BROOKLAWN SENIOR CENTER, ROOF REPLACEMENT
Brooklawn Park
1997 Acushnet Ave, New Bedford, MA 02745

PROJECT MANUAL AND TECHNICAL SPECIFICATIONS

Prepared for:
New Bedford Department of Public Facilities
294 Liberty Street
New Bedford, MA 02740
Contract # GL #32010003-520085-19254

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TABLE OF CONTENTS

PART B- TECHNICAL SPECIFICATIONS

DIVISION 1 – GENERAL REQUIREMENTS

01 0100 Summary of Work ........................................................................................................1  
01 0500 Conduct of the Work ..................................................................................................2  
01 1000 Alternates ..................................................................................................................2  
01 2000 Unit Prices ..................................................................................................................2  
01 3300 Submittals ...................................................................................................................3  
01 3516 Alteration Project Procedures .....................................................................................4  
01 4500 Quality Control .........................................................................................................3  
01 5000 Temporary Facilities ..................................................................................................4  
01 7329 Cutting and Patching ..................................................................................................3  
01 7839 Project Record Drawings ..........................................................................................1

DIVISION 2 – DEMOLITION

02 4120 Selective Building Demolition ...................................................................................2

DIVISION 6 – WOOD AND PLASTICS

06 1000 Rough Carpentry .......................................................................................................3  
06 6000 Plastic Trim .................................................................................................................3

DIVISION 7 – THERMAL & MOISTURE PROTECTION

07 3113 Asphalt Shingles ..........................................................................................................5  
07 6200 Metal Flashing (Includes Alternate 1) .......................................................................3  
07 9200 Joint Sealers .................................................................................................................3

DIVISION 8 – OPENINGS

08 6200 Unit Skylights (Alternate 2) .....................................................................................4

LIST OF DRAWINGS

T-100 Title Sheet  
A-101 Roof Plans  
A-201 Exterior Elevation  
A-501 Details  
A-502 Details (Alternate 2)

END OF TABLE OF CONTENTS
SECTION 01 0100
SUMMARY OF WORK

Part 1: General

1.01 GENERAL SUMMARY OF WORK

A. The work under the contract includes but is not limited to:

1. Removal and replacement of existing asphalt shingle roof and associated vents and flashings.

2. There are two alternates: Alternate 1 for addition of a metal chimney cap; Alternate 2 for removal and replacement of (6) skylights.

1.02 TIME OF COMPLETION

A. In accordance with the General Conditions, the work shall start as stated in the Notice to Proceed and shall be completed in 45 calendar days.

END OF SECTION
SECTION 01 0500
CONDUCT OF THE WORK

Part 1 GENERAL

1.1 GENERAL PROVISIONS

A. The Conditions of the Contract and other Sections of Division I, General Requirements apply to this section.

1.2 PROJECT MANAGEMENT

A. The buildings will be in operation during construction. The Contractor shall take all necessary precautions to ensure the public safety and convenience of the occupants during construction. Noise, dust, and disruption of business operations shall be kept to a minimum.

B. The work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient personnel and adequate equipment to complete all the necessary work requirements within a minimum period of time.

C. Unless specifically authorized by the Owner, in writing, the work must be conducted between the hours of 7:00 a.m. and 7:00 p.m. on Monday through Friday.

D. The Contractor is responsible for the security of partially completed work until the project is accepted by the Owner.

E. The premises shall be kept neat, clean, and free of accumulated debris. The work area shall be cleaned up at the end of each work day.

F. At the end of each work day and at the completion of each phase of work, equipment and leftover or unused materials shall be removed from the work area promptly.

G. The main entrance door will remain open for the duration of the project. Should the need arise to close the entrance, notify the Owner 48 hours in advance so that alternative arrangements can be made to accommodate the building occupants and the public.

H. Coordinate locations for dumpster, chemical toilets and storage containers with the representative for the City.

I. The contractor shall place signs indicating the location of alternative entrances when the main entrance is closed during the work. Signs shall be professionally made exterior grade quality. Signs shall be fabricated in accordance with the Massachusetts Architectural Access Board regulations.

J. The contractor may use the adjacent parking lot for vehicles, taking care to use distant parking spaces and to not infringe on the path of the senior transportation van turnaround.

K. Smoking is not allowed on the job site or grounds.

L. Employees must wear identifying clothing and safety gear at all times.
1.3 SHUTDOWN OF SERVICES

A. The Contractor’s attention is especially called to the fact that the continuous operation of services for this facility is mandatory. If any services require interruption for the completion of this work, permission and coordination of timing shall be secured from the Owner in writing.

B. The electrical service work shall be performed in a manner which maintains the building in operation during normal business hours. The contractor may, at his expense and with the Owners express written permission, schedule the electrical work on a weekend.

1.4 COORDINATION

A. The Contractor shall submit for approval to the Owner a detailed operational plan showing the sequence of operations prior to commencement of any work at the site. Any changes to this operational plan must be approved by the Owner.

B. The Contractor must retain on the Work during its progress a competent full time licensed construction superintendent, satisfactory to the Architect/Owner. This construction superintendent shall not be changed, except with the consent of the Architect/Owner. The construction superintendent shall be in full charge of the work.

C. The Contractor must supply to the Owner and Architect the home telephone number of a responsible person who may be contacted during non-work-hours for emergencies on the Project.

END OF SECTION
SECTION 01 1000
ALTERNATES

PART 1: GENERAL

1.1 GENERAL PROVISIONS

A. Include Conditions of the Contract.

B. Examine all other Sections of the specifications for requirements which affect the work of this section, whether or not such requirements are particularly mentioned herein.

C. Coordinate the work of this Section with related work noted in other Sections or that of other trades to assure steady progress of all the work of this Contract.

1.2 PROCEDURES

A. The contractor shall state in the Proposal the amount to be added to or deducted from the Base Bid for the difference in cost between the work described under each Alternate and the corresponding work as required by the drawings and specifications under his Base Bid.

B. Alternate Bids shall reflect the increase and decrease in cost of all work of every name and nature which may be affected thereby and no subsequent claims for extras by reason of the Contractor's failure to observe this requirement or alleged misunderstanding will be considered.

C. Except as otherwise described or approved, materials and workmanship required by the Alternates shall conform to the requirements enumerated under the various Sections of the specification for similar items of work.

D. Where methods of construction, materials, finishes or details of work required by the various Alternates differ from the requirements shown on the drawings or specified for corresponding items, the Alternate construction, materials, etc. will be subject to approval by the Architect. All alternate methods must be clearly delineated in the bid package at the time of bidding.

E. The Owner reserves the right to accept or reject any or all Alternate Bids within a period of thirty days after the award of the Contract. This additional time is intended to afford the Owner ample opportunity to fully consider the Alternate Bids independently of the Base Bids.

F. The submission of Alternate Bids binds the Bidder to hold such bids firm and in full force and in effect for a thirty day period. Any Bidder to whom this provision is not acceptable may enter an Alternate Bid of "No Bid" without prejudice to the consideration of his Base Bid.

G. Alternate bids shall be net, and include all adjustments for overhead, profit, and other costs incidental to the work involved.

1.3 ALTERNATES

ALTERNATE 1: Add the cost to install a new metal chimney cap as indicated on drawing A-101 and specified in Section 07 6200 Metal Flashing and Trim.

ALTERNATE 2: Add the cost to remove and replace (6) skylights with new as indicated on drawing A-101 and A-502, and specified in Section 08 6200 Unit Skylights.
1.4 SUBMITTALS

A. In accordance with the General Conditions, shop drawings, product cuts and samples shall be prepared and submitted for approval of the Architect for all alternates.

1.5 MATERIALS

A. All materials for work specified herein shall equal the requirement for materials hereafter required in the applicable specification Sections, except as noted in the alternate above.

1.6 INSTALLATION

A. All work specified herein shall be performed to the standards and by the methods for such work hereafter required in the applicable specification Sections, except as noted in the alternate above.

1.7 GUARANTEE

A. Alternate work is subject to the provisions of the General Conditions regarding guaranties and warranties for work under this Contract.

END OF SECTION
SECTION 01 2200
UNIT PRICES

1 GENERAL PROVISIONS

The Unit Prices for items set forth in this section shall be used to determine adjustments to the Contract Sum when changes in the Work involving said items are made in accordance with Article 8 of the General Conditions and other sections of the Contract Documents.

The Bidders shall submit the Unit Price Schedule with their bid documents indicating the cost of both the additional work and deductive work. These prices shall be used to adjust the quantities within the contract should they either exceed the noted quantities or are reduced.

2 REQUIREMENTS

A Unit Prices listed under ADDITIONS shall be computed to include net cost plus overhead, profit, and bond and all other charges required to complete the work item.

B Unit Prices listed under DEDUCTIONS shall be computed at the net cost alone.

C Unit Prices net cost shall include the cost of all labor, materials, equipment, disposal, and all other costs required to complete the work item.

D Unit Prices shall apply until the date of Contract Completion established at the time of the Notice to Proceed. If the date of Contract Completion has been modified by Change Order, Unit Prices may be adjusted at the discretion of the City.

E Materials, methods of installation, and definitions of terms set forth under the various Unit Price items in the Schedule of Unit Prices shall be as indicated in the Contract Documents.

3 APPLICABILITY OF UNIT PRICES

A The payment lines (when applicable) shall be as indicated in the Contract Documents.

B Prior to commencing removal or placement of materials set forth in the Schedule of Unit Prices, the Contractor shall notify the Architect in sufficient time to permit proper measurements to be taken on behalf of the Owner. Only quantities which have been approved in writing by the Architect will be considered in the determination of adjustments to the Contract Sum.

C Performance of Work which is not required under the Contract Documents or which is not authorized by Change Order, whether or not such Work item is set forth hereunder as a Unit Price item, shall not be considered cause for extra payment. The Contractor will be held fully responsible for such unauthorized work, including the performance of all corrective measures required by the Architect.

D Unit prices are for informational purposes only and are not made part of the bid or contract.
## SECTION 01.22.00 - SCHEDULE OF UNIT PRICES

(Submit completed schedule with bids)

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>UNIT PRICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide a price to remove and replace 1x8 fascia board and 1x2 nailer board with PVC.</td>
<td>Add $_____/L.F. Deduct N/A</td>
</tr>
</tbody>
</table>

END OF SECTION 01 2200 UNIT PRICES

City of New Bedford          01 2200-2                Unit Prices
Brooklawn Senior Center Roof Replacement
GL #32010003-520085-19254
JMBA #1811
SECTION 01 3300
SUBMITTALS - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

1. RELATED DOCUMENTS
   A. Consult the individual sections of the specifications for the specific submittals required under those sections and for further details and descriptions of the requirements.

2. GENERAL PROCEDURES FOR SUBMITTALS
   A. Timeliness - The Contractor shall transmit each submittal to the Architect sufficiently in advance of performing related Work or other applicable activities so that the installation is not delayed by processing times, including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery, and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Architect in advance of the Work.
   B. Sequence - The Contractor shall transmit each submittal in a sequence which will not result in the Architect's approval having to be later modified or rescinded by reason of subsequent submittals which should have been processed earlier or concurrently for coordination.
   C. Contractor's Review and Approval - Only submittals received from and bearing the stamp of approval of the Contractor will be considered for review by the Architect. Submittals shall be accompanied by a transmittal notice stating name of Project, date of submittal, "To", "From" (Contractor, Subcontractor, Installer, Manufacturer, Supplier), Specification Section, or Drawing No. to which the submittal refers, purpose (first submittal, resubmittal), description, remarks, distribution record, and signature of transmitter.
   D. Architect's Action - The Architect will review the Contractor's submittals and return them with one of the following actions recorded thereon by appropriate markings:
      (1) Final Unrestricted Release: Where marked "Provide as Submitted" the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.
      (2) Final-But-Restricted Release: When marked “Provide except as Noted” the Work may proceed provided it complies with the Architect's notations or corrections on the submittal and complies with the requirements of the Contract Documents. Acceptance of the Work will depend on these compliances.
      (3) Returned for Resubmittal: When marked "Revise and Resubmit" or "Disapproved" the Work covered by the submittal (such as purchasing, fabrication, delivery, or other activity) should not proceed. The submittal should be revised or a new submittal resubmitted without delay, in accordance with the Architect's notations stating the reasons for returning the submittal.
   E. Processing - All costs for printing, preparing, packaging, submitting, resubmitting, and mailing, or delivering submittals required by this contract shall be included in the Contract Sum.
3. OR EQUALS

A. Definition - Whenever a specification section names one or more brands for a given item, and the Contractor wishes to submit, for consideration, another brand, the submission shall be considered an "or-equal" or a "material substitution". For the purposes of this Contract, the terms "or-equal" and "material substitution" shall be considered synonymous.

B. In no case may an item be furnished on the Work other than the item named or described, unless the Architect, with the Administrator's written concurrence, shall consider the item equal to the Item so named or described, as provided by M.G.L. c.30 § 39M.

C. The equality of items offered as "equal" to items named or described shall be proved to the satisfaction of the Architect at the expense of the Contractor submitting the substitution in accordance with the process described in Section 01.25.00 of these specifications.

4. SUBMISSION OF PRODUCT DATA

A. The Contractor shall submit 7 copies of Product Data to the Architect. All such data shall be specific and identification of material or equipment submitted shall be clearly marked in ink. Data of general nature will not be accepted.

B. Product Data shall be accompanied by a transmittal notice. The Contractor's stamp of approval shall appear on the printed information itself, in a location which will not impair legibility.

C. Product Data returned by the Architect as "Disapproved" shall be resubmitted in 7 copies until the Architect's approval is obtained.

D. When the Product Data are acceptable, the Architect will stamp them "Approved" or "Approved as Corrected", retain 3 copies, and return 4 copies to the Contractor. The Contractor shall provide and distribute additional copies as may be required to complete the Work.

E. The Contractor shall maintain one full set of approved, original, Product Data at the site.

5. SUBMISSION OF SHOP DRAWINGS

A. Shop Drawings shall be complete, giving all information necessary or requested in the individual section of the specifications. They shall also show adjoining Work and details of connection thereto.

B. Shop Drawings shall be for whole systems. Partial submissions will not be accepted.

C. The Architect reserves the right to review and approve shop drawings only after approval of related product data and samples.

D. Shop drawings shall be properly identified and contain the name of the project, name of the firm submitting the shop drawings, shop drawing number, date of shop drawings and revisions, Contractor's stamp of approval, and sufficient spaces near the title block for the Architect's stamp.

E. The Contractor shall submit to the Architect seven (7) black line prints of each shop drawing. Prints shall be mailed or delivered in roll form. Each submittal shall be accompanied by a transmittal notice bearing the Contractor's approval stamp.

F. In addition to the hard copies described above, the Architect and Contractor may utilize a mutually acceptable electronic system to expedite the submittal process. This electronic system shall not be used as a substitute for the hard copy process.

G. When the Architect returns a marked submittal with the stamp "Revise and Resubmit" or "Disapproved", the Contractor shall correct the original drawing or prepare a new drawing and
resubmit seven prints thereof to the Architect for approval. This procedure shall be repeated until the Architect's approval is obtained.

H. When the Architect returns submittal with the stamp "Approved" or "Approved as Corrected", the Contractor shall provide and distribute the prints for all Contractor and Subcontractors use, and in addition submit, within 10 calendar days after approval, 4 prints to the Architect.

I. The Contractor shall maintain one full set of approved shop drawings at the site.

6. SUBMISSION OF SAMPLES

A. Unless otherwise specified in the individual section, the Contractor shall submit two specimens of each sample.

B. A transmittal notice with the Contractor's stamp of approval shall be included with all sample submittals.

C. Samples shall be of adequate size to permit proper evaluation of materials. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of approved samples will not be approved on the Work.

D. Samples of items of interior finishes shall be submitted all at once to permit a coordinated selection of colors and finishes.

E. Samples that can be conveniently mailed shall be sent directly to the Architect, accompanied by a transmittal notice. All transmittals shall be stamped with the Contractor's approval stamp of the material submitted.

F. All other samples shall be delivered at the field office of the Project Representative with sample identification tag attached and properly filled in.

G. Transmittal notice of samples so delivered with the Contractor's stamp of approval shall be mailed to the Architect.

H. If a sample is rejected by the Architect, a new sample shall be resubmitted in the specified manner. This procedure shall be repeated until the Architect approves the sample.

I. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether or not particular mention is made in the specifications, at no additional cost to the Owner.

END OF SECTION 01.33.00

SUBMITTALS
SECTION 01 3516
ALTERATION PROJECT PROCEDURES

PART 1  GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Patching and extending existing work.
   2. Transitions and adjustments.
   3. Repair of damaged surfaces.
   4. General Requirements for Restoration and Renovation

B. Include General Conditions and applicable parts of Division 1.

C. Examine other sections of the specifications for requirements which affect the work of this Section, whether or not such requirements are particularly mentioned herein.

D. Coordinate work of this Section with that of all other trades affected or related to the work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract

1.2 PROJECT CONDITIONS

A. Provide materials, labor, equipment and services necessary to furnish, deliver and install all work of this Section as shown on the drawings, as specified and as required by job conditions, including but not limited to the following:

1. Alterations required by the drawings, herein specified, and as required by the conditions encountered during progress of the work.

2. Alterations neither indicated on the drawings nor specified herein, but necessary to restore existing work disturbed under this Contract to finished condition satisfactory to the Architect.

3. Temporary work required by the drawings and/or herein specified, including the protection of existing construction and finishes, temporary enclosures for openings in exterior walls and roofs, and other precautions as may be required to prevent damages.

4. Demolition and removal of existing construction and materials as shown on drawings or required to produce the final conditions indicated or intended.

5. Cutting and patching required for the installation of new construction, equipment and finishes.

6. Salvaging and reusing and/or storing existing materials, etc., where shown, specified or directed.

7. Preparation of existing surfaces and work as required for the reception of new construction and finishes.

8. Required bracing and similar work that may be required to complete the work of this Contract in a safe and workmanlike manner.

9. Replacing or repairing and refinishing to the satisfaction of the Architect, all work damaged, disturbed or otherwise affected by the work of this Contract.
10. Conforming newly exposed existing work or surfaces which are presently concealed so as to match existing corresponding exposed work or adjoining new work, as required by the conditions encountered.

1.3 GENERAL REQUIREMENTS

A. Unless otherwise required by the drawings or specified herein, all materials and workmanship for the work of Alterations shall conform to the applicable requirements of the technical sections of the specifications.

B. It is the intent of the Owner to achieve a complete, finished condition insofar as alterations to the existing building are concerned. Areas affected shall be inspected and the drawings shall be carefully checked to ascertain all of the required work. Particular attention is called to the type of finishes that are to be patched. Areas that will be altered shall match existing corresponding surfaces or adjoining new surfaces as required.

C. The Contractor shall do all cutting, patching, altering and adding to existing construction as required to leave such construction in a condition satisfactory to the Architect, in conformance with requirements of the Contract Documents.

D. The Contractor shall protect and be responsible for the existing building, facilities and improvements within the areas of his operations under this Contract. Any disturbance or damage to the existing building and improvements, or any impairments of facilities resulting directly or indirectly from the Contractor's operations, shall be promptly restored, repaired or replaced to the satisfaction of the Architect, at no additional cost to the Owner.

E. The Contractor shall thoroughly examine existing conditions and verify dimensions at the building as early as practicable, in each area of work, so that all new work will properly join the existing work. Before commencing work the Contractor shall examine all existing work on which the work is in any way dependent for satisfactory completion according to the intent of the Contract Documents, and shall report to the Architect any conditions which will prevent the performance of the work in a first class manner. No "Waiver of Responsibility" for incomplete, inadequate, or defective adjoining work will be considered unless notice has been filed by the Contractor and approved in writing by the Owner and Architect before Contractor begins any part of the work.

