

## SECTION 07 7200

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section

#### 1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules and keynotes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:

- 1. Roof specialties that are compatible with the roofing systems specified, including:
  - a. Glass skylights
  - b. Drains, drain pipes and couplings.
  - c. Pipe insulation and fitting covers.
  - d. Roof walkway pads.
  - e. Snow guard assemblies.
- 2. Prepare, prime and paint all roof top equipment, the access ladders, equipment support dunnage, bulkhead doors and frames (inside and outside) and miscellaneous rooftop items indicated.

- B. Related Requirements

- |                                       |                   |
|---------------------------------------|-------------------|
| 1. Masonry Maintenance                | - Section 04 0100 |
| 2. Carpentry                          | - Section 06 1000 |
| 3. Modified Bitumen Roofing           | - Section 07 5226 |
| 4. PVC Roofing                        | - Section 07 5419 |
| 5. Sheet Metal Flashing & Specialties | - Section 07 6200 |

#### 1.3 CODE APPROVAL REQUIREMENTS

- A. Fabricate and install roof accessories that comply with the NY State Uniform Fire Prevention and Building Code.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications:

- 1. A firm (Installer) with at least 5 continuous years experience performing work similar to that required for this project, employing personnel skilled in the work specified.
  - a. The Installer shall directly employ the personnel performing the work of this section.

- b. The Installer shall have a supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
    - 1. Submit the supervisor's resume upon request.
  - 2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within fifty miles of this project, which may be observed by representatives of the Owner:
    - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number, and the Contractor's Supervisor's name.
    - b. Submit the reference list upon request.
- B. Material Quality: Obtain each product from a single Manufacturer which has manufactured the same product in the United States of America for not less than 5 continuous years.
- C. Pre-Construction Conference: Meet at the project site between one and two weeks prior to starting work, with the Architect, Owner and other representatives concerned about the work, to discuss the following:
  - 1. How the building will be kept watertight as work progresses.
  - 2. How roof accessory work will be coordinated with the installation of the vapor barrier, thermal barrier, insulation, cover board, roofing, flashings, and other items to provide a watertight installation.
  - 3. Generally accepted industry practice and the Manufacturer's instructions for handling and installing his products.
  - 4. The condition of the substrate, curbs, penetrations and other preparatory work needed.
  - 5. Incomplete submittals; note that progress payments will not be processed until all submittals are received and approved.
  - 6. The construction schedule, forecast weather, availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
  - 7. A schedule for Manufacturer and Architect inspections.

#### 1.5 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work:

1. A pre-work site and building inspection report with photos to document conditions before work starts.
  2. Manufacturer's installation instructions and technical data sheets for each item. Material sample submittals are not needed unless requested to show color and texture.
  3. Samples of the Contractor's and Manufacturer's guarantee/warranty forms.
  4. Test reports and certifications substantiating compliance with specification requirements if requested by the Architect.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
1. Submittals shall be prepared and made by the firm that will perform the actual work.
  2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
  3. Do not make submittals via email.
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders for each building.
- D. Payment requisitions will not be processed until all submittals are received and approved.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver material to the site in the Manufacturer's original and unopened packaging, with intact and legible labels which identify the products and Manufacturers,
- B. Cover all stored materials with watertight tarpaulins installed immediately upon delivery.
- C. Do not overload the structure when storing materials on the roof.
- D. Protect roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

#### 1.8 GUARANTEE

- A. Provide a written Contractor's Guarantee which guarantees that all work will remain free of material and workmanship defects and in a watertight condition for five years beginning upon Final Completion:

1. Defects include but are not limited to the following: peeling paint, leakage, adhesive separation, delamination, lifting, loosening, splitting, cracking, movement and undue expansion.
  2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as warranted at his own expense.
  3. Guarantee coverage shall include removing and replacing materials installed as part of the original work, if removal is needed to affect repairs.
  4. Guarantee coverage shall have no dollar limit.
- B. Provide one Contractor's Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- C. The Guarantee shall take effect no more than 30 days before the satisfactory completion of all punch list work.
- D. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Performance Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the five year term of the Contractor's Guarantee.
- E. Provide a Manufacturer's written warranty, which warrants the skylights will remain watertight for 5 years beginning upon final completion.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. Provide Manufacturer's standard units, modified as necessary to comply with the specified requirements. Fabricate each unit in a shop to the greatest extent possible, using the following components:
1. Aluminum Sheet: ASTM B 209 alloy 3003, tempered for forming and performance; mill finish, except as otherwise noted.
  2. Extruded Aluminum: Standard extrusions alloy 6063-T52; 0.078 inch minimum thicknesses for primary framing and curb member legs, 0.062 inch thickness for secondary framing and covers; mill finish, except as otherwise indicated.
  3. Insulation: Rigid fiber glass boards where encapsulated inside metal skirts, rigid isocyanurate where covered with roof flashings on the exterior of curbs.
  4. Wood Nailers: Dimension grade Douglas Fir, not less than 1-1/2 inches thick.
  5. Fasteners: Nonmagnetic stainless steel or hot dipped galvanized steel, to match the finish of the material being fastened.
  6. Gaskets: Tubular neoprene or polyvinyl chloride, or block sponge neoprene.
  7. Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

### 2.2 GLASS SKYLIGHT

A. Custom Structural Sloped Skylight

1. Factory fabricated, field assembled skylight assembly with extruded aluminum rafter tubes with a Kynar 500 finish, and 1-5/16 inch thick insulated glazing, consisting of a 1/4 inch thick tempered exterior lite, a 1/2 inch thick sealed air space, and a 9/16 inch thick clear heat strengthened laminated safety glass interior lite, with a .090 SGP layer, to fit on the field constructed curb.
2. Custom color window tint and UV blocking film.
3. Energy Performance: Maximum U-Factor 0.60, Solar Heat Gain coefficient 0.040.
4. Hurricane resistant and OSHA Fall Protection compliant.
5. Basis of design: Wasco Pinnacle HU (Hurricane Rated) Skylight

2.3 DRAINS, DRAIN PIPES, AND COUPLINGS

- A. Conventional cast iron bottom and side outlet roof drains, installed with drain receivers, under deck clamps, cast iron strainers, cast iron clamping rings and factory installed stainless steel gravel screens Series 1011 as manufactured by Jay R. Smith Manufacturing Company.
- B. Match the drain outlet size and style to the building drain line, except if the drain line is a copper pipe, then furnish the drain body with a threaded outlet and use a male adapter to connect the drain body to the drain line.
- C. Drain pipe: cast iron pipe with no hub fittings, minimum 3 inch diameter, and larger to match the existing building drain lines.
- D. No-hub couplings: heavy duty rubber neoprene sleeve couplings with full length Type 304 stainless steel shields and at least 4 worm drive clamps, conforming to ASTM A564.

2.4 PIPE INSULATION AND FITTING COVERS

- A. Insulation: minimum 1 inch thick pre-molded 3.5 lb. heavy density fiberglass pipe insulation with UL rated non-combustible service jackets.
- B. .030 inch thick factory fabricated white PVC "Smoke Safe" fitting and drain bowl covers as manufactured by the Speedline Corporation, with a maximum Flame Spread Value of 25 and a maximum Smoke Developed Value of 50 in accordance with ASTM E8450.

2.5 GAS LINE AND EQUIPMENT PIPE SUPPORTS

- A. Factory fabricated adjustable pipe supports as manufactured by Miro Industries, Inc. Model 20-Base Strut-12.

2.6 ROOF WALKWAY PADS AND CONCRETE PAVERS

- A. 96 mil thick, rolled-out, polyester reinforced heat-weldable protection mat, as manufactured by Sarnafil under the trade name SarnaTred, or approved equal.

## 2.7 SNOW GUARD ASSEMBLIES

- A. Pipe Snow Guard Assemblies: 2 pipe snow guard assembly consisting of 1 inch diameter aluminum pipes, a 6 inch by 8 inch by 11 gauge thick Type 302 stainless steel base plate, and milled 6061-T6 aluminum snow guard block and ice flags as manufactured by Alpine Snow Guards, Model #115 with #95 Ice Flags.
  - 1. Custom powder coat all snow guard components to match the color of the PVC roof.

## 2.8 PAINT AND PRIMER

- A. Alkyd base rust inhibiting exterior primer and high gloss finish paint for ferrous metal surfaces as manufactured by Rust Oleum or equal.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. General: Field measure existing openings. Comply with manufacturer's instructions and recommendations. Coordinate with the installation of roof deck, other substrates to receive specialty units, vapor barriers, roof insulation, roofing and flashing to ensure that each element of the work performs and fits properly, and that combined elements are waterproof and weathertight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.

### 3.2 SKYLIGHT

- A. Remove the existing skylight using care not to damage the roof deck or skylight well liner. Rework the curb to finish 10 inches above the roof surface. Install new base and cap flashings, and restore the shaft liner using 5/8 inch thick gypsum board to match the original construction. Install the new skylight over a foam gasket.

### 3.3 DRAINS, DRAIN PIPES AND COUPLINGS

- A. Remove and replace the existing drains where roof removal and replacement work are indicated:
  - 1. Remove the existing drains and flashings; use care not to break or disturb the drain pipes within the building.
  - 2. Modify the existing drain lines to properly connect to the new drain assemblies.
  - 3. Enlarge the hole in the deck and reinforce the deck to accommodate the new drain, and install the drain recessed below the roof surface to achieve maximum drainage.

4. Support the drain with a stamped sump drain receiver, secure it with an under deck clamp and patch the deck around the new drain.
  5. Connect the new drain to the existing drain line to conform to all applicable codes, and insulate the underside of the drain body and drain line.
- B. Connect the fittings and sections of cast iron pipe using heavy duty no-hub couplings; solvent weld PVC fittings and pipe, and use threaded connections to join steel fittings and pipe.
  - C. Install new drain pipes to slope 1/4 inch per foot, and support each section of pipe with a hanger, supported on a structural member or strut, on each side of every coupling. Do not rely on the couplings to support any weight. Do not hang the drain pipes from the roof deck.

### 3.4 PIPE INSULATION AND FITTING COVERS

- A. Install insulation on all horizontal drain piping, and on new vertical pipes installed to connect the new drains to the existing lines.
- B. Install insulation on the undersides of the new drains.
- C. Install white PVC fitting and drain bowl covers, and wrap the joints between fitting covers and pipe insulation jackets with 3 inch wide white PVC tape.

### 3.5 SITE LIGHTING BRACKETS AND CONDUIT

- A. Install electrical fixtures, boxes and conduits in accordance with applicable electrical codes.
- B. Remove, reposition and reinstall electrical conduit on top of new concrete pavers spaced a maximum of 5 feet on center. Fasten conduit to pavers with galvanized clips and stainless steel Zamac nail-ins.
- C. Secure the fixtures to the parapet / building walls with galvanized brackets and stainless steel expansion bolts, positioned above the level of roof flashings, and as appropriate for the weight of the fixture.
- D. Repair or replace existing conduits, boxes or similar accessories which cannot be properly reset. Install new fixtures only where specifically indicated.

### 3.6 ROOF WALKWAY PADS AND CONCRETE PAVERS

- A. Install walkway pads to provide a path 39 inches wide where shown on the drawings, and at all roof access points, i.e., ladders, doors and around all HVAC units. Fully adhere the walk pads and heat weld the perimeter of the pads to the roof surface.

### 3.7 SNOW GUARD ASSEMBLIES



- A. Install snow guard assemblies over solid wood blocking installed in place of the roof insulation. Install the cover board over the blocking. Install the brackets spaced 4 feet on center, and fasten each bracket plate to the underlying blocking with six #14, 3 inch long flat head stainless steel screws.
- B. Join pipe sections with couplings, and install end caps onto each end of all pipes. Secure each length of pipe with set screw collars or by inserting 3/16 inch cotter pins into holes drilled on each side of the center bracket.
- C. Install ice flags spaced 8 inches on center. Keep ice flags 1/2 inch above the roof membrane. Install two flags between each pair of ribs.

### 3.8 PAINTING

- A. Scrape and wire brush roof top equipment, ladders, access doors and frames (both sides), the guard rail, and the vent pipes to remove loose and peeling paint and surface rust.
- B. Install one coat of primer and two finish coats of paint using a brush or roller. Wait 24 hours for each coat of paint to dry before applying the next coat.
- C. Do not remove or paint over the manufacturer's name plates.

### 3.9 MISCELLANEOUS

- A. Provide and install any sealants needed, where shown or required.
- B. Perform mechanical and electrical work using skilled and licensed tradesmen.
- C. Provide new material, couplings, transition pieces, blocking, fasteners and the similar accessories needed to complete the work.

### 3.10 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leakage or damage, prior to performing any work.
- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks and damage that weren't documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.



- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather - which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site are neat, orderly and workmanlike. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION