

APPENDIX A OWNERS SPECIFICATIONS

For:

The Town of Clinton

54 East Main St., Clinton, CT



Project:

ROOF RESTORATION

Henry Carter Hull Library

10 Killingworth Turnpike, Clinton, CT 06413



Project Manual For:

Town of Clinton

Project: **Henry Carter Hull Library**

Roof Restorations

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SECTION 00 10 00 .001 (SUMMARY OF WORK)

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Attached SUMMARY OF WORK, INTENT OF THE SPECIFICATIONS, PROTECTION, HOUSEKEEPING, forms a component part of this section.

1.2 SUMMARY OF WORK:

A. SUMMARY OF WORK- GENERAL:

1. Removal of wet insulation (where indicated), System repairs, Surface preparation and Installation of a restorative two-part polyurea liquid membrane coating with reinforcement.

B. SUMMARY OF WORK- SPECIFIC: EPDM ROOF SYSTEM RESTORATIONS

1. Adhere to all OSHA safety measures and requirements.
2. Repair roof and close all open conditions in preparation to receive the restorative liquid membrane.
 - a. All necessary field and flashing repairs must be done according to good construction and roofing practices
 - b. All seams must be checked and any loose or damaged seams must be reseamed/repaired.
3. Remove and replace in kind any specified areas of wet or compromised insulation with proper tie-ins.
 - a. Cut out all areas of wet/damaged insulation down to the decking or older roofing system. (Approx. area: 8x8' as shown on the drawings)
 - 1) Core Results:
 - a) Metal Steel Decking
 - b) 2" Polyiso
 - c) (2) ½" Fiberboard
 - d) .060 EPDM Fully adhered
 4. Pressure wash and scrub entire roof and flashings using a stiff brush and solution of Simple Green or TSP cleaners with water as specified.
 5. Rinse roof and flashings using clean water and pressure washer to remove all cleaning solution residue, repeat the rinsing process until no cleaning solution is left and allow drying 24 to 48 hours
 - a. **Note:** If any cleaning solution residue is left on the area to be coated it will not stick. This condition typically occurs around the internal drains.
 - b. Roof must be 100% dry prior to application
 6. Start with drains, flashings, including walls and curbs before proceeding to field installation. Apply a base coating of LiquiTec TC (White in color) at 3.0 gal./100 sq. ft. over single-ply roof surface. Use a ¼" notched squeegee, where applicable, to spread coating and roller to apply for uniform minimum coverage.
 7. Immediately embed 40" wide Grip Polyester reinforcement into wet coating by rolling over the fabric surface to fully saturate and encapsulate, ensuring no wrinkles, voids or vertical fibers.
 8. Lap rolls of reinforcement a minimum of 3 in. (75 mm) on end and side laps. Roller must be fully saturated with coating when backrolling over the reinforcement scrim to wet it out completely.
 - a. **Note:** Allow to cure thoroughly, but no more than 48 hours.
 9. Apply a top coating of LiquiTec BC (Grey in color) over the basecoat at 2.0 gal./100 sq. ft.
 10. Contractor is responsible for securing materials.
 11. Contractor to supply 2-year workmanship warranty.
 12. Manufacturer to supply one long-term system warranty directly to owner.
 13. Contractor responsible for obtaining building permit.
 14. A protective roof covering path must be used to transport material across the roof.

15. Clean up and properly dispose of all debris and repair any damage done to grounds, building or roof top.

1.3 INTENT OF THE SPECIFICATION

- A. The intent of these specifications is to describe the material and methods of construction required for the performance of the work. In general, if there is a discrepancy between any provided drawings, details, referenced specifications, or standards and this specification, this specification shall govern.

1.4 PROTECTION

- A. The contractor shall use every available precaution to provide for the safety of the property owner, visitors to the site, and all connected with the work under the Contract.
- B. All existing facilities both above and below ground shall be protected and maintained free of damage.
- C. Existing facilities shall remain operating during the period of construction unless otherwise permitted.
- D. All access roadways must remain open to traffic unless otherwise permitted.
- E. Barricades shall be erected to fence off all construction areas from operations personnel
- F. Safety Requirements:
 - G. All application, material handling, and associated equipment shall conform to and be operated in conformance with OSHA safety requirements.
 - H. Comply with federal, state, and local and owner fire and safety requirements.
 - I. Advise owner whenever work is expected to be hazardous to owner employees and/or operations.
 - J. Maintain a crewman as a floor guard whenever roof decking is being repaired or replaced and whenever any roofing is being removed.
 - K. Maintain proper fire extinguisher within easy access whenever power tools, roofing kettles, and torches are being used.
 - L. A minimum of a 2-hour fire watch shall be strictly adhered to whenever propane torches are in use at contractors' expense.
 - M. All safety requirements of the building owner must be followed including all covid-19 related social distancing and PPE precautions. No exceptions will be permitted.
 - N. Safety orientation meeting required prior to performing any work.

1.5 HOUSEKEEPING

- A. Keep materials neat and orderly.
- B. Remove scrap, waste and debris from the project area.
- C. Maintenance of clean conditions while work is in progress and cleanup when work is completed shall be in strict accordance with the "General Conditions" of this contract.
- D. Fire protection during construction.
- E. Follow all requirements established by the building owner.
- F. Smoking is expressly prohibited on grounds.
- G. Any unruly or vulgar language or acts directed at staff will result in the immediate and permanent dismissal of the worker from the job site for the duration of the project.

1.6 HARASSMENT AND DISCRIMINATION

- A. The Contractor agrees and warrants that in signing a contract, they will uphold The Town of Clinton's commitment to following Connecticut State and Federal law ensuring full compliance.
- B. The Town of Clinton's prohibits harassment and discrimination on the basis of race, color, religious creed, age, marital status, military or veteran status, national origin, sex, ancestry, sexual orientation, or past or present physical or mental disability in accordance with Titles VI, VII of the Civil Rights Act of 1964, which affirms that no person or group of persons is excluded from participation, denied benefits, or otherwise subjected to discrimination or permits discrimination under any program or activity or any service rendered to the public, on the grounds of race, color, creed, religion, national origin, sex, age or disability. Title IX of the Education Amendments Act of 1973; Section 504 of the Rehabilitation Act of 1973; the Americans with Disabilities Act of 1991; and applicable state laws.

Unless it is shown by such bidder that such disability prevents performance of that which must be done to successfully fulfill the terms of this sealed bid or in any manner which is prohibited by the laws of the United States or the State of Connecticut.

END OF SECTION
SECTION 00 70 00 (GENERAL CONDITIONS)

PART 1 GENERAL

1.1 DEFINITIONS

- A. The contract document consists of the AGREEMENT, the GENERAL CONDITIONS of the contract, and the SPECIFICATIONS, including all revisions hereto.
- B. The Owner, the Contractor and the Owner's Representative shall be indicated as such throughout these documents. The term Contractor as used herein shall designate the successful bidder to whom the roof contract is awarded.
- C. The term Owner shall be understood to be The Town of Clinton.
 - 1. Todd Hajek, The Town of Clinton's Director of Public Work shall be understood as the sole contact for Owner.
- D. The term Owner's Representative shall be understood to mean the representative of the primary material manufacturer or any other qualified person approved by Owner to assume this role.

1.2 OWNER'S REPRESENTATIVE STATUS

- A. The Owner's Representative shall have general Rights of Inspection of the work and is the agent of the Owner in all matters pertaining to the work as provided in the Contract Documents. The Owner's Representative has the authority to stop work whenever such stoppage may be necessary to ensure the proper execution of the contract and shall have authority to reject any and all materials, whether worked or un-worked, if such materials are not in accordance with the plans and specifications.

1.3 CONDITION OF SITE

- A. The bidders shall visit the site before submitting their bids and determine the field conditions affecting their work. In considering the bids, the Owner will assume that the bidders are aware of all items, pertinent to their work and have made allowance for same in their bids.

1.4 VERIFICATION OF DIMENSIONS AND ELEVATIONS

- A. Dimensions and elevation: Before bidding on any work dependent upon the data involved, the Contractor shall field check and verify all dimensions, grades, lines, levels or other conditions of limitations at the site to avoid construction errors. If any work is performed by the Contractor or any of his/her sub-contractors prior to adequate verification or applicable data, any resultant extra cost for adjustment of work as required to conform to existing limitations, shall be assumed by the Contractor without reimbursement or compensation by the Owner.

