proposer Information

Complete Company Name (Trade Name, Doing Business As)		SSN or FEIN	
Company Address	Street	City	State Zip Code
Contact Name (Typed or Printed)	Telephone Number (Include Toll-Free Numbers)		FAX Number
Written Signature of Person Authorized to Sign Proposals on Behalf of the Above Named Company ← SIGN HERE			Date Executed
Type or Print Name of Authorized Person		Title of Authorized Person	
Company's E-Mail Address		Company's Web Site	
Is Your Business a: <input type="checkbox"/> Proprietorship (Individual), <input type="checkbox"/> Partnership or <input type="checkbox"/> Corporation ? (Type of Corporation -)			
Is Your Business Currently a State of Connecticut Certified Small Business? <input type="checkbox"/> Yes (Attach Certificate Copy to Bid) <input type="checkbox"/> No			
If your business is a Partnership , you must attach the names and titles of all partners to this bid when returned.			
If your business is a Corporation , in which State are you incorporated?			
Is your business reportable to the IRS? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, a 1099/W2 will be mailed to you at year end.			
Remittance Information: In this box indicate the Remittance Address of your business if different from above.			



City of New London

Department of Finance-Purchasing Agent
13 Masonic Street • New London, CT 06320 • Phone (860) 447-5215 • Fax (860) 447-5297

Bid Proposal Form Page 2 of 2

Section 2 of 3 Important Information for Proposers

AFFIRMATION OF PROPOSER: The undersigned proposer affirms and declares:

1. That this proposal is executed and signed by said bidder with full knowledge and acceptance of the provisions of the Standard Proposal and Contract Terms and Conditions of current issue and in effect on the date of bid issue. These Standard Proposal and Contract Terms and Conditions are made a part of the contract.
2. That should any part of this proposal be accepted in writing by the City of New London within thirty (30) days from the date of proposal opening unless and earlier for acceptance is specified by the proposer the proposal schedule, said proposer will furnish and deliver the commodities and/or services for which this proposal is made, in the quantities and at the prices proposed, and in compliance with the provisions of the STANDARD PROPOSAL AND CONTRACT TERMS AND CONDITIONS, COMMODITY SPECIFICATIONS, PROPOSAL SCHEDULE AND SPECIAL PROPOSAL AND CONTRACT TERMS AND CONDITIONS. Should award of any part of this proposal be delayed beyond the period of thirty (30) days or an earlier date specified by the proposer in the proposal schedule, such award shall be conditioned on the proposer's acceptance.
3. Acceptance of the conditions set forth herein, agreement in strict accordance therewith, and will furnish and deliver the commodities and/or services to the City of New London at the prices bid therein.
4. Should the Purchasing Agent determine that the proposer has not completed Section 1 – Proposer Debarment and/or Suspension included as part of this document, then such determination may be just cause for disqualification from the evaluation of this proposal.

Section 3 of 3 – Proposer Debarment and/or Suspension

Has the bidder, any company officials, or any subcontractor to the bidder, any of its company officials received any notices of debarment and/or suspension from contracting with the State of Connecticut, the federal government, any other state within the United States, any of its territories or any governmental entity?

Yes No

If the above signed bidder, any company official or any subcontractor to the bidder **has** received notice of debarment and/or suspension from contracting with the State of Connecticut, the federal government or any governmental entity, said notices must be attached to this document when submitting this bid.

Number of notices attached _____



City of New London

Department of Finance-Purchasing Agent
 13 Masonic Street • New London, CT 06320 • Phone (860) 447-5215 • Fax (860) 447-5297

Bid Schedule

Bid No.:
2011-22

William R. Hathaway
 Purchasing Agent

 (860)447-5215
 Telephone Number

**BID SCHEDULE
 for Bid No. 2011-22**

IMPORTANT!
RETURN ORIGINAL AND ONE COPY

DELIVERY:

TERMS:
 _____ % _____ days

Payment terms are **Net 45 days**. Any deviation may result in bid rejection.
 Proposal prices shall include transportation charges FOB City of New London.