F. Provide all necessary temporary closures, guard rails, barricades, etc., to adequately protect all persons from injury. Provide all necessary temporary partitions, enclosures, coverings and the like of approved materials and construction, for the exclusion of the weather, and for confining the dust and debris.

G. The Contractor shall not overload or permit any part of the existing building to be overloaded with any materials or equipment that may endanger their structural safety.

1.4 CONDUCT OF OPERATIONS

A. In accordance with the requirements set forth in the Contract Documents, a progress schedule shall be developed by the Contractor outlining the schedule of dates for commencing and completing each phase or portion of the work; setting forth any specific matters of coordination to be observed by the trades concerned.

B. Each trade or Subcontractor is responsible for disconnecting, dismantling, and removal of existing equipment, systems and materials required to be demolished and/or removed which are customarily removed by that trade whether specifically indicated in the contract documents or not.

C. The premises shall not be used as a workshop to the detriment of the progress of construction.

D. Care shall be taken at all times to protect the interior of the building from the weather.
E. CUTTING and PATCHING shall be neatly and carefully performed, and new materials and methods shall match existing corresponding work unless particularly shown or specified otherwise. Exposed patches and repairs shall be as inconspicuous as possible and shall be subject to approval by the Architect.

G. All new, altered, or restored work in the building shall match existing corresponding work in materials, construction, finish, etc., unless otherwise specified or required by the drawings. Samples shall be submitted to the Architect for approval of all new materials proposed to match existing materials. However, during the progress of the work, if it is found that existing materials are sound and of proper quality and dimensions, as required by the plans, details and specifications, the Contractor may use same, provided they are acceptable and have first been approved by the Architect, who will determine the proper allowance to be made for the omission of new materials, if any.

PART 2 PRODUCTS

2.1 MATERIALS

A. New Materials:
   1. Provide new materials to match existing adjacent materials for closing of openings, repairs, and reconstructions where suitable salvaged materials do not exist, are insufficient in quantity, or where reuse is not permitted.
   2. Match existing materials in material, type, size, quality, color, finish, and other attributes.

B. Reused Materials:
   1. Clean and prepare salvaged materials for reuse.
   2. Do not use materials with objectionable chips, cracks, splits, dents, scratches, or other defects.
   3. Repair operable items to function properly.

C. Where new work is to be built into existing work, the existing work shall be removed and replaced with new to the extent required to solidly build and anchor the new work in place.

D. TITLE TO MATERIALS The Contractor shall have no right or title to any of the equipment, materials or other items to be removed from the existing building unless approved by the Owner and until such items have been removed from the premises.

PART 3 EXECUTION

3.1 PREPARATION

A. Test materials to be used in repairs for compatibility with existing materials; do not use incompatible materials.

B. Cut, move, or remove items as necessary for access to alterations and renovation work. Replace and restore upon completion.

C. Remove, cut, and patch work in manner to minimize damage and to provide means for restoring products and finishes to their original or specified new condition.

D. Remove unsuitable materials not marked for salvage.

E. Remove debris and abandoned items from areas of work and from concealed spaces.

F. All DEMOLITION and REMOVAL work shall be executed in a careful and orderly manner, with the least possible amount of noise and disturbance. Materials shall be sprinkled as required to avoid any annoyance from dust, and all necessary precautions shall be taken to prevent fire.
G. The Contractor shall confer with the Architect regarding the disposition of items for which instructions have not been given in advance. The Owner reserves the right to decide, as the work progresses, on the disposition of any existing items in question, and the Contractor shall be governed accordingly.

H. Materials resulting from removals which are not required or approved for use in connection with the work of this Contract, shall not be allowed to accumulate on the floors or roof of the building or about the premises, but shall be promptly removed and legally disposed of away from the premises.

3.2 ALTERATIONS

A. Coordinate alterations and renovations to expedite completion.

B. Install products and finish surfaces as specified in individual sections, or where no specification section exists to match existing.

C. Refinish visible surfaces to specified condition, with neat transition to adjacent surfaces.

D. Finish patches to provide uniform color and texture over entire surface, with repairs not discernible from normal viewing distance. If finish cannot be matched, refinish entire surface to nearest intersections.

E. Where new work abuts or aligns with existing, provide smooth and even transition. Where a change in plane of 1/4 inch or more occurs, submit recommendation to Architect for transition.

F. Where alterations expose mechanical and electrical components that were previously concealed, renovate to be concealed in completed work.

G. In addition to specified replacement of equipment and fixtures, restore mechanical and electrical systems to full operational condition.

H. Patch holes in exposed surfaces left by removal of mechanical and electrical components.

I. Existing Fire-Rated Assemblies:
   1. Patch or replace fire protection materials to maintain integrity of fire ratings.
   2. Seal penetrations through and perimeter of fire-rated assemblies under provisions of Section 07 8400.

3.3 CLEANING AND RESTORATION

A. Upon completion of his work, and also when directed during the course of the work, the Contractor shall remove from the premises all rubbish and debris for which he is responsible.

B. Upon completion of the work, and also when directed, the Contractor shall thoroughly clean all surfaces which have become soiled as a result of the Contract operations.

C. All tools, appliances, materials, and equipment belonging to the Contractor shall be removed from the premises upon completion of the work.

D. The Contractor shall restore or replace to their former conditions, and to the satisfaction of the Architect, all existing construction, and other improvements that are to remain and that have been damaged as a result of his operations under this Contract, at his own expense.

END OF SECTION
SECTION 01 4500
QUALITY CONTROL

45.1 GENERAL SCOPE OF THE WORK
A General Contractor's quality control and control of installation.
B Tolerances.
C References.
D Testing and Inspection Services.
E Manufacturers’ field services.
F Examination.

45.2 RELATED DOCUMENTS
A This section supplements the General Conditions, Supplementary Conditions, the Drawings, and all other parts of the Contract Documents.
B Consult the individual sections of the specifications for specific items required under those sections.

45.3 QUALITY CONTROL AND CONTROL OF INSTALLATION
A The General Contractor shall provide inspections, tests, and quality control services specified herein and in individual specification sections and required by governing authorities having jurisdiction. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
B Comply with manufacturer’s instructions, including each step in sequence.
C When manufacturer’s instructions conflict with the Contract Documents, request clarification from the Architect before proceeding.
D Comply with specified standards as minimum quality of Work except where more stringent tolerances, codes, or specific requirements indicate higher standards or workmanship.
E Perform the Work using persons qualified to produce the required and specified quality.
F Verify field measurements are as indicated on Shop Drawings or as instructed by the manufacturer.
G Secure products in place with appropriate positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

45.4 TOLERANCES
A Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not allow tolerances to accumulate.
B Comply with manufacturer’s tolerances. When manufacturers’ tolerances conflict with Contract Documents, request clarification from the Architect before proceeding.
C Adjust products to appropriate dimensions; position before securing products into place.

45.5 REFERENCES
A For products or workmanship specified by associations, trade or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
B Conform to reference standard by date of issue current on the date of Bid Opening. Except where specific date is established by applicable code.

C Obtain copies of standards where required by product specification sections.

D When specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.

E Neither contractual relationships, duties, nor responsibilities of parties, nor those of the Architect shall be altered from the Contract Documents by mention or inference otherwise in reference documents.

45.6 **MOCK UP REQUIREMENTS (Not Used)**

45.8 **TESTING AND INSPECTION SERVICES**

A The Owner may employ and pay for specified services of an independent firm to perform testing and inspection.

B Reports will be submitted by the independent firm to the Architect and Contractor indicating observations and results of tests.

C The Contractor and all Subcontractors shall cooperate with the independent firm, furnish sample materials, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

1. Notify the Architect 24 hours prior to expected time for operations requiring services.

2. The Architect will make the final decision as to when services or testing will or will not be performed.

3. Make arrangements with the independent firm and pay for additional samples and tests for the Contractor’s use.

D Testing and employment of testing agency or laboratory shall not relieve the Contractor of the obligation to perform work in accordance with the requirements of the Contract Documents.

E Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Architect. Payment for re-testing or re-inspection will be charged to the Contractor by deducting testing charges from the Contract Sum.

F Testing Agency responsibilities:

1. Test samples of mixes submitted by the Contractor.

2. Provide qualified personnel at the site. Cooperate with the Architect and Contractor in performance of services.

3. Perform specified sampling and testing of products in accordance with specified standards.

4. Promptly notify the Architect and Contractor of observed irregularities or non-conformance of Work or products.

5. Perform additional tests required by the Architect.

6. Attend progress meetings if requested by the Architect.

G Testing Agency Reports: After each test, promptly submit two copies of the report to the Architect and to the Contractor. Provide interpretation of the results when requested by the Architect. All test reports shall include:

1. Date issued.

2. Project title and number.
(3.) Name of inspector.
(4.) Date and time of sampling or inspection.
(5.) Identification of product and specification section(s).
(6.) Test location.
(7.) Type of inspection or test.
(8.) Date of test.
(9.) Results of tests or inspection.
(10.) Conformance with Contract Documents.

H Limits of Testing Agency Authority
(1.) Testing Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
(2.) Testing Agency may not approve or accept any portion of the Work.
(3.) Testing Agency may not assume duties of the Contractor.
(4.) Testing Agency has no authority to stop Work.

45.9 Manufacturers’ Field Services
A When individual specification section(s), require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces to receive work, and installation quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable and to initiate instructions when necessary these services shall be provided at no additional cost to the Owner.
B Submit the qualifications of any observers to the Architect and Owner prior to required observations. Observers are subject to the approval of the Owner based on the observer’s credentials. This submission shall be made allowing adequate time for the Architect to review the observer’s credentials. This approval does not relieve the Contractor of any obligation to complete the Work in accordance with the Contract Documents.
C Report to the Architect, observations and site decisions or instruction given to applicators or installers that are supplemental or contrary to manufacturers’ written instructions.

45.10 EXAMINATION
A The Contractor shall verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
B The Contractor shall verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
C The Contractor shall examine and verify specific conditions described in individual specification sections.
D The Contractor shall verify utility services are available, of correct characteristics, and in correct locations.

END OF SECTION 01 4500
QUALITY CONTROL
SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

50.00 GENERAL REQUIREMENTS

A The Contractor shall be responsible for providing and maintaining all temporary facilities until Substantial Completion. Removal of such prior to Substantial Completion must be with the concurrence of the Architect. The Contractor bears full responsibility for providing any facility removed prior to Substantial Completion.

B Removal of all temporary facilities shall be a condition precedent to Substantial Completion unless directed otherwise by the Architect or specifically noted in the specifications.

C The Contractor must comply with all safety laws and regulations of the Commonwealth of Massachusetts, the United States Government, and local government agencies applicable to Work under this contract. The Contractor's attention is directed to the Commonwealth of Massachusetts, Department of Labor, Division of Occupational Safety Regulations.

51.13 TEMPORARY ELECTRICITY

A Temporary service and lighting shall be provided by a licensed electrician selected and paid for by the Contractor. This work shall be performed under the direct supervision of at least one master electrician, who will be present on the project at all times when such work is being performed. This service shall include coordination with the local utility and other authorities having jurisdiction.

B The Contractor may make use of the electricity available at the site, metered and paid for by the Owner.

C Where heavy duty electric equipment drawing current in excess of 15 amperes is involved, the trade requiring such excessive amperage shall provide temporary service to supply the power.

D All temporary work shall be provided in conformity with the National Electric Code, State laws, and requirements of the power company. Particular attention is called to Commonwealth of Massachusetts, Department of Labor Division of Occupational Safety Regulations.

E Temporary Electric Service and Lighting shall include but not be limited to:

1. All labor, materials, and equipment necessary to supply temporary power of adequate capacity for the project.

2. Transformers and meters, when required by the power company, furnished by the power company and paid for by the Contractor.

3. Temporary work of a special nature, not otherwise specified hereunder, shall be provided, maintained, and paid for by the trade requiring same.

4. The Contractor shall furnish, install, and maintain lamps in operating condition.

5. The Contractor, and each Subcontractor, shall furnish their own extension cords and additional lamps as may be required for their work.

6. All lamps installed in permanent lighting fixtures and used as temporary lights during the construction period shall be removed and replaced shortly before Substantial Completion by the appropriate set of lamps required to be provided under the Electrical section of the specifications.

7. The temporary electrical facilities shall be dismantled and completely removed from the project site. This removal shall occur when the permanent electrical system is operational and accepted by the Architect. Removal shall be done by a properly licensed electrician.

51.16 TEMPORARY FIRE PROTECTION

A The Contractor shall take necessary precautions to insure against fire during construction. The Contractor shall be responsible to insure that the area within contract limits is kept orderly and clean and...
that combustible rubbish and construction debris is promptly removed from the site.

51.17 TEMPORARY TELECOMMUNICATIONS (Not used)

51.18 TEMPORARY WATER

A  The Contractor may make use of the available water supply at the site for construction purposes, provided the permission of the Owner is obtained beforehand and only as long as the water is not used wastefully.

B  The Contractor shall provide all necessary piping and hoses to utilize the available sources of water.

C  The Contractor shall provide an adequate supply of cool potable drinking water with individual drinking cups for personnel on the job.

52.13 FIELD OFFICES (Not Used)

52.14 TEMPORARY STRUCTURES AND MATERIAL HANDLING

A  The Contractor shall provide such storage sheds, temporary buildings, or trailers as required for the performance of the Contract. Subcontractors shall provide their own temporary buildings and trailers.

B  Materials shall be handled, stored, installed, cleaned, and protected in accordance with the best practice in the industry and, except where otherwise specified in the Contract Documents, in accordance with manufacturer's specifications and directions.

C  The Contractor must obtain the permission of the Owner for the use of any storage facilities available on site, but the Owner assumes no responsibility for articles stored.

D  The Contractor shall erect temporary fencing to limit access to the work area by non-authorized personnel. The fencing shall be sufficient in height and design to prevent access over the top of the fence and shall have locked gates.

E  The Contractor shall be responsible for maintaining the main entry doors within the work area open for as long as possible during construction. Provide all temporary protections as may be warranted to safeguard the pedestrian traffic. IF the Contractor chooses to use the adjacent paved areas outside the entry path as staging areas for the work, erect temporary fencing with locked gates to bar access by non-authorized personnel.

52.19 SANITARY FACILITIES

A  The Contractor shall provide and service an adequate number of toilet booths with chemical type toilets.

B  The toilets shall be erected in a location approved by the Owner and shall be maintained by the Contractor in a clean and orderly condition in compliance with all local and state health requirements.

C  Under no circumstances will the Contractor's personnel be allowed to use Senior Center's toilets.

54.16 HOISTING FACILITIES

A  Except as otherwise specified, the Contractor shall provide, operate, and remove material hoists, cranes, and other hoisting as required for the performance of the Work by all trades. All such hoisting service shall be without cost to the Subcontractors.

54.26 TEMPORARY STAGING, STAIRS, CHUTES

A  Except as otherwise specified, the General Contractor shall furnish, install, maintain in safe condition, and remove all scaffolds, staging, and planking over 8 ft. in height, as required for the use of all trades for proper execution of the Work.

B  The Contractor shall furnish, install, maintain in safe condition, and remove all temporary ramps, stairs, ladders, and similar items as required for the use of all trades for the proper execution of the Work.

C  Permanent stairs shall be erected as soon as possible, for which the Contractor shall provide temporary...
protective treads, risers, handrails, and shaft protection.

D Debris shall not be allowed to fall freely from upper levels of the building. Materials shall not be dropped from open windows.

E Erect overhead protection at the building main entrance to prevent construction debris from falling on pedestrian traffic.

55.19 TEMPORARY PARKING

A. The contractor shall check with the Owner to make arrangements for the parking of Construction personnel. On-site parking is strictly monitored and used by the occupants of the building.

56.00 TEMPORARY PROTECTION

A. The building will be in continuous use as a Senior Center during the Construction period. The Contractor shall take all necessary precautions to ensure the public safety and convenience of the occupants during construction.

B. Any damage to buildings, roads, (public and private), bituminous concrete areas, fences, lawn areas, trees, shrubbery, poles, underground utilities, etc. shall be made good by and at the Contractor's own expense, all to the satisfaction of the Owner.

C. The Contractor shall patch, repair and/or replace all adjacent materials and surfaces damaged after the installation of new work at no expense to the Owner. All repair and replacement work shall match the existing in kind and appearance.

56.19 NOISE AND DUST CONTROL

The Contractor shall take special measures to protect the residents, neighbors, and general public from noise, dust, and other disturbances by:

A. Keeping common pedestrian and vehicular circulation areas clean and unobstructed;

B. Sealing dust and fumes from contaminating occupied spaces.

56.23 TEMPORARY BARRICADES

A. The Contractor shall:

(1.) Protect other areas and private property of the occupants and the Owner. Any areas damaged by the Contractor shall be restored to the original condition or compensated at the Contractor's expense.

B. Roof surfaces and waterproofed surfaces shall not be subjected to traffic nor shall they be used for storage of materials. Where some activity must take place in order to carry out the Work, adequate protection must be provided.

C. After the installation of any Work is completed, the Contractor shall be responsible for its protection and for repairing, replacing, or cleaning any such Work which has been damaged by other trades or by any other cause, so that all Work is in first class condition at the time of Substantial Completion.

56.29 TEMPORARY PROTECTIVE WALKWAYS

The Contractor shall, at all times, leave an unobstructed way along walks and roadways, and shall maintain barriers and lights for the protection of all persons and property in all locations where materials are stored or work is in progress.

56.26 TEMPORARY CONSTRUCTION FENCE

A. The Contractor shall be responsible for providing and maintaining temporary fencing or barricades around the construction as may be necessary to assure the safety of all persons authorized or unauthorized. Such
protective measures shall be located and constructed as required by local, state, and federal ordinances, laws, codes, or regulations.

56.33 SECURITY
   A. The Contractor shall be responsible for providing all security precautions necessary to protect the Contractor's and Owner's interests.

57.23 TEMPORARY STORMWATER POLLUTION CONTROL (Not Used)

57.33 WEATHER PROTECTION
   A. The Contractor shall provide temporary enclosures and heat to permit work to be carried on during the months of November through March in compliance with MGL c.149 §44G (d). These specifications are not to be construed as requiring enclosures or heat for operations that are not economically feasible in the opinion of the Owner. Without limitation this includes such items as excavation, pile driving, steel erection, erection of certain exterior wall panels, roofing, and similar operations.
   B. "Weather Protection" means the temporary protection of that Work adversely affected by moisture, wind, and cold by covering, enclosing, and/or heating. This protection shall provide adequate working areas during the months of November through March as determined by the Owner and consistent with the construction schedule to permit the continuous progress of all Work necessary to maintain an orderly and efficient sequence of construction operations. The Contractor shall furnish and install "Weather Protection" material and be responsible for all costs, including heating required to maintain a minimum of 40 degrees F. at the working surface. This provision does not supersede any specific requirements for methods of construction, curing of materials, or the applicable conditions set forth in the Contract Documents with added regard to performance obligations of the Contractor.
   C. Within 30 calendar days after award of the Contract, the Contractor shall submit in writing, to the Architect for approval, three (3) copies of the proposed methods for "Weather Protection".
   D. The Contractor shall assume the entire responsibility for weather protection during construction (until Substantial Completion), and shall be liable for any damage to any Work caused by failure to supply proper weather protection and proper ventilation.
   E. Work damaged by frost shall be removed and replaced by and at the Contractor's expense and as directed by the Architect.
   F. It is to be specifically understood that the Contractor shall do no work under any conditions deemed unsuitable by the Contractor to the execution of the Work. This provision shall not constitute any waiver, release, or lessening of the Contractor's obligation to bring the Work to Substantial Completion within the period of time set forth in the Contract Documents.

2. WIND PROTECTION
   Should high wind warnings be issued by the U.S. Weather Bureau, the Contractor shall take every precaution to minimize danger to persons, to the Work, and to the adjacent property.

END OF SECTION 01 5000
SECTIONS 01 7329
CUTTING AND PATCHING

1 GENERAL SCOPE OF THE WORK

A Unless specified elsewhere, the Contractor shall be responsible for:
   (1.) All cutting and patching required for the project construction.
   (2.) Products and installation for patching and extending Work.
   (3.) Transition and adjustments.
   (4.) Repair of damaged surfaces, finishes, and cleaning.
   (5.) Coordination of any cutting and patching required by subtrades.

B Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition

C The Contractor must comply with all safety laws and regulations of the Commonwealth of Massachusetts, the United States Government, and local government agencies applicable to Work under this contract. The Contractor’s attention is directed to the Commonwealth of Massachusetts, Department of Labor, Division of Occupational Safety Regulations.

2 RELATED SECTIONS

A This section supplements the General Conditions including but not limited to Article 4.3. of the General Conditions.

B Consult the individual sections of the specifications for specific items required under those sections.

3 EXAMINATION

A Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting, including elements subject to damage or movement during cutting and patching. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.

B Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect’s opinion, reduce the building’s aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace visually unacceptable areas of cutting and patching at no additional cost to the Owner.

C Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D Beginning of cutting or patching means acceptance of existing conditions.

E After uncovering existing Work, assess conditions affecting performance of work.

4 PREPARATION

A Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.

B Before proceeding, meet at the Project Site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

C Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
D Close openings in exterior surfaces to protect existing work [and salvage items] from weather and extremes of temperature and humidity. Insulate duct work and piping to prevent condensation in exposed areas.

E Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

F Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

G Remove debris and abandoned items from area and from concealed spaces.

H Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.

5 CUTTING

A Execute all cutting and fitting necessary to complete the Work.

B Where services are required to be remove, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions scheduled to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

C Uncover work to install improperly sequenced work.

D Remove and replace defective or non-conforming work.

E Provide openings in the Work for penetration of mechanical and electrical work. Cut holes and slots as small as possible, nearly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover opening when not in use.

F Employ skilled and experienced workers to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

G Cut rigid materials using power saw or core drill. Cut through concrete and masonry using a cutting machine, such as a carborundum saw or a diamond-core drill. Pneumatic tools shall not be allowed without prior approval.

H Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer’s recommendations.

I To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

J Do not cut operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.

K Perform cutting in a fashion that does not denigrate the energy performance of the building(s).

6 PATCHING

A Execute patching to complement adjacent, undisturbed finishes.

B Fit products together to integrate with other Work.

C Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.

D Perform patching in a fashion that does not denigrate the energy performance of the building(s).

E Restore work with new products in accordance with requirements of Contract Documents.
F  Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

G  At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with appropriate material to full thickness of the penetrated element as necessary to maintain the required rating.

H  Where new work abuts or aligns with existing, perform a smooth and even transition. Patch work to match existing adjacent work in texture and appearance. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

I  Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.

J  Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

K  Where feasible, inspect and test patched areas to demonstrate integrity of the installation.

L  Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

M  Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.

7  CLEANING

A  In addition to cleaning specified in Section 01.74.13, clean all areas affected by the work of this Section including personal belongings affected by this work.

B  Completely inappropriate remove paint, mortar, oils, putty, and similar items.

C  Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

D  When cutting and patching in occupied units clean affected areas daily and or immediately after completion of the cutting and/or patching work.

END OF SECTION 01 7329
CUTTING AND PATCHING
1. **GENERAL REQUIREMENTS**
   A. This section specifies the requirements for maintaining and preparing Projects Record Drawings during and at the completion of the Work.
   B. Record Drawings shall consist of all the Contract Drawings.

2. **RELATED DOCUMENTS**
   A. This section supplements the General Conditions.
   B. Consult the individual sections of the specifications for cleaning of Work installed under those sections.

3. **PROCEDURES DURING CONSTRUCTION**
   A. From the sets of drawings furnished by the Owner, the Contractor shall reserve one set for record purposes.
   B. The Contractor and Subcontractors shall keep their marked up As Built set on the site at all times and note on it in colored ink or pencil, neatly and accurately, at the end of each working day, the exact location of their work as actually installed. This shall include:
      1. All changes, including those issued by Addendum, Change Order, or instructions by the Architect shall be recorded.
   C. The Architect may periodically inspect the marked up As Built drawings at the site. The proper and current maintenance of the information required on these drawings shall be a condition precedent to approval of the monthly applications for payment.

4. **PROCEDURES AT COMPLETION**
   A. At Substantial Completion the Contractor shall submit the complete set of marked up As Built drawings to the Architect. The Contractor shall check all marked up As Builts prepared by subcontractors and certify in writing on the title sheet of the drawings that they are complete and correct, prior to submission to the Architect.
   B. The Architect shall review the marked up As Built drawings and verify by letter to the Owner that the Work is complete. The Architect shall incorporate all changes onto to original drawings.
   C. The Contractor may make a written request for copies of the completed Record Drawings. The Contractor shall reimburse the Owner directly for the cost of printing of any requested Record Drawings.
   D. Submission of accurate marked up As Built drawings and their approval by the Architect shall be a condition precedent to final payment.

END OF SECTION 01 7839
PROJECT RECORD DRAWINGS
SECTION 02 4120
SELECTIVE BUILDING DEMOLITION

PART 1  GENERAL

1.1  SUMMARY

A.  Section Includes:
   1. Removal of existing roof shingle systems.
   2. Removal designated building elements.

B.  Related Sections:
   1. Division 01 - Administrative, procedural, and temporary work requirements.

1.2  SUBMITTALS

A.  Submittals for Review:
   1. Schedule of Demolition work and removal sequence.
   2. Procedures for disposal, including dumpster sizes, locations and transportation methods.

1.3  REGULATORY REQUIREMENTS

A.  Conform to applicable code for demolition work, safety of structure, and dust control.


C.  Obtain required permits and approvals from authorities.

D.  Provide Police or Fire details as may be required.

E.  Review methods of operation and conform to requirements of the Local Fire Department – Fire Prevention Division.

F.  Notify affected utility companies before starting work and comply with their requirements.

G.  Conform to applicable codes when hazardous or contaminated materials are discovered.

H.  Do not close or obstruct exits. Provide warning signs, barricades and other safety precautions as required.

1.4  PROJECT CONDITIONS

A.  The Contractor shall examine the premises and thoroughly familiarize himself with all existing materials and conditions that may affect the methods, conduct or scope of the operation. The Contractor by his Bid represents that he made such an inspection and that he is prepared to carry out any and all operations necessary to effect the demolition required or implied by the documents or as required to install the materials specified in other Sections.

B.  The Contractor shall examine all other work of this Section with the related work of other trades, and cooperate with such trades to assure the steady progress of all work of this Contract.

C.  Minimize interference with streets, walks, driveways, public right-of-ways, and adjacent facilities.

D.  Protect all existing building elements to remain including windows, doors, siding, etc.
E. Coordinate with the Owner to give advance notice to tenants prior to commencement of work. See Section 01 31 00.

F. If hazardous materials are discovered, notify Architect and await instructions.

G. If any of the following conditions are encountered, cease work immediately, notify Architect, and await instructions:
   1. Structure is in danger of movement or collapse.
   2. Materials or conditions encountered differ from those designated in the Contract Documents.

PART 2 EXECUTION

2.1 PREPARATION

A. Erect temporary partitions, barricades, warning devices, and controls.

B. Provide protective coverings, shoring, bracing, and supports for construction designated to remain.

C. Temporarily or permanently disconnect utilities as required, including building mounted electrical conduit and lighting fixtures, vents, phone, satellite and cable TV services.

2.2 DEMOLITION

A. Remove existing construction to extent indicated and as necessary to join new work to existing. Do not remove more than is necessary to allow for new construction.

B. Existing gutters, downspouts and trim to remain. Protect from damage.

C. Provide all materials, labor, equipment and services necessary to perform all demolition and related work as require by the Contract Documents and/or herein specified and as required by job conditions.

D. Protect all building elements to remain from damage, including but not limited to siding, windows, doors and trim.

E. Protect existing landscape from damage.

F. Protect areas of work from exposure to inclement weather.

G. Minimize noise and spread of dirt and dust.

H. Protect and support active utilities designated to remain. Post warning signs showing location and type of utility and type of hazard.

I. Remove and legally dispose of waste materials, rubbish and debris off site.

END OF SECTION
SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Wood blocking and furring for fascia and soffits.
   2. Roof decking repair.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.
   2. Section 06 6000 Plastic Fabrications
   3. Section 07 4213 Metal Soffits

1.2 REFERENCES

A. American Wood Protection Association (AWPA):
   2. C9 - Plywood, Pressure Treatment.
   3. C20 - Structural Lumber, Fire-Retardant Pressure Treatment.

B. ASTM International (ASTM):

C. Engineered Wood Association (APA) PRP-108 - Performance Standards and Qualification Policy for Structural-Use Panels.

D. Forest Stewardship Council (FSC) STD-40-004 - Chain of Custody Standard.


F. Northeastern Lumber Manufacturers Association (NELMA) - Standard Grading Rules for Northeastern Lumber.

G. National Lumber Grades Authority (NLGA) - Standard Grading Rules for Canadian Lumber.

H. Redwood Inspection Service (RIS) - Standard Specifications for Grades of California Redwood Lumber.

I. Southern Pine Inspection Bureau (SPIB) - Standard Grading Rules for Southern Pine Lumber.

J. West Coast Lumber Inspection Bureau (WCLIB) - Standard Grading Rules for West Coast Lumber.

K. Western Wood Products Association (WWPA) G-5 - Western Lumber Grading Rules.

1.3 QUALITY ASSURANCE

A. Lumber Grading Agency: Certified to NIST PS 20.
B. Identify lumber and panel products by official grade mark.

1.4 DELIVERY, STORAGE AND HANDLING

A. Store materials minimum 6 inches above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation.

B. Do not store seasoned or treated materials in damp location.

C. Protect edges and corners of sheet materials from damage.

PART 2 PRODUCTS

2.1 MATERIALS

A. Lumber:
   1. Grading rules: NELMA, WWPA
   2. Species: S4P. Pressure Treated
   3. Grade: Kiln Dried No. 1 No. 2 mixed
   4. Surfacing: Surfaced four sides S4S.
   5. Maximum moisture content: 19 percent.

B. Panel Products:
   1. Type: APA Plywood
   2. Panel grade: APA Rated Sheathing- CDX
   3. Exposure:

C. Existing Deck Repair:
   1. Panel Grade: Utility
   2. Thickness to match existing

2.2 ACCESSORIES

A. Fasteners:
   1. Type and size: As required by conditions of use.
   2. Exterior locations and treated products: Hot-dip galvanized steel, ASTM A153/A153M, Stainless steel, ASTM F593, Type 304 or 316.

B. Hangers, Strap Anchors and miscellaneous hangers
   1. Type and size: As required by the condition of use.
   2. Exterior locations: Hot dipped Galvanized
   3. Manufacturer: Simpson Strong-Tie or equal

2.3 FABRICATION

A. Preservative Treatment:
   1. Treat wood:
      a. In contact with roofing and flashings masonry or cementitious materials and earth.
      b. In exterior locations.
   2. Lumber: Treat in accordance with AWPA C2 with retention of 0.60 PCF.
   3. Panel products: Treat in accordance with AWPA C9, with retention of 0.25 to 0.40 PCF.
   4. Treatment chemical: Alkaline Copper Quaternary (ACQ); free from arsenic, chromium, and other EPA classified hazardous preservatives.

PART 3 EXECUTION

3.1 INSTALLATION

City of New Bedford 06 1000-2 Rough Carpentry
Brooklawn Senior Center Roof Replacement
GL #32010003-520085-19254
J MBA #1811
A. Provide blocking, nailers, grounds, furring, and other similar items required to receive and support work.

B. Set members level, plumb, and rigid.

C. Furnish and install perimeter blocking and anchor to roof framing w/ 2 #8 x 4” Min. galv. Screws. Penetrate existing rafters min. 1 ½”.

D. Deck Replacement: Carry min. 100 sq ft of roof board replacement in thickness & width to match existing. Remove damaged or decayed roof boards as directed.

E. Refasten entire roof deck to existing rafters. 8” in field; 6” at perimeter.

END OF SECTION
SECTION 06 6000
PLASTIC TRIM

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Cellular PVC trim boards for fascia boards.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.
   2. Examine all other Sections of the specifications for requirements which affect the work of this Section, whether or not such requirements are particularly mentioned herein.

1.2 REFERENCES

A. ASTM D792 – Density and Specific Gravity of Plastics by Displacement.
E. ASTM D1761 – Mechanical Fasteners in Wood.
H. ASTM 696 – Coefficient of Linear Thermal Expansion of Plastics Between -30 and 30 degrees C with a Vitreous silica Dliatometer.
I. ASTM D635 – Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

1.3 SUBMITTALS

A. General: In accordance with the General Conditions, shop drawings, product cuts and samples shall be prepared and submitted for approval by the Architect prior to purchase or installation. No work for which such submittals are required shall proceed until the submittals have been approved and returned to the Contractor. All work shall strictly conform to the approved submittals.

B. Shop Drawings: None.

C. Product Data: Submit product data, manufacturer’s catalogs and product sheets for specified products.
D.  Samples: Submit three material samples representative of the texture, thickness and widths shown and specified herein.

1.4 QUALITY ASSURANCE

A.  Regulatory Requirements: Check with Local Building Code for installation requirements.

B.  Allowable Tolerances:
  1.  Variation in component length: -0.00/ +1.00”
  2.  Variation in component width: +/- 1/16”
  3.  Variation in component thickness: +/- 1/16”
  4.  Variation in component edge cut: +/- 2”
  5.  Variation in Density -0% + 10%

C.  Workmanship, Finish and Appearance:
  1.  Free foam cellular pvc that is homogeneous and free of voids, holes, cracks, and foreign inclusions and other defects. Edges must be square, and top and bottom surfaces shall be flat with no convex or concave deviation.
  2.  Uniform surface free from cupping, warping and twisting.

1.5 DELIVERY, STORAGE AND HANDLING

A.  Trim materials should be stored on a flat and level surface on a full shipping pallet. Handle materials to prevent damage to product edges and corners. Store materials under a protective covering to prevent jobsite dirt and residue from collecting on the boards.

1.6 WARRANTY

A.  Provide manufacturer’s 25 year warranty against defects in manufacturing that causes the products to rot, corrode, delaminate or excessively swell from moisture.

PART 2  PRODUCTS

2.1 MATERIALS

A.  Acceptable products:
  1.  AZEK® Trimboards (www.azek.com/azek-trim/), or equal, with Architect’s approval.
  2.  Kleer (www.kleerlumber.com/).
  3.  NelsTek (www.nelstek.com/Pages/Products.html).
  4.  Palight (www.palighttrimboard.com).
  5.  Or equal approved by Architect and the Department.

B.  Material: Free foam cellular PVC material with a small-cell microstructure and density of .55 grams/cm3.
  1.  Material shall have a minimum physical and performance properties specified in Section C on the following page.

2.2 ACCESSORIES

A.  Fasteners:
  1.  Use fasteners designed for wood trim and wood siding (thinner shank, blunt point, full round head) with PVC trim.
  2.  Use a highly durable fastener such as stainless steel or hot –dipped galvanized.
  3.  Staples, small brads and wired nails must not be used as fastening members.
4. The fasteners should be long enough to penetrate the solid wood substrate a minimum of 1 ½".
5. Use 2 fasteners per every framing member for trimboards applications. Trimboards 12” or wider, as well as sheets, will require additional fasteners.
6. Fasteners must be installed no more than 2” from the end of each board.
7. PVC should be fastened into a flat, solid substrate. Fastening PVC to hollow or uneven areas must be avoided.
8. Pre-drilling is typically not required unless a large fastener is used or product is installed in low temperatures.
9. 3/8” and ½” sheet product is not intended to be ripped into trim pieces. These profiles must be glued to a substrate and mechanically fastened.
10. Heatcon heating blankets to form PVC trim into arched trim.

B. Adhesives:
1. Glue all PVC to PVC joints such as window surrounds, long fascia runs, etc. with a cellular PVC cement to prevent joint separation.
2. The glue joint should be secured with a fastener and/or fastened on each side of the joint to allow adequate bonding time.
3. Allow PVC adhesive proper working and curing time.
4. Avoid using fast curing PVC adhesive as this will limit working time and may reduce bonding strength.
5. Surfaces to be glued should be smooth, clean and in complete contact with each other.
6. To bond PVC to other substrates, various adhesives may be used. Consult adhesive manufacturer to determine suitability.

C. Sealants:
1. Use one-part urethane based sealants without silicone.
   a. Manufacturers:
      1) BASF Building Systems. (www.buildingsystems.basf.com)
      2) Dow Corning Corp. (www.dowcorning.com)
      3) Tremco, Inc. (www.tremcosealants.com)

2.3 FINISHES

A. Provide paint finish on PVC products only if called for on the drawings.

B. Preparation:
1. Follow instructions of paint and siding manufacturers.

PART 3 EXECUTION

3.1 INSTALLATION

A. Manufacturer’s instructions: Comply with manufacturer’s product catalog installation instructions and product technical bulletin instructions.

B. Spliced joints in continuous boards to have angled kerf cuts, using manufacturer approved joining methods, including adhesives and fasteners.

C. Install trim with bung device, for concealed fastening.

D. Unless specifically indicated on the drawings, lumber dimensions shown on the drawings are nominal, not actual dimensions.

END OF SECTION
SECTION 07 3113
ASPHALT SHINGLES

PART 1  GENERAL

1.1  SUMMARY

A. Section Includes:
   1. Granular surfaced asphalt shingle roofing.
   2. Underlayment and ice dam protection.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.
   2. Section 07 6200 - Sheet Metal Flashing and Trim.

1.2  REFERENCES

A. ASTM International (ASTM):

B. National Roofing Contractors Association (NRCA) - Steep Roofing Manual.

C. Underwriters Laboratories (UL):

1.3  SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Provide manufacturer's printed product information indicating material characteristics, performance criteria, and product limitations.

C. Manufacturer's Installation Instructions: Provide published instructions that indicate preparation required and installation procedures.
D. Certificate of Compliance: Provide Certificate of Compliance from an independent laboratory indicating that the asphalt fiber glass shingles made in normal production meet or exceed the requirements of the following:
1. ASTM E 108/UL 790 Class A Fire Resistance.
2. ASTM D 3161/UL 997 Wind Resistance.
3. ASTM D 3462.

E. Shingle samples showing available colors.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 5 years documented experience in work of this Section.

B. Shingles:
1. Wind uplift resistance: Class F, tested to ASTM D3161.
2. Fire hazard classification Class A, tested to UL 790.

C. Perform work in accordance with NRCA Manual.

D. Maintain one copy of the Manufacturer’s installation instructions on the project site.

E. Verify that the Manufacturer’s label contains references to specified ASTM standards.

1.5 DELIVERY, STORAGE AND HANDLING

A. Store products in manufacturer’s unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials and materials used with solvent based materials, in accordance with requirements of local authorities having jurisdiction.

C. Deliver shingles to site in manufacturer’s unopened labeled bundles. Promptly verify quantities and condition. Immediately removed damaged products from site.

1.6 PROJECT CONDITIONS

A. Do not install underlayment or shingles at ambient or surface temperatures less than 40 degrees F or on wet or frozen substrate.

B. Anticipate and observe environmental conditions (temperature, humidity, and moisture) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside of manufacturer’s absolute limits.

1.7 WARRANTIES

A. Furnish applicator’s 2 year warranty providing coverage against water leakage through roof shingle system.

B. Provide manufacturer’s minimum 50 year limited warranty.

C. Provide manufacturer’s 15 year warranty against streaking and discoloration caused by airborne algae.

D. Provide manufacturer’s 15 year warranty providing coverage shingle damage due to winds up to 110 MPH.

1.8 MAINTENANCE
A. Extra Materials: 2 full bundles of shingles.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. CertainTeed Corp. ([www.certainteed.com](http://www.certainteed.com))
   2. GAF Materials Corp. ([www.gaf.com](http://www.gaf.com))
   3. Owens Corning ([www.owenscorning.com](http://www.owenscorning.com))
   4. Tamco Roofing Products, Inc. ([www.tamko.com](http://www.tamko.com))
   5. American Saturated Felt. ([www.asfelt.com](http://www.asfelt.com))

B. Substitutions: Under provisions of Division 01.

2.2 ASPHALT FIBER GLASS SHINGLES

A. GAF Timberline HD or Equal: A self-sealing, granule surfaced, asphalt shingle with a strong fiberglass reinforced Micro Weave® core and StainGuard® protection, which prevents pronounced discoloration from blue-green algae through formulation/unique blends of granules. Architectural laminate styling provides a wood shake appearance with a 5 5/8 inch exposure. Features GAF®'s patented High Definition® color blends and enhanced shadow effect. UL 790 Class A rated with UL 997 Wind Resistance Label; ASTM D 7158, Class H; ASTM D 3161, Type 1; ASTM D 3018, Type 1; ASTM D 3462; AC438; CSA A123.5-98; Dade County Approved, Florida Building Code Approved, Texas Dept of Insurance Approved, ICC Report Approval. Timberline® HD Lifetime High Definition Shingles, by GAF®; designed to resist blow-off in high wind conditions up to 110 mph.
   1. Color: As selected by Owner from manufacturer’s standard regional range.
   2. Provide full manufacturer's system to comply with warranty requirements.
   3. Fire Classification: Class C.

2.3 ACCESSORIES

C. Underlayment: Asphalt impregnated felt, ASTM D226, No. 15, non-perforated.

A. Ice Damn Protection:
   1. By asphalt shingle manufacturer, if required by warranty.
   2. Description: ASTM D1970; minimum 40 mil thick polymer modified asphalt laminated to slip-resistant polyethylene film, self-adhering with release paper facing.
   3. Width: single width or combined with 4” overlap to cover areas indicated on drawings.

B. Fasteners: Hot-dip galvanized steel nails, minimum 3/8 inch head diameter, 11-12 gauge barbed shank, length to penetrate minimum 3/4 inch into sheathing.

C. Ridge Shingles: Self-sealing ridge cap shingle matching color and grade of selected roof shingle.

D. Ridge Vents: ShingleVent® II by Air Vent Inc. ([www.airvent.com](http://www.airvent.com)) or approved substitute.

E. Plastic Cement: ASTM D2822, Type II, non-running, heavy body material composed of asphalt and other mineral ingredients.

F. Flashing Boots: Preformed EPDM or equivalent synthetic rubber material, sized to fit penetration being flashed, with minimum 4 inch wide deck flange and stainless steel draw band at top.

PART 2 EXECUTION
2.1 PREPARATION OF SHEATHING
A. Inspect sheathing for decay or damage; inform architect and repair as instructed.
B. Remove all remaining nails and staples from demolition of existing roofing and accessories.

2.2 INSTALLATION OF ICE DAM PROTECTION
A. Starting from eave edge of roof apply one ply modified bitumen underlayment horizontally on roof. Weatherlap each sheet 4 inches over preceding sheet. Lap ends 6 inches minimum.
B. Press to full bond with substrate without voids, wrinkles, bridging, or fishmouths. Seal ends and edges.
C. Extend ice dam protection minimum 24 inches beyond interior face of exterior walls.

2.3 INSTALLATION OF UNDERLAYMENT
A. Starting at low edge, apply one ply of underlayment horizontally over substrate including previously installed ice dam protection.
B. Weather lap each strip 6 inches minimum over previous strip and nailing at lap at no less than 9" centers and down the center of each sheet on 9" centers.

2.4 FLASHINGS
A. Rake Edges (if any):
   1. Install metal drip edge at rake edges with top flange on top of underlayment.
   2. Weather lap ends 4 inches minimum and seal with plastic cement.
   3. Nail top flange to decking at 8 inches on center maximum.
   4. Apply plastic cement to cover nail heads and at edge of flashings for entire length of metal.
B. Drip Edges:
   1. Apply drip edge at eave with top flange directly on deck; extend underlayment to outer face of drip edge.
   2. Lap ends 4 inches minimum and seal with plastic cement.
   3. Nail in place at 8 inches on center maximum.
   4. Apply plastic cement to cover nail heads and at edge of flashings for entire length of metal.
C. Stepped Flashings:
   1. Install 4 inch high x 2 inch wide x 7 inch long tins concurrent with shingles. Place with ends slightly above with shingle butt ends.
   2. Place stepped counterflashing over tins at masonry.
D. Round Penetrations:
   1. Place preformed flashing boot over penetration.
   2. Fasten flange to deck with minimum of four fasteners.
   3. Tighten draw band to watertight condition.
E. Other Flashings:
   1. Weather lap ends 4 inches minimum and seal with plastic cement.
   2. Nail in place at 8 inches on center maximum.
   3. Apply plastic cement to cover nail heads and at edge of flashings for entire length of metal.

2.5 INSTALLATION OF RIDGE VENTS
A. Center ridge vent over ridge slot; fasten at maximum 12 inches on center with 3 inch stainless steel ring shank nails.

B. Apply shingles over vent; fasten with 3 inch stainless steel ring shank nails.

2.6 INSTALLATION OF SHINGLES

A. Install shingles in accordance with manufacturer’s instructions.

B. Install shingles in accordance with MA State Building Code (IBC) section 1507 “Requirements for Roof Coverings”.

C. Place shingles in straight coursing pattern, in straight horizontal lines square with building lines, with 5 inch exposure to produce triple thickness over roof area.

D. Install high performance starter course shingle at perimeter. Cut 4 ½” off the LEFT end of the first starter shingle only. Install remaining 31 - ½” piece to the lower left corner of the roof, allowing 1/2” overhang at gable ends with drip edge. Use full 36” long by 10” wide starter shingles for the rest of the course.

E. First Course: Apply a full shingle at the lower left corner of the roof, flush with the starter course left corner. Fasten with 6 nails (2 at center), typ.

F. Second Course: Cut 4 1/2” off the left end of a full shingle and apply remaining 31 ½” over left edge of 1st course. Fasten with 6 nails (2 at center), typ. Ensure 8” exposure.

G. Succeeding courses: Begin application of the 3rd course with a full shingle. Fasten with 5 nails, leaving right end unfastened until later. Begin the 4th course using a shingle with 4 ½” cut off its left end. Fasten with 6 nails. To begin application of subsequent courses, alternate full shingles (36”) and cut shingles (31 ½”) up the rake or hip edge, fastening as described above.

H. Remaining columns and Course Completion: Apply a full shingle against the right edge of each shingle in previous column. When applying a shingle against a covered shingle, carefully lift the right edge of the shingle above and slip the new shingle under it. Fasten as usual with 6 nails; then, fasten the loose right edge of the shingle above.

I. Remove foreign matter between shingles to ensure uniform contact.

J. Fasten using hurricane nailing pattern.

K. Use hand nailing only; staples are not to be used.

L. Cut shingles at perimeter and around penetrations. Do not use damaged shingles.

M. Provide double course of shingles at eaves. Extend shingles 3/8 inch beyond metal drip edges.

END OF SECTION
SECTION 07 6200
SHEET METAL FLASHING AND TRIM
(Includes Alternate 1)

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Sidewall flashings.
   2. Metal drip edge at rakes and eaves.
   3. Metal chimney cap (Alternate 1).

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.
   2. Section 07 3113 - Asphalt Shingles

1.2 REFERENCES

A. American Architectural Manufacturers Association (AAMA):
   1. 611 - Voluntary Specification for Anodized Architectural Aluminum.
   3. 621 - Voluntary Specifications for High Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) and Zinc-Aluminum Coated Steel Substrates.


C. ASTM International (ASTM):

D. Sheet Metal and Air Conditioning Manufacturer’s Association International (SMACNA) - Architectural Sheet Metal Manual.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Show locations, types and thicknesses of metal, profiles, dimensions, fastening methods, provisions for expansion and contraction, and joint details.
   2. Samples:
      a. Each flashing and trim profile, minimum 12 inches long. Include corners where applicable.
b. 3 x 3 in specified color.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 5 years documented experience in work of this Section.

B. Conform to SMACNA Manual for nominal sizing of gutters and downspouts for rainfall intensity determined by a storm occurrence of 1 in 100 years.

PART 2 PRODUCTS

2.1 MATERIALS

A. Aluminum Sheet:
   1. ASTM B209, alloy 3003, temper H14, 0.026 inch thick.

B. Metal Chimney Cap (Alternate 1)
   1. Size: to cover existing 1'-0" x 3'-0" +/- opening.
   2. Product: Gelco multi-flue 8" high, model #0909M8, ¾" mesh, or equal.

2.2 ACCESSORIES

A. Fasteners: As required by manufacturer.

2.3 FABRICATION

A. Fabricate components in accordance with SMACNA Manual.

B. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

C. Form sections accurate to size and shape, square and free from distortion and defects.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install flashing and sheet metal as indicated and in accordance with SMACNA Manual.

B. Secure flashings with concealed fasteners where possible.

C. Apply plastic cement between metal and bituminous flashings.

D. Fit flashings tight, with square corners and surfaces true and straight.

E. Seam and seal field joints.

F. Separate dissimilar metals with bituminous coating or non-absorptive gaskets.

3.2 CLEANING
A. Clean sheet metal; remove slag, flux, stains, spots, hand marks and minor abrasions without etching surfaces.

END OF SECTION
SECTION 07 9200

JOINT SEALERS

PART 1  GENERAL

1.1  SUMMARY

A.  Section Includes:
   1.  Joint backup materials.
   2.  Joint sealers.

B.  Related Sections:
   1.  Division 01: Administrative, procedural, and temporary work requirements.

1.2  REFERENCES

A.  ASTM International (ASTM):

1.3  SUBMITTALS

A.  Submittals for Review:
   1.  Product Data: Indicate sealers, primers, backup materials, bond breakers, and accessories proposed for use.
   2.  Samples:
       a.  1/2 x 1/2 x 3 inch long joint sealer samples showing available colors.
       b.  6 inch long joint backup material samples.

1.4  QUALITY ASSURANCE

A.  Applicator Qualifications: Minimum 5 years documented experience in work of this Section.

B.  Field Pre-Construction Testing: Test each joint sealer and joint substrate before beginning work of this Section:
   1.  Install sealers in mockups using joint preparation methods and materials recommended by sealer manufacturer.
   2.  Install field-test joints in inconspicuous location.
   3.  Test sealers using manufacturer's standard field adhesion test; verify joint preparation and primer required to obtain optimum adhesion of sealants to joint substrate.
   4.  When test indicates sealant adhesion failure, modify joint preparation, primer, or both and retest until joint passes sealant adhesion test.
1.5 PROJECT CONDITIONS

A. Do not apply sealers at temperatures below 55 degrees F unless approved by sealer manufacturer.

1.6 WARRANTIES

A. Furnish manufacturer’s 10 year warranty providing coverage for exterior sealers and accessories that fail to provide air and water tight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. BASF Building Systems. (www.buildingsystems.basf.com)
   2. Dow Corning Corp. (www.dowcorning.com)
   3. GE Silicones. (www.gesealants.com)
   4. Pecora Corp. (www.pecora.com)
   5. Sika Corp. (www.sikausa.com)
   6. Tremco, Inc. (www.tremco sealants.com)

B. Substitutions: Allowed with comparative data.

2.2 MATERIALS

A. Joint Sealer Type 1:
   1. ASTM C834, single component acrylic latex, non sag.
   2. Movement capability: Plus or minus 7-1/2 percent.

2.3 ACCESSORIES

A. Primers, Bondbreakers, and Solvents: As recommended by sealer manufacturer.

B. Joint Backing:
   1. ASTM C1330, closed cell polyethylene foam, preformed round joint filler, non absorbing, non staining, resilient, compatible with sealer and primer, recommended by sealer manufacturer for each sealer type.
   2. Size: Minimum 1.25 times joint width.

PART 3 EXECUTION

3.1 PREPARATION

A. Remove loose and foreign matter that could impair adhesion. If surface has been subject to chemical contamination, contact sealer manufacturer for recommendation.

B. Clean and prime joints in accordance with manufacturer’s instructions.

C. Protect adjacent surfaces with masking tape or protective coverings.
D. Sealer Dimensions:
   1. Minimum joint size: 1/8 x 1/8 inch.
   2. Joints 1/4 to 1/2 inch wide: Depth equal to width.
   3. Joints over 1/2 inch wide: Depth equal to one half of width.

3.2 APPLICATION

A. Apply products in accordance with manufacturer's instructions.
B. Install sealers and accessories in accordance with ASTM C1193.
C. Install joint backing to maintain required sealer dimensions. Compress backing approximately 25 percent without puncturing skin. Do not twist or stretch.
D. Use bondbreaker tape where joint backing is not installed.
E. Fill joints full without air pockets, embedded materials, ridges, and sags.
F. Tool sealer to smooth profile.
G. Apply sealer within manufacturer’s recommended temperature range.

3.3 CLEANING

A. Remove masking tape and protective coverings after sealer has cured.
B. Clean adjacent surfaces.

END OF SECTION
PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Fixed curb mount unit skylight with formed curb counterflushing for mounting on prefabricated roof curbs, for flat, low-slope and steep-slope roofing applications.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.
   2. Section 06 1000: Rough Carpentry.

1.2 REFERENCES

A. American Architectural Manufacturers Association (AAMA):
   1. 611 - Voluntary Specification for Anodized Architectural Aluminum.

B. American Society of Civil Engineers (ASCE) 7 - Minimum Design Loads for Buildings and Other Structures.

C. ASTM International (ASTM):

1.3 SYSTEM DESCRIPTION

A. Design Requirements: Design skylights to withstand:
   1. Skylight: Fixed curb mounted skylight consisting of the following main integrated components: curb mounting system and integral flashing; an interior condensation drainage gasket; pre-finished white wooden frame, exterior maintenance-free aluminum cladding/counter flashing, ASA corner keys, and an insulating thermal pane glass unit with two seals, warm edge spacer system, three coats of LoE³ silver to increase visible light transmittance while reducing solar heat, and a continuous deck seal mounting system with durable foam seal.
   2. Configuration: Fixed unit, engineered deck seal mounting system with durable foam seal to seal the skylight to the roof deck. Pre-installed accessory mounting brackets.
   3. Condensation Control: Integral internal condensation collection system and drainage slots.

1.4 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Indicate configurations, dimensions, locations, fastening methods, and installation details.

1.5 WARRANTY

A. Manufacturer's Warranty: Manufacturer's standard 10 year warranty form in which manufacturer agrees to repair or replace components of unit skylights that fail in materials or workmanship under normal use within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Deterioration of metals, metal finishes, dome, and other materials beyond normal weathering.
      b. Breakage of glazing.

B. Warranty Period:
   1. Unit Skylight and Flashing Product Warranty: 10 years from date of purchase.
   2. Unit Skylight and Flashing Installation "No Leak" Warranty: 10 years from date of purchase.
   3. Hail Breakage Warranty for Skylight Glass: 10 years from the date of purchase on all insulated glass units using laminated glass.
   4. Insulating Glass Seal Failure Warranty: 20 years from date of purchase.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis for design: VELUX curb mounted skylight, model #FCM2270, or approved equal.

B. Acceptable Manufacturers:
   1. VELUX America, Inc. (www.veluxusa.com)
   2. Wasco Products, Inc. (www.wascoproducts.com)
   3. American Skylites, Inc. (www.americanskylites.com)

C. Substitutions: Under provisions of Division 01.

D. Source limitations: Obtain unit skylights and curbs through single source from single manufacturer.

2.2 FIXED CURB MOUNTED (FCM) UNIT SKYLIGHTS

A. System Description: Fixed curb mounted unit skylight with a roll-formed aluminum frame counter-flashing joined by corner keys, an interior condensation drainage gasket, an insulated glass unit, structural sealant, mounting fasteners, flashing and accessories, as required to meet installation and performance requirements indicated. FCM skylights shall be suitable for installation on roof curbs ranging from 0 degrees up to 60 degrees from horizontal.

B. Aluminum Frame Counter-flashing: Maintenance-free, roll-formed aluminum, 15 gauge, 0.06 inch (1.5 mm) thick with neutral grey Kynar® 500 polyvinylidene fluoride resin finish. Counter-flashing frames joined with neutral grey corner keys constructed from injection molded Acrylonitrile Styrene Acrylate (ASA)-Luran.
   1. Unit Sizes: 2270.
   2. Sheet and plate: ASTM B209, alloy and temper best suited to application.

C. Condensation Drainage Gasket: Factory applied black thermoplastic rubber gasket mounted around the entire interior aluminum frame assembly providing a thermal break weather seal and drainage for interior condensation.

D. Insulated Glass Unit: Factory assembled with low emissivity exterior pane and clear interior pane separated by a stainless steel spacer sealing the space between panes with 95% argon gas.
1. Exterior Pane: 0.125 inch (3mm) thick tempered glass with interior surface coated with three layers of low emissivity silver (LoE3) coatings.

2. Interior Pane:
   a. Laminated, Two clear 0.090 inch (2.3 mm) heat-strengthened panes with a 0.030 inch (0.76 mm) clear polyvinyl butyral interlayer sandwiched together.

E. Structural Sealant: Factory applied silicone sealant, black color, bonding the glass pane to the aluminum frame and suitable for external exposure.

F. Mounting Fasteners: #8 x 1.75 inch (44 mm) stainless steel, black zinc coated, self-drilling screws provided with skylight. Field installed screws secures skylight to site built curb as indicated in manufacturer’s installation instructions.

2.3 FLASHINGS

A. Step Flashing: Roll formed aluminum, neutral grey finish, factory engineered and fabricated seams, consisting of head flashing, sill flashing, step flashing pieces and adhesive underlayment suitable for use with 4 inch (100 mm) and 6 inch (150 mm) curbs on roof pitches 10 to 60 degrees from horizontal.

   2. Size: As required for skylight sizes indicated.
   3. Material:
      a. Head flashing 23 gauge (0.57 mm) thick aluminum with polyester lacquer finish.
      b. Sill flashing 22 gauge (0.65 mm) thick aluminum with Kynar 500 finish.
      c. Step pieces 23 gauge (0.57 mm) thick aluminum with polyester lacquer finish.
      d. Adhesive underlayment: 9 inches (229 mm) wide x 21 feet (6.4 m) length x 0.03 inch (0.8 mm) thick, SBS modified bitumen with white polyethylene backing sheet.

2.4 ACCESSORIES

A. Glazing Gaskets: Extruded neoprene or EPDM.

B. Fasteners: Type recommended by manufacturer; stainless or fluoropolymer coated steel.

2.5 FABRICATION

A. Fit joints and intersections accurately. Make joints flush, hairline, and weathertight.

B. Fabricate in largest practical units, free of visual distortion and defects.

C. Use gasketed washer beneath heads of fasteners at exterior.

D. Separate framing and glazing with neoprene spacers.

E. Provide weep holes and interior gutters to drain condensation from within skylight.

2.6 FINISHES

A. Aluminum: AAMA 2603, thermosetting modified acrylic enamel coating, color to be dark bronze.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer’s instructions and approved Shop Drawings. Coordinate installation of units with installation of substrates, air and vapor retarders, roof insulation, roofing
membrane, and flashing as required to ensure that each element of the Work performs properly and that finished installation is weather tight.

B. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

C. Install components plumb and level.

D. Anchor to supporting construction.

E. Install fall protection on exterior side of skylight; attach to skylight frame.

3.2 ADJUSTING

A. Clean exposed unit skylight surfaces according to manufacturer’s written instructions. Touch up damaged metal coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

B. Replace glazing that has been damaged during construction.

END OF SECTION