1.5 PROTECTION OF OWNER'S OPERATIONS

- A. The Contractor shall erect such barriers, tarpaulins, doors, etc., as may be necessary to protect the Owner's operations while work is in progress. Any such openings that are essential to carrying on the work shall be securely closed by the Contractor when not in use to protect the Owner's operations.

1.6 PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall maintain adequate protection of all his/her work from damage and shall protect the Owner's and adjacent property from injury or loss arising from this contract. He/she shall provide and maintain at all times any danger signs, guards and/or obstructions necessary to protect the public and his/her workmen from any dangers inherent with or created by the work in progress. He/she shall hold the Owner harmless from any loss arising due to injury or accident to the public or his/her workmen, or from theft of materials stored at the job site. All materials will be stored in locations other than on roof surfaces except as necessary and shall then be placed on plywood or other type of material to protect the roof surface at all times.
- B. Before starting any work, the Contractor shall protect all grounds, copings, paving and exterior of all buildings where work will be performed.
- C. In those areas where materials and/or hot asphalt will be raised to the roof area, a protective covering shall be placed from the base of the wall extending up and over the top edge of the roof. This coverage shall be wide enough to assure that the exterior walls do not become stained or soiled during roofing operations.
- D. Any areas of the building or grounds which have become stained or damaged in any way shall be repaired or replaced by the Contractor prior to the final inspections. The method of repair used must be acceptable to both the Owner and the Owner's Representative.

1.7 MATERIAL STORAGE AND CLEAN-UP

- A. The Contractor shall keep the premises free from rubbish at all times and shall arrange his/her material storage so as not to interfere with the Owner's operations. At the completion of the job, all the unused material and rubbish shall be removed from the site. The ground shall be raked clean and the building shall be broom cleaned. If the Contractor refuses at any time to remove his/her debris from the premises, or to keep the working area clean, such cleaning will be completed by the Owner and deducted from the balance due the Contractor.
- B. The Contractor shall also remove drippage of bitumen or adhesive from all walls, windows, floors, ladders and finished surfaces. Failure to do so will result in the work being done by others and the cost shall be deducted from the balance due the Contractor.
- C. Materials must be delivered with manufacturer's label intact and legible. Labels must be affixed to the outside of the package stating the type of product, name and address of the manufacturer. All materials shall be stored and protected against weather, vandalism, and theft. Any materials found to be damaged or missing shall be replaced by the Contractor at no cost to the Owner.

1.8 INSPECTION OF WORK

- A. Where the specifications require the inspection and approval of any work in progress by the Owner's Representative, the Contractor shall give that Representative ample notice to allow for scheduling the inspection, which shall be made promptly to avoid delay of work. If work has progressed without the required inspections or approval by the Representative, it shall be uncovered for inspection at the Contractor's expense.
- B. Uncovering of work not originally inspected, or uncovering questioned work may be ordered by the Owner's Representative and it shall be done by the Contractor. If examination proves such work to be incorrectly done or not done in accordance with the plans and specifications, the Contractor shall bear all cost of the reexamination. If the work is proven correctly installed, all such expense shall be borne by the Owner.

1.9 INSPECTION OF WORK IN PROGRESS AND UPON COMPLETION

- A. If directed by the Owner's Representative, the Contractor shall cut not more than four (4) cores, of

approximately 200 square inches each, from every newly constructed roof area, in order to establish the amount of materials used per square foot, and shall restore all such areas to sound and watertight conditions as prior to the core testing.

- B. In the event that such core cuts disclose any deficiency in materials, or soundness of construction, the Contractor shall, at his/her own expense, apply additional materials or otherwise correct the deficiencies to the satisfaction of the Owner's Representative.
- C. Noncompliance with the terms of this specification and ensuing contract can result in either the cancellation of the contract, or complete replacement of the defective areas at the Contractors expense. In the event of cancellation, the Owner will not be obligated to compensate the Contractor for any work undertaken in a defective manner.
- D. Damages caused by water infiltration resulting from the failure of the Contractor to secure each day's work in a weather tight manner, will be corrected at the Contractors expense. Included as damages will be all labor costs incurred by the Owner as a result of such water infiltration.
- E. The Owner will require the Manufactures Representative to examine the work in progress, as well as upon completion, in order to ascertain the extent to which the materials and procedures conform to the requirements of these specifications and to the published instructions of the Manufacturer.
- F. The authorized Owner's Representative shall be responsible for:
 1. Keeping the Owner informed on a periodic basis as to the progress and quality of the work;
 2. Calling to the attention of the Contractor those matters he/she considers to be in violation of the contract requirements;
 3. Reporting to the Owner any failure or refusal of the Contractor to correct unacceptable practices;
 4. Conducting preliminary and subsequent jobsite meetings with the Contractors official job representative;
 5. Supervising the taking of test cuts, and the restoration of such areas;
 6. Rendering any other inspection services which the Owner may designate; and
 7. Certifying, after completion of the work, the extent to which the Contractor has complied with these specifications as well as to the published instructions of the Manufacturing Company.
- G. The presence and activities of the Owner's Representative shall in no way relieve the Contractor of his/her contractual responsibilities.

1.10 MISCELLANEOUS UTILITIES

- A. Electrical power will be furnished by the Owner for small tools only. All connections to the electrical system will be furnished by the Contractor.
- B. Water for concrete, mortar, washing and drinking purposes will be furnished by the Owner. Any connections to the water system shall be completed by the Contractor.
- C. At the completion of the work, or when the above connections are no longer required, the Contractor shall remove all connections and leave the facilities in a condition at least as satisfactory as prior to the commencement of his/her work.
- D. Toilet facilities will be provided by the Contractor. The Contractor will be responsible for supplying a portable toilet on the jobsite. The Contractors personnel are not permitted to enter the building without proper authorization from the Owner.

1.11 CHANGES OR EXTRA WORK

- A. The Owner may, without invalidating the original contract, order such changes or additions as may from time to time be deemed desirable. In so doing, the contract price shall be adjusted, as stated below, with all work being done under the conditions of the original contract except for such

adjustments in extension of time as may be acceptable to the Owner.

The value of such extra work shall be determined in one of the following ways:

1. By firm price adjustment;
2. By cost plus with a guaranteed maximum;
3. By cost with a fixed fee; or
4. By unit cost.

B. If agreement is reached that the extra cost shall be handled as per methods 2, 3, or 4, the Contractor shall keep and compile a correct amount of the cost together with such vouchers, etc., as may be necessary to substantiate same for presentation to the Owner. The Owners Representative shall have authority to make minor job changes or additions as may be necessary to expedite the job providing such changes do not involve additional material cost. No major change or addition shall be made except upon receipt by the Contractor of a signed order from the Owner authorizing such a change. No claims for an extra to the contract price shall be valid unless so authorized.

C. All work covered by unit prices submitted by the Contractor in his/her proposal must be covered by a written work order. The Owners Representative will prepare the work order in triplicate covering the quantity of work and the total cost of the work. The work order which will be written at the end of each day, will be signed by the Owners Representative and the Contractors foreman and/or superintendent.

1.12 CORRECTION OF WORK PRIOR TO FINAL PAYMENT

A. The Contractor shall promptly remove any work that does not meet the requirements of the plans and specifications or is incorrectly installed or otherwise disapproved by the Owner or the Owner's Representative as failing to meet the intent of the plans and specifications. The Contractor shall promptly replace any such work without expense to the Owner and shall bear the cost of making good all work of other contractors, or the Owner, destroyed or damaged by such removal or replacement.

1.13 CORRECTION OF WORK AFTER FINAL PAYMENT

A. The Contractor shall guarantee all materials and workmanship for two (2) years from date of final payment of the contract by the Owner. Any defects which may arise during this period shall be promptly repaired by the Contractor including any damage done to the Owners property due to such defects.

1.14 DEDUCTION FOR UNCORRECTED WORK

A. If the Owner deem it unacceptable to have the Contractor correct work which has been incorrectly done, a deduction from the contract price shall be agreed upon therefore. Such a deduction from the contract price shall in no way affect the Contractors responsibility for defects which may occur nor his/her ability for correcting them, and damage caused by them.