Page 1 of 1

BIDDER NAME:

SSN or FEIN:

Item No.	Description of Commodity and/or Services	Quantity	Unit of Measure	Unit Price	Total Price
1.	Replacement of City Hall Roof, as specified	1	Lot		
2.	Concrete rehabilitation ¹	174	SF		
	GRAND TOTAL				
	¹ See Note No. 3 in the Special Instructions				

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____

_____ as Principal, and _____
a corporation duly organized under the laws of the State of _____ as Surety are held and
firmly bound unto the **City of New London, 181 State Street, New London, CT 06320**, hereinafter called the
"Owner" in the sum of _____ Dollars (\$ _____), for the
payment of which sum well and truly to be made, the said Principal and Surety, bind ourselves, our heirs, executors,
administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid dated _____ to

NOW THEREFORE, if the Owner shall accept the bid of the Principal and the Principal shall enter into a Contract with
the Owner in accordance with the terms of such bid and give such bond or bonds as may be specified in the bidding
or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the
prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal
to enter such Contract and give such bond or bonds, if the Principal shall pay to the Owner the difference not to
exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Owner may
in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and
void, otherwise to remain in full force and effect.

Signed and sealed this _____ day of _____ 200.

(Seal)

(Principal)

(Witness)

(Title)

(Surety)

(Seal)

(Witness)

(Title)

Attorney-in-Fact, State of _____, Power-of-Attorney for person signing for
Surety Company must be attached to Bond.

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____ certify that I am the _____
_____, of the Corporation named as Principal in the within bond; that ___
_____ who signed the said bond on behalf of the Principal was then the _____
_____ of said corporation; that I know his signature, and his signature
thereto is genuine; and that said bond was duly signed, sealed, and attested to for and in behalf of said corporation by
authority of this governing body.

_____ Affix
Corporate
Seal

Title _____

Statement of Bidder's Qualifications

All items and questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The bidder may submit any additional information it desires.

1. Name of Bidder _____
2. Permanent main office address _____

3. When organized _____
4. If corporation, where incorporated _____
5. Number of years have you been engaged in the contracting business under your present firm or trade name

6. Contracts on hand: (Schedule these showing the amount of each contract, the value of each contract, the anticipated completion date of each contract, a contact name and telephone number for each contract)

7. General character of work performed by your company _____

8. Have you ever failed to complete any work awarded to you? If so, where and why? _____

9. Have you ever defaulted on a contract? If so, where and why? _____

10. List at least three (3) projects similar in size and scope that your firm has completed in the past five (5) years (use a separate sheet if necessary). Include a summary of each project, the date the work was completed, the dollar value of the project a contact name and telephone number. _____

11. List your major equipment available for this project _____

12. List your experience in work similar to this project _____

13. List the background and experience of the principal members of your organization, including officers

14. List the work to be done by Subcontractors and summarize the dollar value of each Subcontract

15. Credit available \$ _____

16. Give Bank reference _____

17. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? _____

18. The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the Owner in verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated _____ (Name of Bidder)

By _____

Title _____

State of _____)
County of _____) ss.

_____ being duly sworn deposes and says that (s)he is _____
_____ of _____

_____, and that the answers to the foregoing items and questions and all statements therein contained are true and correct.

Subscribed and sworn to before me this

_____ day of _____ 20

(Notary Public)

My Commission expires _____

NON COLLUSION AFFIDAVIT OF PRIME BIDDER

State of _____)
County of _____) ss.

_____, being first duly sworn,
deposes and say that:

- (1) He is _____ of _____ herein referred to as the "Bidder" that has submitted the attached bid;
- (2) He is fully informed respecting the preparation and content of the attached Bid and of all pertinent circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of New London, CT or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties of interest, including this affiant.
- (6) That no officer or employee or person whose salary is payable in whole or in part from the City of New London is directly or indirectly interested in this Bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

Signed _____

Title _____

Subscribed and sworn before me this

_____ day of _____ 20____

(Notary Public)

My Commission expires _____

NON COLLUSION AFFIDAVIT OF SUBCONTRACTOR

State of _____)
County of _____) ss.

_____, being first duly sworn,
deposes and says that:

- (1) He is _____ of _____ herein referred to as the "Subcontractor";
- (2) He is fully informed respecting the preparation and content of the Subcontractor's Proposal submitted by the Subcontractor to _____, the Contractor for certain work in connection with the _____ Contract pertaining to the Project in New London, Connecticut;
- (3) Such Subcontractor's Proposal is genuine and is not a collusive or sham Bid;
- (4) Neither the said Subcontractors nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in said Subcontractor's Proposal or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of New London, CT or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Subcontractor's Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties of interest, including this affiant.
- (6) That no officer or employee or person whose salary is payable in whole or in part from the City of New London is directly or indirectly interested in this Bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

Signed _____

Title _____

Subscribed and sworn before me this

_____ day of _____ 20____

(Notary Public)

My Commission expires _____

AFFIRMATIVE ACTION POLICY STATEMENT
(must be submitted on your firm's letterhead)

It has always been the policy and will continue to be the strong commitment of _____ and all contractors and subcontractors who do business with this City to provide equal opportunities in employment to all qualified persons solely on the basis of job-related skills, ability and merit. _____ will continue to take Affirmative Action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, national origin, ancestry, mental disorder (present or past history thereof), age, physical disability (but not limited to blindness), marital status, mental retardation, and criminal record. Such action includes, but is not limited to, employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation and selection for training including apprenticeship. _____, and its subcontractors will continue to make good faith efforts to comply with all federal and state laws and policies which speak to equal employment opportunity.

The principles of Affirmative Action are addressed in the 13th, 14th, and 15th Amendments of the United States Constitution, Civil Rights Act of 1866, 1870, 1871, Equal Pay Act of 1963, Title VI and VII of - the 1964 United States Civil Rights Act, Presidential Executive Orders 11246, amended by 11375, (nondiscrimination under federal contracts), Act I, Sections 1 and 20 of the Connecticut Constitution, Governor Grasso's Executive Order Number 11, Governor O'Neill's Executive Order Number 9, the Connecticut Fair Employment Practices Law (Sec. 46a-60-69) of the Connecticut General Statutes, Connecticut Code of Fair Practices (46a-70-81), Deprivation of Civil Rights (46a-58(a)(d)), Public Accommodations Law (46a-63-64), Discrimination against Criminal Offenders (46a-80), definition of Blind (46a-51(1)), definition of Physically Disabled (46a-51(15)), definition of Mentally Retarded (46a-51(13)), cooperation with the Commission on Human Rights and Opportunities (46 - 77), Sexual Harassment (46a-60(a)-8), Connecticut Credit Discrimination Law (36-436 through 439), Title I of the State and Local Fiscal Assistance Act of 1972.

This Affirmative Action Policy Statement re-affirms my personal commitment to the principles of Equal Employment Opportunity.

DATE

Signature of Authorized Signer

CERTIFICATION OF BIDDER REGARDING
EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 Part II, Section 203(b), (30 FR 12319, 12935). The implementing rules and regulations provide that any bidder or prospective contractor, or any of its proposed subcontractors, shall state whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicated that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven (7) calendar days after bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION BY BIDDER

Bidder's Name _____

Address and Zip Code _____

- 1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
Yes () No () If answer is yes, identify the most recent contract.
- 2. Compliance reports were required to be filed in connection with such contract or subcontract
Yes () No () If answer is yes, identify the most recent contract.
- 3. Bidder has filed all compliance reports due under applicable instructions, including SF. 100.
Yes () No () Not Required ()
- 4. If answer to Item 3 is "No" please explain in detail on reverse side of this Certification.

Certification - The information above is true and complete to the best of my knowledge and belief. A willfully false statement is punishable by law (U.S. Code, Title 18, Section 1001).

Name and Title of Signer (Please Type)

Signature

Date

CERTIFICATION OF NON-SEGREGATED FACILITIES

This Bidder certifies that he does not maintain or provide his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any locations, under his control, where segregated facilities are maintained. The Bidder agrees that a breach of his certification will be a violation of the Equal Opportunity clause and any Contract resulting from acceptance of this Bid. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion or national origin, because of habit, local custom or otherwise. The Bidder agrees that (except where he has obtained identical certification from proposed Subcontractors for specific time periods) he will obtain identical certifications from proposed Subcontractors prior to the award of Subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have already submitted identical certifications for the specific time periods):

“Notice to prospective subcontractors of requirements for non-segregated facilities. A certification of non-segregated facilities must be submitted prior to the award of a subcontract exceeding the Equal Opportunity Clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e. quarterly, semi-annually, or annually).

Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. Paragraph 1001.

Date: _____

By: _____

Official Address: _____

Title: _____