1.15 LIENS

A. The Contractor shall, if required by the Owner, furnish him/her with a release in full of all liens arising out of this contract or in lieu thereof, and receipts in full for all materials and labor on the job. In either case, the Contractor shall furnish an affidavit that the liens or receipts include all the labor and material for which a lien could be filed. In lieu of the above, the Contractor may at his/her option furnish a bond to indemnify the Owner against all hazard of liens. Neither part nor final payment shall in any way release the Contractor from the above obligation and in the event that part or full payment has been made and any lien remains undischarged, the Contractor shall refund to the Owner the necessary funds to discharge such a lien including all cost and attorney's fees.

1.16 JOB CONDITIONS

- A. All surfaces to be covered shall be smooth, dry, and free from dirt, debris, and foreign material before any of this work is installed. Pumping equipment shall be located on the ground at a safe distance from building; the location being subject to the approval of the Owner. The Contractor shall be responsible for guarding against fires, and shall provide suitable fire extinguishers conveniently located at the site. Competent operators shall attend all times equipment is in use. Materials shall be stored neatly in areas designated by the Owner and dispersed so as to present a minimum fire hazard. Loads placed on the roof at any point shall not exceed the safe load for which the roof is designed.
- B. There is NO SMOKING allowed inside any buildings or on the grounds and the Contractor shall be responsible for enforcement of this job rule at all times with his/her personnel, please refer to Section 00 10 00 .001
- C. The Contractor should be aware of Owners property when tearing off the existing roof. This is required for removal of dirt, silt, debris, roof membrane and insulation from the roof surface in order to preserve the ecology, eliminate unsightly conditions and protect building surfaces. Specific locations will be discussed at the pre-bid conference.
- D. Ladders: Any ladders used on this project must be in good condition. The ladder must also be secured at the roof line at all times while in use. All ladders must be O.S.H.A. approved.
- E. No drugs or alcoholic beverages are permitted on the grounds.
- F. The Contractor shall place necessary barriers and/or protection around or under all work areas where his/her operations involve risk of injury to plant personnel.
- G. The Contractor will also protect the building structure from damage in the process of the job. In the event that damage does occur to any property or equipment, or the Owners work in process, notification must be made within one (1) working day of the incidents to the Owner.
- H. During the progress of the job, if waste material and rubbish are found or damage resulting from the Contractors operations is found, or the Contractor does not comply with the requirement by keeping the premises free of accumulations and correct the damage, it shall be the Owners prerogative to hire personnel to do so; and the cost of this work will be deducted from the balance due the Contractor.
- I. Existing roof top equipment walls, windows, etc. shall be completely protected by masking or other effective methods. Any mastics or asphalt must be cleaned off metal surfaces.
- J. The Contractor is responsible for protecting all materials from the elements. If any material, such as insulation, becomes wet, it cannot be installed and must be replaced at the Contractors expense.
 - 1. NOTE: Insulation and rolled roofing materials must be covered with waterproof tarps at the end of each work day. Plastic wrappers supplied by the insulation manufacturer are not acceptable substitutes for tarps. The Owners Representative will reject any covering method or material which does not adequately protect roofing materials.
- K. Anyone guilty of willful destruction or unlawful removal of company property will be dismissed from the job and is subject to prosecution by law.
- L. Any lawns damaged by Contractor vehicles will be restored with a stand of grass at the Contractors expense. Any damaged pavements will likewise be restored and at the Contractor's expense.
- M. The Contractor must verify that all materials can be installed to accommodate the building design, pertinent codes and regulations, and the manufacturers current recommendations.
- N. The Contractor will ensure that all substrates are clean, dry, sound, smooth, and free of dirt, debris, and other contamination before any materials are supplied.
- O. Any isolated areas that must be torn off and replaced will be built-up to the height of the existing roof prior to the installation of the new roofing membrane system.

1.17 WORKMANSHIP

- A. All materials will be securely fastened and placed in a watertight, neat and workmanlike manner. All workmen shall be thoroughly experienced in the particular class or work upon which they are employed. All work shall be done in accordance with these specifications and shall meet the approval of the Owner or Owner's Representative. The Contractors representative or job supervisor shall have a complete copy of any MSDS, specifications and application guides on the jobsite at all times.
- B. Contractor shall plan and conduct the operations of the work so that each section started on one day is complete and thoroughly protected before the close of work for that day.

1.18 INSULATION

- A. Insulation shall have accurate dimensional stability so as to properly conform to the surfaces of the roof, cants, curbs, pipes, etc. Joints between boards shall be tight and insulation shall be held back $\frac{1}{2}$ " from vertical surfaces and sumps. Insulation shall be protected from the weather at all times. No more insulation shall be laid than can be completely covered with roof materials on the same day. A base sheet shall not be considered as a proper weather barrier.
- B. Insulation that becomes wet during or after installation shall be removed and replaced with dry insulation. If roofing is in place, the roofing shall be also replaced. All replacing work shall be done at no added cost to the Owner.

1.19 ROOF DECK

- A. Contractor shall notify the Owner or Owner's Representative of any unforeseen areas of wet insulation. Where the damage is serious and extensive, it will be the Owners prerogative to authorize removal and replacement of deteriorated roofing, insulation and repair of the vapor barrier, if present. Where damage to the roof deck is found, the Contractor shall furnish the Owner with a unit price for removal and replacement of the damaged deck.

1.20 SAFETY

- A. Contractor shall conform to requirements as designated by the United States Federal Government (O.S.H.A.). Contractor shall abide by all regulations as outlined in the O.S.H.A. handbook and shall have a handbook on location at all times.
- B. Contractors hereby acknowledged that they and their workers have undergone Safety Training and shall at all times act in compliance with all NRCA recommended safety compliance rules and regulations.

1.21 INSURANCE

- A. The following standard indemnity agreement and minimum insurance requirements are incorporated in the Specifications for all work performed by Contractors for the Owner, its affiliated and associated organizations or subsidiaries, hereinafter referred to as Owner.
 1. The contractor agrees to indemnify and save the owner and owner's representative harmless from and against any and all costs, loss and expense, liability damages, or claims for damages, including cost for defending any action, on account of any injury to persons (including death) or damage to or destruction of property of the owner, arising or resulting from the work provided for or performed, or from any act, omission, or negligence of the contractor, subcontractor and their agents or employees. The foregoing provisions shall in no way be deemed released, waived or modified in any respect by reason of any insurance or surety provided by the contractor.
 2. The Contractor, in contracting with the Town and its respective officers, agents and servants, agrees to indemnify, defend and save harmless from and against any and all claims, damages,

losses, litigation expenses, counsel fees and compensation arising out of any injuries(including death) sustained by, or alleged to have been sustained by, the servants, employees or agents of the Town and its respective officers, agents and servants, or of the Contractors or of any participant or spectator, and from injuries (including death) sustained by, or alleged to have been sustained by, the public or any persons on or near the site or on any other person or damage to property, real or personal, including property of the Town and their respective officers, agents, and servants, caused in whole or in part by the acts or omission of the Contractor or any participant or spectator or anyone directly or indirectly employed or working for the Contractor while engaged in the activity in The Town of Clinton.

3. The Contractor will submit to the Town proof that The Town of Clinton is an additionally insured. Providing an insurance certificate is not enough proof. The Town will need a copy of Additional insured endorsement or a copy of the actual policy that lists The Town of Clinton as additionally insured. At no time should the Contractor perform work for the Town without an active insurance policy with the Town named as an Additional Insured.
4. The Contractor shall provide and maintain standard fire, extended coverage perils, vandalism and malicious mischief insurance to protect the interest of both the Contractor and the Owner for materials brought into the job or stored on the premises. Such insurance shall be for 100% of the insurable value of the work to be performed including all items of labor and materials incorporated therein, materials stored at the jobsite to be used in completing the work, and such other supplies and equipment incidental to the work as are not owned or rented by the Contractor, the cost of which are included in the direct cost of the work. This insurance shall not cover any tools, derricks, machinery, tar buckets, ladders, engines, workmen's quarters, boilers, pumps, wagons, scaffolds, forms, compressors, shanties, or other items owned or rented by the Contractor, the cost of which is not included in the direct cost of the work.
5. In accordance with Section (1.21), the Contractor and subcontractor(s) shall maintain the following insurance:
6. Contractor shall agree to maintain in force at all times during which services are to be performed the following coverages and shall name the Town of Clinton as an Additional Insured on a primary and noncontributory basis to the Contractor's Commercial General Liability and Automobile Liability policies. These requirements shall be clearly stated in the remarks section on the bidders Certificate of Insurance.
7. Insurance shall be written with Carriers approved in the State of Connecticut and with a minimum Best's Rating of A-. In addition, all Carriers are subject to approval by the Town of Clinton.

(Minimum Limits)
8. General Liability:
 - a. Each Occurrence \$1,000,000
 - b. General Aggregate \$2,000,000
 - c. Products/Completed Operations Aggregate \$2,000,000

A Waiver of Subrogation shall be provided

9. Auto Liability: Combined Single Limit \$1,000,000
 - a. Each Accident \$1,000,000
10. Umbrella: Each Occurrence \$2,000,000
 - a. (Excess Liability) Aggregate \$2,000,000
11. Workers' Compensation and WC Statutory Limits Employers' Liability
 - a. EL Each Accident \$500,000

- b. EL Disease Each Employee \$500,000
 - c. EL Disease Policy Limit \$500,000
- B. A Certificate of Insurance: documenting the coverage listed above must be presented by your company prior to the commencing of any work or service. The Contractor or Vendor also agree to provide replacement and/or renewal certificates at least 30 days prior to the expiration of each policy.
- C. If any policy is written on a "Claims Made" basis, the policy must be continually renewed for a minimum of two (2) years following the completion date of the work and/or service. If the claims-made policy is replaced and/or the retroactive date is changed, then the expiring policy must be endorsed to extend the reporting period for claims two (2) years from completion date.
 - 1. A copy of the Declaration Pages: Will be provided to the Town.
 - 2. An Additionally Insured Endorsement: A letter stating that the Town is listed as additional insured from the Insurance carrier.
 - a. All coverage will be on an occurrence basis and on a form acceptable to the Contractor.
 - 1) Include completed operation coverage which is to be kept in force by the Contractor for a period of not less than two years after completion of the work provided for or performed under these specifications;
 - 2) Not be subject to any of the special property damage liability exclusions commonly referred to as the exclusions pertaining to blasting or explosion, collapse or structural damage and underground property;
 - 3) Not be subject to any exclusion of property used by the insured or property in the case, custody or control of the insured or property as to which the insured for any purpose is exercising physical control; and
 - 4) The Certificates of Insurance furnished by the Contractor shall show by specific reference that each of the foregoing items have been provided for.
 - 5) The Town of Clinton, its officers (both elected and appointed), employees, and agents shall be named as additional insured on all policies.
 - 6) The Certificates of Insurance furnished by the Contractor as evidence of the Insurance maintained by him shall include a clause obligating the Insurer to give Thirty (30) days notice of any material change in the insurance and/or cancellation is required and must be provided to The Town of Clinton via certified mail.

1.22 WORK HOURS AND DAYS

- A. When the bid is awarded, the Contractor will contact the Manufactures Representative and Owner to arrange the work schedule and the hours of the day that the workmen may be on the building. The job is under the assumption that all work will be performed on a straight time basis.

1.23 COMPLIANCE WITH LAWS

- A. The Contractor shall give notices, pay all fees, permits and comply with all laws, ordinances, rules and regulations bearing on the conduct of work.

1.24 OWNERS RULES

- A. The Contractor and all his/her personnel/agent(s) shall abide by all rules created by the Owner. The Contractor must contact the Manufactures Representative for specific information regarding the rules governing all operations of the project.
- B. The Contractor shall properly notify all employees of conditions relating to roof areas with very poor condition and which will be worked on. After such notification, the Contractor must take all necessary precautions to ensure the safety of his/her employees as well as the building personnel.
- C. The contractor shall hold harmless the material manufacturer, against any litigation arising from any

accidents during the course of the contract.

1.25 SAFETY AND ECOLOGY

- A. The Contractor(s) shall conform to the requirements as designated by the United States Federal Governments (e.g., O.S.H.A.).

1.26 ANTIDISCRIMINATION IN EMPLOYMENT

- A. Contractors and subcontractors shall not discriminate against any employees or applicant for employment, to be employed in performance of his/her contract, with respect to his/her hire, tenure, terms, conditions or privileges of employment because of his/her race, color, gender, sexual preference, religion, national origin, or ancestry.

1.27 QUESTIONS

- A. All Technical questions regarding this bid can be Emailed to: Todd Hajek at (thajek@clintonct.org) and copied to Jeremy Cogdill at (jcogdill@garlandind.com).
- B. If the Contractor feels a conflict exists between what is considered good roofing practice and these specifications, he/she shall state in writing all objections prior to submitting quotations.
- C. It is the Contractors responsibility, during the course of the work, to bring to the attention of the Manufacturer's Representative any defective membrane, insulation or deck discovered which has not been previously identified.

1.28 RESPONSIBILITY FOR MEASUREMENTS AND QUANTITIES

- A. The Bidding Contractors shall be solely responsible for all accuracy of all measurements and for estimating the material quantities required to satisfy these specifications.

1.29 WARRANTY

- A. A written 20-year Warranty will commence from date of acceptance by Manufacturer must be supplied with the roof installation. This warranty will cover all defects in workmanship and materials. Damages caused by storm, vandalism and other trades are not included in the warranty. This warranty shall be from the manufacturer.
- B. Upon project competition, one Manufacture shall produce and hold warranty on both of the roofing sections and Owner agrees that no exceptions will be accepted.
- C. A two (2) year workmanship warranty is required from the Contractor for all remedial maintenance done under the terms of this contract.

1.30 START AND COMPLETION DATE

- A. Work shall begin within thirty (30) days from the award of this contract, or as agreed upon by the parties.
- B. All work as required in these specifications shall be completed within thirty (30) days of the start date, or as agreed upon by the parties.
- C. Unless work is hampered by long periods of inclement weather, by due proof of material unavailability, or by strike, the Owner will assess a penalty in the amount of \$300.00 a day for each day beyond the agreed completion date.

- D. The Contractor is responsible for supplying trained workmen in proper numbers and for scheduling and laying out his/her work, so that it will be started and completed in a professional manner within the time period indicated on his/her Proposal form.
- E. If the Contractor sets equipment onto the jobsite without commencing work immediately, the action will be considered "Spiking the job" which is unacceptable and will be considered a breach of contract by the Contractor; thereby, the contract will be terminated and the Contractor at no cost to the Owner, must remove his/her equipment and possessions from the jobsite upon notification by the Owner.

1.31 PAYMENT

- A. Payment for the project shall be made after completion of the roof project. An invoice for the project must be presented to the Owner for payment. Owner shall pay invoice within forty-five (45) days from submittal. Materials are not to be delivered to the jobsite until the project is ready to begin. Final payment for the project will be made following completion, after the final inspection has been made and an invoice presented to the Owner. A 10% retainer can be held by Owner until the delivery of both the Contractor and Manufacturers warranty.
- B. When the job in progress is interrupted for two (2) weeks or longer by causes beyond the Contractors control such as a strike, weather, acts of God, etc., the Owner agrees to pay, upon request of the Contractor, a price equivalent to the percentage of work completed at that time. Progress payments shall be made for labor and/or materials if the project prolongs the terms of thirty (30) days. (See Further Section 2.10: B)
- C. Each invoice shall be accompanied by a detailed estimate of the amounts and values of labor expended and materials purchased up to the last day of the preceding month. The amount of the invoice shall not exceed ninety percent (90%) of the labor and material values estimated for the preceding month.
- D. Such payments shall be viewed by both parties as progress payments and shall not in any way relieve the Contractor of performance obligations under this contract, nor shall such payments be viewed as approval or acceptance of work performed under this contract.
- E. Final payment shall be withheld until all provisions of the specifications are met, including all necessary cleanup, and the Owner receives written verification of completion.
- F. Upon completion of the job, the Owner, Manufacture's Representative and the Contractor will make final inspection of the work done, and the Owners Representative will sign a completion slip authorizing final payments.
- G. All payments for material used in the execution of this contract can be made by a check issued jointly, payable to the Contractor.
- H. If requested by the Owner the Contractor shall provide a Letter of Credit from the bank to secure payment to material supplier.
- I. If requested by the Owner and/or Manufacture's Representative, a certified check shall be paid by the Contractor to material supplier prior to release of order.
- J. If requested by the Owner and/or Manufacture's Representative, a certified check shall be paid by the Contractor to material supplier via common carrier upon receipt of delivery.
- K. Contractor shall have a preapproved line of credit from the material supplier.
- L. The Contractor will submit one invoice at the end of their work.
- M. The Town of Clinton agrees to process the invoice as soon as possible but no later than 30 days from

the date of the invoice.

1.32 TERMINATION BY THE OWNER FOR CAUSE

- A. The Owner may terminate the contract and finish the work by whatever reasonable method he/she deems expedient if the Contractor:
 - 1. Persistently or repeatedly refuses to supply specified materials or to provide enough skilled workers to ensure the project will be completed within the time period indicated on his/her Proposal form;
 - 2. Fails to make payment to subcontractors and/or suppliers for labor and materials as stipulated in the contract documents; and
 - 3. Is guilty of substantial breach of a provision of the contract documents.
- B. When the Owner terminates the contract for any of the above reasons, the Contractor shall not be entitled to receive further payment until the work is finished. If the unpaid balance of the contract sum exceeds the cost of finishing the work, it will be paid to the Contractor. If the cost to finish the work exceeds the unpaid balance, the Contractor shall pay the difference to the Owner.

1.33 COMPLIANCE WITH LAWS

- A. The Contractor shall give notices, pay all fees, permits (fees are waived) and comply with all laws, ordinances, rules and regulations bearing on the conduct of work.

PART 2 CONTRACTORS INSTRUCTIONS

2.1 TAXES

- A. Contractor must comply with all state, federal and local taxes. The Contractor shall accept sole and exclusive responsibility for any and all state and federal taxes with respect to Social Security, old age benefits, unemployment benefits, withholding taxes and sales taxes.
- B. Pursuant to Section 12-412 of the Connecticut General Statutes, municipalities are 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 Bid prices. The Town shall provide a tax-exempt certificate to the Contractor within two (2) days of being requested.

2.2 PRODUCTS

- A. Contractors to utilize products and material supplied by the projects Basis of Design: The Garland Company. Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified.
- B. Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
 - 1. Proposals shall be accompanied by a copy of the manufacturer's standard specification section.
 - 2. Include a list of three (3) projects of similar type and extent, located within a one-hundred-mile radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Owner or The Owner.
 - 3. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
 - 4. The Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

2.3 CONTRACTORS LICENSE

- A. All pertinent state and local licenses will be required.

2.4 QUALIFICATION OF BIDDERS

- A. Provide State of Connecticut certification forms; must be contractor specific.
- B. Must be certified to install Manufactures product in writing from a manufacturer's representative.

2.5 BUILDING PERMITS

- A. The acquisition of the applicable permits will be the responsibility of the successful Contractor.
- B. The building permit fee shall be waived by the Town, excluding any School portion and rate.

2.6 JOB COORDINATION

- A. Contractor is responsible for daily communication with the Owner or Manufactures Representative relating to areas of roof work in order that the Owner may adequately protect tenant's personal belongings, and the people themselves against possible damage or injury. Contractor is also responsible for policing and protecting areas involving removal and replacement of roof projections, defective decking or other work involving deck penetration.
- B. Seventy - two hours prior to starting of the project and/or delivery of materials, the Contractor shall notify: Jeremy Cogdill at Jcogdill@garlandind.com (802) 598-2974.

2.7 CLEANUP

- A. Accumulated debris shall be removed periodically to assure maximum safety and sanitation at all times. At completion of work, the Contractor shall remove all excess material and debris from the site and leave all roof surfaces free from accumulations of dirt, debris and other extraneous materials. The Contractor shall also remove any and all drippage of bituminous materials from the face of the buildings, floor, window, ladders and other finished surfaces.

2.8 SUPERINTENDENT

- A. The Contractor shall keep a competent superintendent, satisfactory to the Owner and Manufacture's Representative, on the job at all times when work is in progress. The superintendent shall not be changed without notifying the Owner and the Manufacturer's Representative unless the superintendent ceases to be in the employ of the Contractor.
- B. The superintendent shall represent the Contractor in his/her absence and all directions and instructions given to the superintendent shall be as binding as if given directly to the Contractor.
- C. The superintendent shall be responsible for the conduct of all the Contractors employees on the premises and shall promptly take necessary measures to correct any abuses called to his/her attention by the Owner.

2.9 INSPECTIONS

- A. Before any material applications are made, the Owner or his/her representative and the material

supplier representative shall be available to ensure a complete understanding of the specification.

- B. The accepted Material Manufacturer will have a representative on site a minimum of three (3) times a week to verify compliance with the specifications, answer questions that may arise and provide ongoing inspection services.
- C. A final inspection shall be conducted by Owner, Contractor and the Manufactures Representative upon being notified of completion of specified work and cleanup.

PART 3 STATEMENT OF POLICY

3.1 ENGINEERING

- A. In addition to high quality products, the Material Manufacturer provides recommendations and/or specifications for the proper installation of its material. However, the Material Manufacturer does not, nor does its representatives, practice engineering or architecture. The Material Manufacturer makes no judgments on, and hereby disclaim any responsibility for the soundness of any roof deck or other structural component of buildings upon which the Material Manufacturer products are applied, and further recommend a structural engineer to examine the deck conditions.

3.2 GUARANTEES

- A. A roofing guarantee is available for review from the Material Manufacturer for the roofing systems published in these specifications. The guarantee will be issued only upon completion of all the guarantee requirements by an approved Contractor. Such guarantees cannot be altered or amended, nor may any other warranties, guarantees or representations be made by an agent or employee of the Material Manufacturer unless such alteration, amendment or additional representation is issued in writing and is signed by a duly authorized officer of the Material Manufacturer, and sealed with the Material Manufacturer seal. This guarantee does not cover cosmetic deficiencies.
 - 1. The material manufacturer will not be responsible for any damages to the building or its contents or any other consequential damages, and its responsibility is limited to repairing leaks.
 - 2. The Contractor will warranty the roof to the Material Manufacturer for a period of two (2) years. The Contractor will inspect the roof with the Manufacturer's Representative 18 months after completion, and, at the Contractors expense, correct any workmanship defects before the 24th month following completion of the project.

3.3 APPROVED CONTRACTORS

- A. The roof systems must be applied only by those contractors who have received approval from the Material Manufacturer for such installations. No guarantees will be issued when installation has been performed by a nonapproved contractor.

3.4 ROOFING SEQUENCE

- A. Phase roofing is not acceptable. Any insulation or base layers laid in any one day must be covered with the properly installed roof system that same day. Failure to do so will void any warranties and no guarantee will be issued for the roofing system.

3.5 ACCEPTABILITY OF COMPLETED WORK

- A. The acceptability of completed roofing work will be based on its conformance to the contract requirement. The Material Manufacturer is not obligated to accept nonconforming work, and such nonconforming work may be rejected. The rejected work shall be promptly replaced or corrected in a

manner and by methods approved by the Material Manufacturer at the Contractors expense. The Material Manufacturer will instruct the Contractors foreman and work crew on the proper methods of installation of the roofing system, and will follow up on a regular basis to inspect the work being done. Any deficiencies from the specified work noted by the Material Manufacturer will be immediately reported to the Owner, along with recommended corrective actions necessary. The Material Manufacturer will not act in a supervisory capacity, and will not be responsible for the Contractors errors or omissions.

3.6 ENGINEERING AND ROOF DECK

- A. The Material Manufacturer nor its representatives, practice engineering nor architecture. It makes no judgments on, and hereby disclaim any responsibility for the soundness of any roof deck or other structural component of buildings upon which its products are applied. Reroofing and general building structuring require certification from a structural engineer that the structure will support the proposed additional weight. In addition, the Contractor must notify the Owner or his/her representative on the jobsite of any unforeseen areas of wet insulation. Where the damage is serious and extensive, it will be the Owners prerogative to authorize removal and replacement of deteriorated roofing, insulation and repair of the vapor barrier if present. Where damage to the roof deck is found, the Contractor shall furnish the Owner with a unit price for removal and replacement of the damaged deck.

3.7 ASBESTOS IDENTIFICATION

- A. The Material Manufacturer routinely conducts roof surveys and inspections in order to provide recommendations and/or specifications for the use of its products. However, the materials manufacturer is not, nor are its representatives, certified to identify, handle or monitor asbestos in roofing, decking or insulation. Therefore, it makes no judgments on and hereby disclaim any responsibility for identifying, handling or monitoring asbestos. If a building owner suspects that an asbestos condition exists on or under the roof area in question, Material Manufacturer can recommend licensed laboratories and technicians that can identify, remove, dispose of, and monitor the project.

3.8 ASBESTOS LIMITATIONS

- A. The Owner has been informed, acknowledges and agrees that Material Manufacturer is not engaged in the business of identifying, abating, encapsulating or removing asbestos or asbestos containing materials from the work site and has not agreed to do so herein.
- B. In consideration of the provision hereof, the Owner hereby agrees to indemnify, defend and hold harmless the Material Manufacturer, its owners, officers, directors, employees and agents, including the engineer from and against any and all liabilities, damages, losses and expenses (including but not limited to attorney's fees) arising out of, or relating to, any claims, demands, or causes of action of any kind, attributable to, arising out of, or relating to the presence of asbestos or asbestos containing materials on or at the work site and/or the abatement, encapsulation and/or the removal thereof.

3.9 MOLD LIMITATIONS

- A. The Manufacturer makes no representation or warranty, express, implied, or otherwise, regarding mold, fungi, rust, corrosion or other bacteria or organism. Neither shall the Manufacturer have any duty to identify, nor accept any responsibility or liability for any claims associated with mold, fungi, rust, corrosion or other bacteria or organism related claims.

END OF SECTION

SECTION 01 43 33 75 (ROOFING MANUFACTURER'S FIELD SERVICES)

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings (if provided) and general provisions of the Contract, including the Conditions of the Contract and Division 07 Specification Sections apply to this Section.

1.2 SUMMARY

- A. Section includes Manufacturer's field services for roofing assemblies.
- B. Related Sections:
 - 1. Section 07 05 00 – Common Work Results for Thermal and Moisture Protection.
- C. Related Work Specified Elsewhere:
 - 1. Roofing Material: Section 07 56 30 - Fluid Applied Roofing Restoration.
 - 2. Roofing Material: Section 07 51 13 – Built-Up Asphalt Roofing – Cold-Applied.
 - 3. Roofing Material: Section 07 51 16 – Mineral Embedded Cap Sheet.

1.3 REFERENCES

- A. International building Code (current edition) or local authority building code.
- B. American Society of Civil Engineers (ASCE): ASCE 7, Minimum Design Loads for Buildings and Other Structures.
- C. Factory Mutual Global (FMG):
 - 1. Roof Assembly Classifications.
- D. National Roofing Contractors Association (NRCA):
 - 1. Roofing and Waterproofing Manual.
- E. American National Standards Institute and Single Ply Roofing Institute (ANSI/SPRI):
 - 1. ANSI/SPRI ES-1 Testing and Certification Listing of Shop Fabricated Edge Metal.

1.4 SUBMITTALS FOR REVIEW

- A. Product Data:
 - 1. Provide manufacturer's technical product data for each type of roofing product specified. Include data substantiating that materials comply with specified requirements.
- B. Specimen Warranty:
 - 1. Provide an unexecuted copy of the warranty specified for this project, identifying the terms and conditions required of the Manufacturer and the Owner.
- C. Roofing System Manufacture's Evaluation:
 - 1. Provide a comprehensive written assessment comparing available roofing solutions with validation of why the roofing system selection for the specific project is suitable and appropriate.
- D. Roofing System Manufacturer's Report Form:
 - 1. Provide a copy of the report form utilized by the Job Site Inspector for progress inspections to monitor installation and quality.

1.5 SUBMITTALS FOR INFORMATION

- A. Manufacturer's Installation Instructions:
 - 1. Submit installation instructions and recommendations indicating special precautions required for installing the membrane.
- B. Manufacturer's Certificate:
 - 1. Certify that roof system furnished is approved by Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.
 - 2. Certify that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
 - 3. Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.
 - 4. Written certification verifying the applicator is currently authorized for the installation of the specified roof system.
- C. Design Loads:
 - 1. Submit copy of manufacturer's minimum design load calculations according to ASCE 7, Method 2 for Components and Cladding. In no case shall the design loads be taken to be less than those detailed in Design and Performance Criteria article of this specification.
- D. Qualification data for firms and individuals identified in Quality Assurance Article 1.7 below.
- E. Test Reports:
 - 1. Submit ANSI/SPRI ES-1 Testing and Certification Listing of Shop Fabricated Edge Metal Products.
- F. Substitutions:
 - 1. Products proposed as equal to the products specified for this project shall meet all of the requirements in the appropriate Division 7 specifications and shall be submitted for consideration at least seven (7) days prior to the date that bids must be submitted.
 - 2. Proposals shall be accompanied by a copy of the manufacturer's standard specification Section.
 - a. That specification Section shall be signed and sealed by a professional engineer licensed in the state in which the installation is to take place.
 - b. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
 - 3. Manufacturer's checklist will be accompanied with any substitution to verify equal performance characteristics to those specified in Division 7 specification.
 - 4. The Owner's decision regarding substitutions will be considered final.

1.6 CONTRACT CLOSEOUT SUBMITTALS

- A. Project Warranty:
 - 1. Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.
- B. Roofing Maintenance Instructions:
 - 1. Provide a roof care and maintenance manual of manufacturer's recommendations for maintenance of installed roofing systems.
- C. Insurance Certification:
 - 1. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

D. Inspection Logs:

1. Copy of inspection reports as performed by the Job Site Inspector or manufacturer shall be submitted at project closeout and include photographic documentation of installation progress, weather conditions, and personnel on the project at the time of every inspection.
2. Dated photographic inspection logs must be completed and submitted to the Owner and Architect on a daily basis and required by the manufacturer a minimum of four working days per week.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. Company specializing in manufacturing the products specified in this Section with not less than 50 years documented experience and have ISO 9001 certification.

B. Installer Qualifications:

1. Company specializing in specified roofing installation with not less than 7 years' experience and authorized by roofing system manufacturer as qualified to install manufacturer's roofing materials.
2. If requested by the Owner, hold a contractor training not more than 30 calendar days prior to the agreed upon project start date regarding material installation, coverage rates and practices which are specific to the project.

C. Installer's Field Supervision:

1. Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
2. Maintain proper supervision of workmen.

D. Maintain a copy of the roof plans, details, and specifications in the possession of the Supervisor/Foreman and on the roof at all times.

E. Source Limitations:

1. Obtain all primary components of roofing system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer and Owner.
2. The manufacturer providing the roofing system warranty must verify that they manufacture a minimum of 75% of the products utilized in the roofing system of this project. Products that are private labeled shall not be considered as manufactured by the roofing system supplier.
3. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

F. Source Quality Control:

1. Manufacturer shall have in place a documented, standardized quality control program such as ISO-9001.

1.8 PRE-INSTALLATION CONFERENCE

A. Pre-Installation Roofing Conference:

1. Convene a pre-roofing conference approximately two (2) weeks before scheduled commencement of roofing system installation and associated work.

B. Require attendance of:

1. Installer of each component of associated work to be completed:
 - a. Installers of deck or substrate
 - b. Contractors of construction to receive work associated with the project
2. Installers of rooftop units or any HVAC related work

3. Contractors or subcontractors of any other work in and around roofing that must precede or follow roofing work (including mechanical and electrical work if any)
4. Owner or representative of roofing system and building
5. Architect on file
6. Manufacturer's full-time employee
7. Other representatives directly concerned with performance of the Work, including (where applicable) owner's insurers, testing agencies and governing authorities.

C. Objectives of conference include:

1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
2. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by others.
3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
4. Review roofing system requirements (specifications and other contract documents, including drawings and details if provided).
5. Review required submittals both completed and yet to be completed.
6. Review and finalize construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
7. Review required inspection, testing, certifying and material usage accounting procedures.
8. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not a mandatory requirement).
9. Record discussion of conference including decisions and agreements (or disagreements) reached and furnish a copy of record to each party attending.
 - a. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
 - b. Do not proceed with roofing work until such issues are resolved to the satisfaction of the owner. This shall not be construed as interference with the progress of Work on the part of the owner.
10. The Owners Representative will designate one of the conference participants to record the proceedings and promptly distribute them to the participants for record.

D. The intent of the conference is to resolve any issues affecting the installation and performance of roofing work.

1.9 MANUFACTURER'S INSPECTIONS

A. When the Project is in progress, a full-time employee of the roofing system manufacturer must provide the following:

1. Report progress and quality of the work as observed. Progress reports must be published to an online system which the Owner and Architect has access to or provided through secure email.
2. Provide periodic roofing installation inspections Daily inspections: Inspections must include; photographic documentation of work in progress and written statements of compliance with details and this specification.
3. Report to the owner in writing any failure or refusal of the contractor to correct unacceptable practices called to the contractor's attention.
4. Confirm after project completion that the manufacturer has observed no application procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.10 WARRANTY

- A. Upon completion of installation, and acceptance by the owner, the manufacturer will supply to the Owner the specified warranty.
- B. Installer will submit a two (2)- year workmanship warranty to the membrane manufacturer with a copy directly to the Owner.

PART 1 - PRODUCTS (NOT USED)

PART 2 - EXECUTION

3.1 EXECUTION, GENERAL

- A. Comply with requirements of related Division 07 Section.

3.2 GENERAL INSTALLATION REQUIREMENTS

- A. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
- B. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.

3.3 FIELD QUALITY CONTROL

- A. Clients Representative shall perform field inspection as specified in Article titled: MANUFACTURER'S INSPECTIONS above. Inspections must include photographic documentation of installation progress, weather conditions, and personnel on the project at the time of inspection.
- B. Correct defects or irregularities discovered during field inspection. Issues deemed defective must be re-inspected and determined suitable by the roofing manufacturer.
- C. Require daily attendance of roofing materials manufacturers' representatives on site during installation of the roofing system. A copy of the specification shall also be on site at all times.
- D. Frequent progress meetings shall be conducted during the performance of roof system installation and must be attended by the Owner, roofing system manufacturer's full-time employee, and other representatives directly concerned with performance of the work.

3.4 FINAL INSPECTION

- A. At the completion of the roofing installation and associated work, meet with contractor and installer of associated work, owner, roofing system client's representative, and other representatives directly concerned with performance of roofing system.
- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. Notify the Contractor, Owner and Architect upon completion of corrections.
- D. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the roofing contractor.

- E. If core cuts verify the presence of damp or wet materials, the roofing contractor shall be required to replace the damaged areas at his own expense.
- F. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- G. Immediately correct roof leakage during construction. If the contractor does not respond within twenty-four (24) hours, the owner may exercise right to correct the Work under the terms of the Conditions of the Contract.

END OF SECTION

SECTION 07 56 30 (FLUID APPLIED EPDM RESTORATION)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Single Ply Roof Restoration
- B. Accessories

1.2 REFERENCES

1. ASTM C 78 - Standard Test Method for Flexural Strength of Concrete.
2. ASTM C 92 - Standard Test Methods for Sieve Analysis and Water Content of Refractory Materials.
3. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
4. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants
5. ASTM C 1250 - Standard Test Method for Nonvolatile Content of Cold Liquid-Applied Elastomeric Waterproofing Membranes.
6. ASTM D 5 - Standard Test Method for Penetration of Bituminous Materials.
7. ASTM D 36 - Standard Test Method for Softening Point of Bitumen.
8. ASTM D 43 - Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing.
9. ASTM D 71 - Standard Test Method for Relative Density of Solid Pitch and Asphalt.
10. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
11. ASTM D 1475 - Standard Test Method For Density of Liquid Coatings, Inks, and Related Products.
12. National Roofing Contractors Association (NRCA) - Roofing and Waterproofing Manual.

1.3 SYSTEM DESCRIPTION

- A. Single Ply Roof Restoration Renovation: work includes:
 1. Surface preparation: Remove membrane chalking, dust, dirt, and debris.
 2. Fascia Edges: Inspect and make repairs to membrane
 3. Parapets and Vertical Surfaces: Inspect and make repairs to any splits or membrane deterioration.
 4. Metal Flashings: Repair/Replace metal flashings, pitch pockets, etc.
 5. Roof Repairs: Repair blisters, stressed or cracked membrane. Cut back, patch with new membrane

1.4 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
 4. Performance data.
- B. Verification Samples: For each product specified, two samples, minimum size 6 inches square, representing actual product, and color.
- C. Adhesion Test Results: An adhesion test shall be performed on the roof that is to be restored by the manufacturers rep with the owner present to verify results. The adhesion test involves applying

specified coating, embedding polyester fabric then saturating the fabric with the coating once again and the coating shall then be allowed to cure. After the coating has cured, attach the polyester fabric to a hand-held scale and pull away to observe the pull strength. Results must be 2 pounds per linear inch or greater for acceptable adhesion to the substrate. Failure to present adhesion test results will result in an immediate rejection of the submittal.

- D. Manufacturer's Site Supervision Letter: Certify that site supervision shall be provided by roofing manufacturer representative on a daily basis during the duration of the project. Daily progress reports, complete with pictures and descriptions of that day's work, shall be submitted to the owner at the end of each day during the duration of the project. Failure to submit letter will result in an immediate rejection of the submittal.
- E. Manufacturer's Certificate: Certify that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer.
- G. Yearly Roof Inspections: Provide a letter stating yearly roof inspections be made at no additional cost to the owner, shall be provided for the life of the warranty, inspection reports shall be provided for owner's records. Any deficiencies in the roof coating shall be corrected at no additional cost to the owner (labor and material). Failure to submit letter will result in an immediate rejection of the submittal.

1.5 QUALITY ASSURANCE

- H. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- I. Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with documented ISO 9001 certification and minimum twelve years and experience.
- J. Installer Qualifications: Company specializing in performing Work of this section with minimum ten years documented experience and a certified Pre-Approved Contractor.
- K. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- L. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.6 PRE-INSTALLATION CONFERENCE

- M. Convene a pre-roofing conference approximately two weeks before scheduled commencement of roofing system installation and associated work.
- N. Require attendance of installers of deck or substrate construction to receive roofing, installers of rooftop units and other work in and around roofing which must precede or follow roofing work including mechanical work, Architect, Owner, roofing system manufacturer's representative.
- O. Objectives include:
 - 1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
 - 2. Tour representative areas of roofing substrates, inspect and discuss condition of substrate, roof

drains, curbs, penetrations and other preparatory work.

3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
4. Review roofing system requirements, Drawings, Specifications and other Contract Documents.
5. Review and finalize schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
6. Review required inspection, testing, certifying procedures.
7. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing.
8. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

1.7 DELIVERY, STORAGE, AND HANDLING

- P. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- Q. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- R. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface. No wet or damaged materials will be used in the application.
- S. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50-degree F (10-degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- T. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Owner.
- U. Storage shall be between the range of above 50-degree F and below 80-degree F. Area of storage shall be constructed for flammable storage.

1.8 PROJECT CONDITIONS

- V. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- W. Weather Condition Limitations: Do not apply roofing system during inclement weather or when a 40 percent chance of precipitation or greater is expected.
- X. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- Y. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- Z. When applying materials with spray equipment, take precautions to prevent over spray and/or solvents from damaging or defacing surrounding walls, building surfaces, vehicles or other property. Care should be taken to do the following:
 1. Close air intakes into the building.
 2. Have a dry chemical fire extinguisher available at the jobsite.
 3. Post and enforce "No Smoking" signs.
- AA. Protect completed roof sections from foot traffic for a period of at least 48 hours at 75 degrees F (24 degrees C) and 50 percent relative humidity or until fully cured.

- BB. Take precautions to ensure that materials do not freeze.
- CC. Minimum temperature for application is 40 degrees F (4 degrees C) and rising for solvent based materials and 50 degrees F (10 degrees C) and rising for water based.

1.9 WARRANTY

- DD. Upon completion of the work, provide the Manufacturer's written and signed limited labor and materials Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition.
 - 1. Warranty Period:
 - a. Fifteen (15) years after required inspection by Garland (OR)
 - b. Twenty (20) years after required inspection by Garland
- EE. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
 - 1. Warranty Period:
 - a. 2 years from date of acceptance.

PART 1 PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. It is the intent of this specification to install a long-term, quality roof system that meets or exceeds all current NRCA guidelines as stated in the most recent edition of the NRCA Roofing and Waterproofing Manual.
- B. When a performance standard is specified it shall be indicative of a standard required.
- C. Any item or materials submitted to the performance specified must comply in all respects as to the quality and performance specified. The Owner shall be the sole judge as to whether or not an item submitted meets the specifications.

2.2 MANUFACTURERS

- A. The design is based upon roofing systems engineered and manufactured by The Garland Company or pre-approved equal.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.
- C. The Products specified are intended and the Standard of Quality for the products required for this project. If other products are proposed the bidder must disclose in the bid the manufacturer and the products that they intend to use on the Project. If no manufacturer and products are listed, the bid may be accepted only with the use of products specified.
 - 1. Bidder will not be allowed to change materials after the bid opening date.
 - 2. If alternate products are included in the bid, the products must be equal to or exceed the products material physical properties as specified. Supporting technical data shall be submitted to the Owner for approval seven business days prior to proposal due date for review.
 - 3. In making a request for substitution, the Bidder/Roofing Contractor represents that it has:
 - a. Personally, investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
 - b. Will provide the same guarantee for substitution as for the product and method specified.
 - c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
 - d. Will waive all claims for additional cost related to substitution, which consequently

- become apparent.
- e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
- f. Will reimburse the Owner for all redesign cost by the Garland DBS for accommodation of the substitution.
- 4. Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that has met ALL specified requirement criteria.
- 5. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for that particular contractors request for manufacturer substitution.

2.3 COATING MATERIALS

- A. Field Coating & Flashings:
 - 1. Coating: Multi-purpose, 100% solids, two-part, fast-cure, polyurea liquid waterproofing membrane having the following characteristics:
 - a. Elongation, ASTM D 412: 433%
 - b. Tensile Strength, ASTM D 412: 2300 psi
 - c. Tear Resistance, ASTM D 624: 449 lbs./in
 - d. Low Temperature Flexibility, ASTM D522: -60°F (-51.1°C)
 - e. Hardness, ASTM D2240 (Shore A): 80
 - f. Toughness: 193 ft.-lbf/ft²
 - g. Density @ 77° F (25° C, ASTM D 2939) 9.6 lb./gal (1.2 g/m³)
 - h. Flash Point: ASTM D 93, 110°F min. (43°C)
 - i. VOC: 0 g/l
 - j. Microbial Resistance: ASTM G21, No Microbial Growth

2.4 ROOF RESTORATION SYSTEM FOR SINGLE PLY ROOFS

- A. Polyurea Roof Coating:
 - 1. Primer: None.
 - 2. Coating: Two-Part, Fast-Cure, Polyurea.
 - 3. Flashing: Repair or replace as needed.
 - 4. Reinforcement: Polyester Soft
 - 5. Field of Roof: Full Coat Across The Entire Roof As Specified.
 - 6. Surfacing: None.

2.5 ACCESSORIES:

- A. Urethane Adhesive - Single component, 100% solids structural adhesive as furnished and recommended by the membrane manufacturer.
 - 1. Elongation, ASTM D 412: 300%
 - 2. Hardness, Shore A, ASTM C 920: 50
 - 3. Shear Strength, ASTM D 1002: 300 psi
- B. Pitch Pocket Sealer - Two part, 100% solids, self-leveling, polyurethane sealant for filling pitch pans as recommended and furnished by the membrane manufacturer.
 - 1. Durometer, ASTM D 2240: 40-50 Shore
 - 2. Elongation, ASTM D 412: 250%
 - 3. Tensile Strength, ASTM D 412: 200 @ 100 mil
- C. Grip Polyester: Strong, elastic polyester reinforcing fabric.

PART 2 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.

3.2 ROOF PREPARATION AND REPAIR

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Replace in-kind any areas of wet and or compromised insulation.
- C. Repair all defects such as saturated insulation board, replace loose or brittle membrane or membrane flashings. Verify that exiting conditions meet the following requirements:
 - 1. Existing membrane is either fully adhered or that the membranes mechanical fasteners are secured and functional.
 - 2. Application of roofing materials over a brittle roof membrane is not recommended.
- D. Remove all loose dirt and foreign debris from the roof surface. Do not damage roof membrane in cleaning process.
- E. Clean and seal all parapet walls, gutters and coping caps, and repair any damaged metal where necessary. Seal watertight all fasteners, pipes, drains, vents, joints and penetrations where water could enter the building envelope.
- F. Clean the entire roof surface by removing all dirt, algae, paint, oil, talc, rust or foreign substance. Use a 10 percent solution of TSP (tri-sodium phosphate), Simple Green and warm water. Scrub heavily soiled areas with a brush. Rinse with fresh water to remove all TSP solution. Allow roof to dry thoroughly before continuing.
- G. Repair existing roof membrane as necessary to provide a sound substrate for the liquid membrane. All surface defects (cracks, blisters, tears) must be repaired with similar materials.
- H. Pre-Treatment of Known Growth - General Surfaces: Once areas of moss, mold, algae and other fungal growths or vegetation have been removed and surfaces have also been thoroughly cleaned, apply a biocide wash at a maximum spread rate of 0.2 gallons/square (0.08 liters/m), to guard against subsequent infection. Allow to dry onto absorbent surfaces before continuing with the application. On non-absorbent surfaces, allow to react before thoroughly rinsing to remove all traces of the solution.

3.3 INSTALLATION

- A. General Installation Requirements:
 - 1. Install in accordance with manufacturer's instructions. Apply to minimum coating thickness required by the manufacturer.
 - 2. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
 - 3. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
 - 4. Protect work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore work damaged by installation of the roofing system.
 - 5. Keep roofing materials dry during application. Phased construction can be allowed as long as no, more than 5 days pass between coats.
- B. Single Ply Roof Restoration Renovation: work includes:
 - 1. Surface preparation: Remove membrane chalking, dust, dirt, and debris.
 - 2. Fascia Edges: Inspect and make repairs to membrane.
 - 3. Parapets and Vertical Surfaces: Inspect and make repairs to any splits or membrane

- deterioration.
- 4. Metal Flashings: Repair/Replace metal flashings, pitch pockets, etc.
- 5. Roof Repairs: Repair blisters, stressed or cracked membrane, wrinkles and tenting.
- 6. Coating Mixing Procedure:
 - a. Mix Part A liquid for one minute using an electric heavy-duty power drill and Jiffy mixer blade.
 - b. Slowly pour contents of Part B jug, located inside the Part A pail, into the Part A container and mix the two components together for two minutes moving the Jiffy blade from top to bottom and along the sides to ensure the product is thoroughly mixed.
 - c. Always mix entire kit contents together as packaged. Do not break down into smaller quantities.
- 7. Application and Reinforcement:
 - a. On field surfaces run fabric reinforcement parallel to the low edge using a shingling method up the slope with minimum 3-inch fabric laps.
 - b. After positioning reinforcement to roll out, apply coating about 40 inches wide to surface where reinforcement ply is to be applied at a rate of 3.0 gallons per 100 SF.
 - c. Do not apply coating too far ahead of fabric so coating does not dry before fabric can be embedded.
 - d. Immediately roll a 36-inch width of reinforcement into wet coating.
 - e. Ensure roller is fully saturated with coating and back roll over the reinforcement surface to fully saturate.
 - f. Use care to lay the fabric tight to the roof surface without air pockets, wrinkles, fishmouths, etc.
 - g. Lap adjacent rolls of reinforcement 3 inches and end laps 6 inches.
 - h. Allow to dry, but no more than 72 hours before applying top coat.
- 8. Application of Finish Coat
 - a. Apply top coat at 2.0 gallon per 100 SF to clean and dry reinforced base coat application.
- 9. Liquid Flashings:
 - a. All flashings are coated in the same manner as the field.
 - b. Vertical liquid flashings shall run the full height the horizontal surface, covering any exposed EPDM.

3.4 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove asphalt markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.5 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.6 FIELD QUALITY CONTROL

- A. Require attendance of roofing materials manufacturers' representatives at site daily during installation of the roofing system.

- B. Perform field inspection and testing as required by the specifications.
- C. Correct defects or irregularities discovered during field inspection.

3.7 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, installer, installer of associated work, roofing system manufacturer's representative and others directly concerned with performance of roofing system.
- B. Walk roof surface areas, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. Identify all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. If core cuts verify the presence of damp or wet materials, the installer shall be required to replace the damaged areas at his own expense.
- D. Repair or replace deteriorated or defective work found at time above inspection as required to a produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

3.8 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION