

**SECTION 02.40.00
SELECTIVE DEMOLITION**

I. PART 1 - GENERAL

1.01 GENERAL

- A. General and Supplementary General Conditions, Special Conditions and applicable parts of Division I as part of this Section.
- B. This Contractor must be familiar with all other Divisions and Sections which affect this Work.

1.02 DESCRIPTION OF WORK

- A. **Work included:** Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Coordinate removal of roofing system while maintaining temporary weather tightness of the building / building envelope.
 - 2. Remove damaged ceiling components in preparation for the new / replacement ceiling system.
 - 3. Legal disposal off site of all demolished materials for all trades.
- B. **Alternates:** N/A
- C. **Items to Be Installed Only:** Install the following items as furnished by the designated Sections:
 - 1. None. All items to be installed by this trade, shall be furnished by this trade.
- D. **Items to Be Furnished Only:** Furnish the following items for installation by the designated Sections:
 - 1. None.
- E. **Related Work Specified Elsewhere:** The following related work or materials shall be provided under the designated Sections and coordinated by the Contractor:
 - 1. Section 010450 - CUTTING AND PATCHING: Minor cutting/coring of existing materials to allow installation of new work.

1.03 SUBMITTALS

- A. Refer to SECTION 01.33.00 - SUBMITTALS for submittal provisions and procedures.
- B. Schedule: Provide detailed sequence of demolition and removal work.

1.04 JOB CONDITIONS

- A. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be

demolished.

- B. Protections: Provide temporary barricades and other forms of protection as required to protect Owner's personnel and general public from injury due to selective demolition work.
 - 1. Provide protective measures as required to provide free and safe passage of Owner's personnel.
 - 2. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations. Protect site with suitable coverings when necessary.
 - 3. Remove protections at completion of work.
- C. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.
- D. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- E. Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- F. Utility Services: Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.
- G. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
- H. Environmental Controls: Use temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.

II. PART 2 - PRODUCTS (Not Applicable).

III. PART 3 - EXECUTION

3.01 INSPECTION

- A. Prior to commencement of demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Architect prior to starting work.

3.02 PREPARATION

- A. Submit a demolition plan and schedule under the provisions of Section 01.33.00 - Submittals, prior to performing any demolition work.
- B. Sequence work in occupied areas to minimize development disruption mor required access.

- C. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.
- D. Cease operations and notify the Owner's Representative immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.
- E. Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.
- F. Ensure areas to be demolished have been made safe by sub-trades thorough disconnection of utility services, prior to start of work.

3.03 GENERAL DEMOLITION

- A. Demolition shall include the removal of all incidental items associated with the work shown to be demolished. This includes all cleats, nailers, blocking, brackets, clips and hangers, nails and fasteners, etc. After demolition:
 - 1. The substrates to receive new work shall be sound and smooth, ready for attachment of new materials
 - 2. No unnecessary or abandoned items shall remain in the area, whether in the way of new work or not.
- B. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
- C. Cut plaster in neat straight lines. Remove existing trim in such a manner as to allow new trim to abut existing trim with straight neat joints. Salvage trim where possible to permit re-installation.
- D. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
- E. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Designer in written, accurate detail. Pending receipt of directive from Designer, rearrange selective demolition schedule as necessary to continue overall job progress without delay.
- F. Notify Architect immediately if materials scheduled to remain are found to be unsuitable for the installation of the new work, or if existing conditions deviate substantially from those shown on the drawings. Remove and replace, or make good, any existing materials unsuitable for installation of new work.
- G. Sequence work in accordance with requirements of Section 01.31.00. Schedule new work to coincide with demolition work, to minimize amount of disruption.

3.04 ROOF SYSTEM DEMOLITION

- A. Remove roof system, blocking and accessories down to the existing metal deck.
- B. Remove / disconnect existing smoke hatch.

3.05 CEILING SYSTEM DEMOLITION

- A. Remove damaged wall board at walls / returns receiving new work / as shown on the drawings.

- B. Remove required / damaged existing Acoustic Tile Ceiling system to install new system.
- C. After the removal of all finishes the contractor shall inspect the condition of existing framing. If damage is encountered, notify the Owner / Architect prior to installing new materials.

3.06 SALVAGE OF ITEMS

- A. Prior to the start of demolition, the Contractor shall review the building with the Owner to identify any items to be salvaged. The Contractor shall also coordinate with all sub-bidder for items to be salvaged. The contractor shall salvage any items directed by the Owner, and place them on site where directed by the Owner.
- B. Dispose of any other items being demolished, as directed by Owner.

3.07 DISPOSAL OF DEMOLISHED MATERIALS.

- A. All demolished materials shall be removed to dumpsters, and segregated where hazardous materials are involved and where recycling is possible. Refer to 01.74.19 for mandatory and voluntary recycling requirements.
- B. The General Contractor shall provide dumpsters for all trades.
- C. Transport and legally dispose of materials off site. Furnish waste manifests with close-out documentation wherever the disposal of hazardous materials is required.
- D. Where hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
- E. Burning of removed materials is not permitted on project site.

3.08 CLEAN-UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.
- B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

3.09 CLOSE-OUT

- A. Record on the as-built drawing set, all areas which received new framing or sheathing, and any utilities which were cut back or abandoned.

END OF SECTION
02.40.00

SECTION 06.10.00

ROUGH CARPENTRY

I PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. The General Conditions, Supplementary General Conditions, and applicable parts of Division I as part of this Section.
- B. This Contractor must be familiar with all other Divisions and Sections which affect this Work.

1.02 DESCRIPTION OF WORK

- A. **Work included:** Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - (1.) Dimensional wood framing lumber
 - (2.) Wood blocking
 - (3.) Fasteners
- B. **Alternates:** N/A
- C. **Items to Be Installed Only:** Install the following items as furnished by the designated Sections:
 - (1.) None. All items to be installed by this trade, shall be furnished by this trade.
- D. **Items to Be Furnished Only:** Furnish the following items for installation by the designated Sections:
 - (1.) None.
- E. **Related Work Specified Elsewhere:** The following items are not included in this Section, and will be performed under the designated Section:
 - (1.) Section 024100 - SELECTIVE DEMOLITION for removal of existing rough carpentry items.

1.03 SUBMITTALS

- A. Product data for materials specified herein.
- B. Construction waste management reporting form, along with records of disposal.
- C. Submit manufacturer's literature on carpentry products, identifying grade, moisture content, preservative treatments and other certifications.
- D. Material certificates for dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use, and design values approved by

American Lumber Standards Committee's (ALSC) Board of Review.

- E. Wood treatment data as follows, including chemical treatment manufacturer's warranty and instructions for handling, storing, installing, and finishing treated materials:
 - (1.) For each type of preservative-treated wood product, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
 - (2.) For waterborne-treated products, include statement that moisture content of treated materials was reduced to levels indicated before shipment to Project site.
 - (3.) For fire-retardant-treated wood products, include certification by treating plant that treated materials comply with specified standard and other requirements as well as data relative to bending strength, stiffness, and fastener-holding capacities of treated materials.
- F. Submit shop drawings for all ramps, prior to construction. Coordinate with shop drawings for railings.

1.04 REFERENCES

- A. ALSC: American Lumber Standards Committee
- B. ANSI: American National Standards Institute
- C. AWWA (American Wood Preservers Association) C1 - All Timber Products Preservative Treatment by Pressure Process
- D. CSA: Canadian Standards Association
- E. NFPA: National Forest Products Association.
- F. American Forest and Paper Association (AFPA)
- G. Manual for Wood Frame Construction
- H. American Plywood Association (APA) Form E30 Design/Construction Guide: Residential and Commercial
- I. American Society of Mechanical Engineers (ASME)
 - (1.) B18.2.1 Square and Hex Bolts and Screws - Inch Series
 - (2.) B18.6.1 Wood Screws (Inch Series)
- J. American Society for Testing and Materials (ASTM)
 - (1.) A307 Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength
 - (2.) A563 Specification for Carbon and Alloy Steel Nuts
 - (3.) A653 Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - (4.) D2555 Test Method for Establishing Clear Wood Strength Values
- K. American Wood Preservers Association (AWPA)
 - (1.) C2 Lumber, Pressure Treatment
 - (2.) C9 Plywood, Pressure Treatment
 - (3.) C20 Structural Lumber, Fire-Retardant Pressure Treatment
 - (4.) C27 Plywood, Fire-Retardant Pressure Treatment
 - (5.) M4 Standard for the Care of Preservative-Treated Wood Products
- L. Federal Specification (FS)
 - (1.) FF-N-105B Nails, Brads, Staples and Spikes: Wire, Cut and Wrought
- M. 780 CMR Massachusetts State Building Code, 9th Edition
- N. U.S. Department of Commerce, National Institute of Standards and Technology
 - (1.) PS 1 US Product Standard for Construction and Industrial Plywood
 - (2.) PS 2 Performance Standard for Wood-Based Structural-Use Panels
 - (3.) PS 20 American Softwood Lumber Standard (ASLS)

1.05 QUALITY ASSURANCE

- A. Lumber materials must comply with the most current American Softwood Lumber Standard PS20, published by NIST and shall be grade stamped.
- B. Sheathing materials shall be certified by the A.P.A. for exterior use and grade stamped, meeting the latest edition of Voluntary Product Standards PS-1 or PS-2.
- C. Perform Work in accordance with the following agencies:
 - (1.) Lumber Grading Agency: Certified by ALSC.
 - (2.) Plywood Grading Agency: Certified by APA.
- D. The maximum moisture content for lumber products shall be 19 percent on air-dried stock, and 15 percent maximum on kiln-dried (KD) stock. All lumber stock shall be furnished air-dried unless specifically noted otherwise.
- E. Except when particular types of dressing are specified for certain products, surface lumber four sides (S4S).
- F. Installer: Provide installer with not less than five years of experience with products similar to those specified.

1.06 DELIVERY AND STORAGE

- A. Keep materials dry during delivery and storage. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and plywood, and provide air circulation within stacks. Do not store or erect material in wet or damp portions of the building.

1.07 JOB CONDITIONS

- A. Contractor must examine the substrate and supporting structure and the conditions under which the carpentry work is to be installed, and notify the Owner in writing of conditions detrimental to the work. Do not proceed with the installation until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
- B. Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Coordinate location of furring, nailers, blocking, grounds and similar supports to allow proper attachment of other Work.
- C. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by the manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.08 WARRANTIES

- A. Furnish manufacturer's standard warranty providing coverage against checking, splitting, splintering, rotting, structural damage from termites, and fungal decay of composite wood.
- B. Installer's Warranty:
 - (1.) 1 year labor and materials on all products installed.

II PART 2 PRODUCTS

2.01 LUMBER, GENERAL

- A. Lumber Standards: Comply with PS 20, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by ALSC's Board of Review. Lumber design values are to comply with ASTM D245 and ASTM D2555.
- B. Inspection Agencies: Inspection agencies, and their grading rules include the following:
 - 1. Northeastern Lumber Manufacturers Association (NELMA) Standard Grading Rules
 - 2. National Lumber Grades Authority (NLGA)(Canadian) Standard Grading Rules
 - 3. Southern Pine Inspection Bureau (SPIB) Standard Grading Rules for Southern Pine Lumber.
 - 4. West Coast Lumber Inspection Bureau (WCLIB)No.17 Standard Grading Rules for West Coast Lumber
 - 5. Western Wood Products Association (WWPA) Western Lumber Grading Rules
- C. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
 - 1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece, or omit grade stamps and provide grade-compliance certificates issued by inspection agency.
- D. Where nominal sizes are indicated, provide actual sizes required by PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 1. Provide dressed lumber, surfaced four sides (S4S), unless otherwise indicated.
 - 2. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38 mm actual) thickness or less, unless otherwise indicated.

2.02 WOOD BLOCKING

- A. Blocking materials shall comply with the standards for framing lumber, specified above. Where preservative treated framing is required, treated blocking shall also be used.
- B. Shims shall be 6" cedar, 5/16" tapering to 1/32" at the tip and shall be approved by the siding and trim manufacturer.

2.03 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. General: Where lumber or plywood is indicated as preservative treated or is specified to be treated, comply with applicable requirements of AWPAC2 (lumber) and AWPAC9 (plywood). Mark each treated item with Quality Mark Requirements of inspection agency approved by ALSC's Board of Review.
 - 1. For exposed items indicated to receive stained finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.
- B. Pressure treat aboveground items with waterborne preservatives to minimum retention of 0.25 lb/cu. ft. After treatment, kiln-dry lumber and plywood to maximum moisture content of 19 and 15 percent, respectively. Treat indicated items and the following:
 - 1. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
 - 2. Wood floor plates installed over foundation walls or concrete slabs directly in contact with earth.

- C. Pressure treat wood members in contact with ground or freshwater with waterborne preservatives to minimum retention of 0.40 lb/cu. ft.
- D. Complete fabrication of treated items before treatment, where possible. If cut after treatment, apply field treatment complying with AWWPA M4 to cut surfaces. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

2.04 DIMENSION LUMBER

- A. Lumber shall comply with ALSC National Grading Rule (NGR) provisions of inspection agency applicable to species.
- B. Species and grades must meet or exceed the following values, unless indicated otherwise on Contract documents.
 - (1.) F_b (extreme fiber stress in bending): Minimum 1,200 psi (8.3 Mpa).
 - (2.) E (modulus of elasticity): Minimum 1,200,000 psi (8270 MPa).
- C. Exposed Framing: Refers to dimension lumber which is not concealed by other work, and is indicated to receive stained, painted, or natural finish.
 - (1.) Provide material hand-selected from lumber of species and grade indicated for type of use, for uniformity of appearance, and freedom from characteristics that would impair finish appearance

2.05 MISCELLANEOUS LUMBER

- A. General: Provide concealed or exposed lumber, as indicated, for support or attachment of other construction, including: cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated, and into shapes shown on Contract documents.
- C. Moisture Content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.
- D. Grade and Species: For dimension lumber sizes, provide No. 3 or Standard grade lumber per ALSC's NGRs of any species. For board-size lumber, provide No. 3 Common or Standard grade per WPA of any species.

2.06 FASTENERS

- A. General: Provide fasteners of size and type indicated or required, that comply with requirements specified. Refer to structural drawings for anchoring requirements and anchoring patterns.
 - (1.) Where rough carpentry work is exposed to weather, in ground contact, in the pool area or in areas of high relative humidity, provide fasteners with hot-dip, zinc-coating per ASTM A153
- B. Nails, Wire, Brads, and Staples: FS FF-N-105B.
- C. Wood Screws: ASME B18.6.1.

- D. Fasteners and Anchors: Provide size, type, material and finish as indicated and as recommended by applicable standards / manufacturers, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices.
- E. Fasteners: Hot-dipped galvanized fasteners meeting ASTM 153 or stainless steel for corrosion resistance for all exterior blocking. Unfinished or plated steel fasteners are only acceptable at interior locations. Where carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- F. Anchors: Toggle bolt type for anchorage to hollow masonry. Bolt or ballistic fastener for anchorages to steel. Anchors to be galvanized or stainless steel.
- G. Concrete Screws: TapCon or similar fastener engineered to cut threads into pilot holes in concrete construction when power driven. Heads to be hex-type where no finish material is to be installed over the fastened material, or bugle-type when finish material is detailed. Screws to be coated and corrosion resistant, producing 10% or less red rust after 750 hours when tested to ASTM B117.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 - (1.) Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
- I. Fasteners for treated lumber shall be compatible with the preservative used for the lumber being fastened.
- J. All exterior framing members shall be connected with joist hangers, rafter hangers or other metal framing connectors as shown on the drawings. Minimum fastener size 10d nail, or as required by connector manufacturer.
- K. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.
 - (a) Carriage bolts shall have a round, toolless head with a square neck to prevent turning.
 - (b) Lag Bolts: ASME B18.2.1.
 - (c) Bolts: Steel bolts complying with ASTM A307, Grade A with ASTM A563 hex nuts and, where indicated, flat washers.
- L. Power-Driven Fasteners: CABO NER-272.
- M. Fasteners for Subfloor: Coated deck screws, square drive head # 8, 2 1/2, Philips Fastener Products "DeckMate", or approved equal.
- N. Fasteners for Underlayment: 1 1/2" Ring Shank Nails, minimum 12 1/2 gauge shank diameter, non-coated.
- O. Adhesive: Waterproof grade interior/ exterior adhesive, similar to "Liquid Nails Subfloor & Deck Construction Adhesive", or approved equal, meeting or exceeding the following:
 - (1.) Specifically for use on wood framing and wood subfloors
 - (2.) ASTM D34-98, APA AFG-01 and HUD UM60a

- (3.) ASTM D34-98, APA AFG-01 and HUD UM60a
- (4.) ASTM D34-98, APA AFG-01 and HUD UM60a
- (5.) Max VOC :388 GPL
- (6.) Freeze-thaw stable.
- (7.) Shear strength: 24 hours- 200psi, 48 hours-300psi, 28 days >450psi.

2.07 ACCESSORIES

- A. Construction Adhesive: ASTM C557 latex-based gun grade heavy duty construction adhesive, suitable for use on wood materials, including treated lumber.
- B. Joist hangers: Simpson Strong-tie Z-Max (single or double) hanger or by USP Structural Connectors, Bison Built Brackets, or approved equal sized size to suit joists being supported, 18 gauge steel, galvanized, secured with 10d nails.

III PART 3 EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS

- A. Construct members of continuous pieces of longest possible lengths.
- B. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- C. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- D. Apply field treatment complying with AWWA M4 to cut surfaces of preservative-treated lumber and plywood.
- E. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
- F. Countersink fastener heads on exposed carpentry work. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.
- G. When sistering new lumber framing to existing, the portion of the sistered board which attaches to the existing board shall be as long as the portion extending past the existing board, or a minimum of 36".
- H. Where existing studs or vertical framing requires sistering, the portion of stud which was removed shall also be replaced with new lumber, cut to fit snugly and transfer vertical loads, and attached soundly to the sistered board.
- I. Do not begin installation until unacceptable conditions have been corrected. The start of work signifies acceptance of the existing conditions.
- J. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.
- C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit.

Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.

- K. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with Table 2304.5 “Fastening Schedule” in the 9th Edition of the Massachusetts State Building Code (780 CMR).

3.02 FRAMING / BLOCKING

- A. Framing Standard: Comply with AFPA’s “Manual for Wood Frame Construction,” unless otherwise indicated.
- B. Install members of size and at spacing indicated.
- C. Do not splice structural members between supports.
- D. Firestop concealed spaces of wood-framed walls and partitions at each floor level and at ceiling line of top story. Where firestopping is not inherent in framing system used, provide closely fitted wood blocks of 2-inch nominal thickness lumber of same width as framing members.
- E. Arrange studs so that wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel.
 - 1. Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs; except single top plate may be used for non-load-bearing partitions. Nail or anchor plates to supporting construction, unless otherwise indicated.
 - 2. Construct corners and intersections with three (3) or more studs. Provide miscellaneous blocking and framing as shown, and as required to support facing materials, fixtures, specialty items, and trim.
 - 3. Provide continuous horizontal blocking at midheight of single-story partitions over 96 inches high and multistory partitions, using members of 2-inch nominal (38 mm actual) thickness and of same width as wall or partitions.
- B. Frame walls with studs of a continuous length, extending from plate-to-plate or plate to the underside of headers. Do not shim studs to provide bearing. Do not interrupt studs with sill plates for windows.
- C. Support headers with tight-fitting jack studs. Support window sill plates with tight-fitting cripples.
- D. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.
- E. Set members level and plumb, in correct position and as detailed.
- F. Place horizontal members flat, crown-side up.
- G. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards and as required by Code.
- H. Arrange studs so that wide face of stud is perpendicular to direction of wall or partition and narrow face is parallel.

- (1.) Provide single bottom plate and double top plates using members of 2-inch nominal (38 mm actual) thickness whose widths equal that of studs; except single top plate may be used for non-load-bearing partitions. Nail or anchor plates to supporting construction, unless otherwise indicated.
- I. Construct corners and intersections with three (3) or more studs. Provide miscellaneous blocking and framing as shown, and as required to support facing materials, fixtures, specialty items, and trim.
 - (1.) Provide continuous horizontal blocking at midheight of single-story partitions over 96 inches (2.4 m) high and multistory partitions, using members of 2-inch nominal (38 mm actual) thickness and of same width as wall or partitions.
- J. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Set headers on edge and support on jamb studs.
 - (1.) For non-load-bearing partitions, provide double-jamb studs with headers not less than 4-inch nominal (89 mm actual) depth for openings 36 inches (914 mm) and less in width, and not less than 6-inch nominal (140 mm actual) depth for wider openings.
 - (2.) For load-bearing walls, refer to structural drawings for requirements.
- K. Provide bracing in exterior walls and at interior load-bearing walls, refer to structural drawings for requirements.

3.03 CLEANING

- A. Mold, mildew, and berry and leaf stains: Clean surfaces with conventional deck wash containing detergent or sodium hypochlorite.
- B. Rust and ground-in dirt: Clean surfaces with cleaner containing oxalic or phosphoric acid.
- C. Oil and grease: Clean surfaces with detergent containing de-greasing agent.

END OF SECTION
06.10.00

SECTION 07.53.23

EPDM ROOFING SYSTEM

I. PART I - GENERAL

1.01 GENERAL

- A. General and Supplementary General Conditions, Special Conditions and applicable parts of Division I as part of this Section.
- B. This Contractor must be familiar with all other Divisions and Sections of the Specifications which affect the work of this Section.

1.02 SCOPE OF WORK

- A. **Work included:** Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Protecting existing exterior elements not being replace under this project, such as exterior cladding, membrane roof, wires, rooftop alarms / beacons, items penetrating roof (i.e. pipes and vents), etc..
 - 2. Temporary relocation of existing items / equipment as required to perform the re-roofing work and return / reinstall after roofing work is complete.
 - 3. Removal of existing roof systems, flashing and accessories for installation of the new systems will be completed under the roof abatement sections, all other demolition work as indicated on drawings and not included in other sections and legal disposal off site of all demolished materials for all trades.
 - 4. New single-ply fully adhered roofing system comprised of rigid insulation, EPDM membrane, flexible and metal flashings and related adhesives and accessories.
 - 5. Perimeter edge metal fascias.
 - 6. All other associated re-roofing work.
- B. **Alternates:** N/A
- C. **Items to Be Installed Only:** Install the following items as furnished by the designated Sections:
 - 1. None. All items to be installed by this trade, shall be furnished by this trade.
- D. **Items to Be Furnished Only:** Furnish the following items for installation by the designated Sections:
 - 1. None. All items to be installed by this trade, shall be furnished by this trade.
- E. **Related Work Specified Elsewhere:** The following items are not included in the Section, and will be performed under the designated Section:
 - 1. Section 010450 - CUTTING AND PATCHING - Cutting and Patching.
 - 2. Section 024100 - SELECTIVE DEMOLITION for removal of select existing roof.

3. Section 061000 - ROUGH CARPENTRY for wood nailers, curbs, blocking and replacement of

1.03 SUBMITTALS

- A. Make submittals under provisions of Section 013300.
- B. Prior to starting work, the roofing contractor must submit the following
 1. Shop drawings showing layout, details of construction and identification of materials.
 2. Sample of the manufacturer's Membrane System Warranty.
 3. Submit a letter of certification from the manufacturer which certifies the roofing contractor is authorized to install the manufacturer's roofing system and lists foremen who have received training from the manufacturer along with the dates training was received.
- C. Upon completion of the installed work, submit copies of the manufacturer's final inspection to the specifier prior to the issuance of the manufacturer's warranty.

1.04 QUALITY ASSURANCE

- A. Installer: Provide installer with not less than five years of experience with products similar to those specified.
- B. Installer: The installer must be authorized by the roofing manufacturer and their appropriate association.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened containers or wrappings with the manufacturer's name, brand name and installation instructions intact and legible. Deliver in sufficient quantity to permit work to continue without interruption.
- B. Comply with the manufacturer's written instructions for proper material storage.
 1. Store materials between 60°F and 80°F in dry areas protected from water and direct sunlight. If exposed to lower temperature, restore to 60°F minimum temperature before using.
 2. Store materials containing solvents in dry, well ventilated spaces with proper fire and safety precautions. Keep lids on tight. Use before expiration of their shelf life.
- C. Insulation must be on pallets, off the ground and tightly covered with waterproof materials. Manufacturer's wrap does not provide sufficient waterproofing.
- D. Any materials which are found to be damaged shall be removed and replaced at the applicator's expense.

1.06 WORK SEQUENCE

- A. Schedule and execute work to prevent leaks and excessive traffic on completed roof sections. Care should be exercised to provide protection for the interior of the building and to ensure water

does not flow beneath any completed sections of the membrane system.

1.07 USE OF THE PREMISES

- A. Before beginning work, the roofing contractor must secure approval from the Owner for the following:
 - 1. Areas permitted for personnel parking.
 - 2. Access to the site.
 - 3. Areas permitted for storage of materials and debris.
 - 4. Areas permitted for the location of cranes, hoists and chutes for loading and unloading materials to and from the roof.
- B. Interior stairs or elevators may not be used for removing debris or delivering materials, except as authorized by the Owner.

1.08 JOBSITE CONDITIONS

- A. In addition to the requirements of Section 01.50.00 - Temporary Facilities, the roofing contractor shall adequately protect building, paved areas, service drives, lawn, shrubs, trees, etc. from damage while performing the required work. Provide canvas, boards and sheet metal (properly secured) as necessary for protection and remove protection material at completion. The contractor shall repair or be responsible for costs to repair all property damaged during the roofing application.
- B. Do not overload any portion of the building, either by use of or placement of equipment, storage of debris, or storage of materials.
- C. Protect against fire and flame spread. Maintain proper and adequate fire extinguishers.
- D. Store moisture susceptible materials above ground and protect with waterproof coverings.
- E. Remove all traces of piled bulk materials and return the job site to its original condition upon completion of the work

1.09 SAFETY

- A. The roofing contractor shall be responsible for all means and methods as they relate to safety and shall comply with all applicable local, state and federal requirements that are safety related. **Safety shall be the responsibility of the roofing contractor.** All related personnel shall be instructed daily to be mindful of the full time requirement to maintain a safe environment for the facility's occupants including staff, visitors, customers and the occurrence of the general public on or near the site.

1.10 WORKMANSHIP

- A. Applicators installing new roof, flashing and related work shall be factory trained and approved by the manufacturer they are representing.
- B. All work shall be of highest quality and in strict accordance with the manufacturer's published specifications and to the building owner's satisfaction.

- C. The Roofing Contractor shall have a supervisor on the job site at all times while work is in progress, by their crew or any sub-contractors.

1.11 QUALITY ASSURANCE

- A. To the greatest degree possible, all products to be furnished for this project shall be manufactured by the roofing membrane manufacturer, to constitute a “system”. Third party products are only acceptable where specifically accepted by the manufacturer for inclusion in the system warranty. Submit such approval on manufacturer’s letterhead.
- B. The manufacturer must have a minimum of 20 years experience in the manufacturing of vulcanized thermal set sheeting.
- C. Unless otherwise noted in this specification, the roofing contractor must strictly comply with the manufacturer’s current specifications and details.
- D. The roofing system must be installed by an applicator authorized and trained by the manufacturer in compliance with shop drawings as approved by the manufacturer. The roofing applicator shall be thoroughly experienced and upon request be able to provide evidence of having at least five (5) years successful experience installing single-ply EPDM roofing systems and having installed at least four (4) roofing applications or several similar systems of equal or greater size within one year.
- E. Provide adequate number of experienced workmen regularly engaged in this type of work who are skilled in the application techniques of the materials specified. Provide at least one thoroughly trained and experienced superintendent on the job at all times roofing work is in progress.
- F. There shall be no deviations made from this specification or the approved submittals without the prior written approval of the Architect. Any deviation from the manufacturer’s installation procedures must be supported by a written certification on the manufacturer’s letterhead and presented for the specifier’s consideration.
- G. Upon completion of the installation, the applicator shall arrange for an inspection to be made by a non-sales technical representative of the membrane manufacturer in order to determine whether or not corrective work will be required before the warranty will be issued. Notify the building owner seventy-two (72) hours prior to the manufacturer’s final inspection.

1.12 JOB CONDITIONS

- A. Material Safety Data Sheets (MSDS) must be on location at all times during the transportation, storage and application of materials.
- B. When positioning membrane sheets, exercise care to locate all field splices away from low spots and out of drain sumps. All field splices should be shingled to prevent bucking of water.
- C. When loading materials onto the roof, the roofer must comply with the requirements of the Architect to prevent overloading and possible disturbance to the building structure.
- D. Proceed with roofing work only when weather conditions are in compliance with the

manufacturer's recommended limitations, and when conditions will permit the work to proceed in accordance with the manufacturer's requirements and recommendations.

- E. Proceed with work so new roofing materials are not subject to construction traffic. When necessary, new roof sections shall be protected and inspected upon completion for possible damage.
- F. Provide protection, such as 3/4 inch thick plywood, for all roof areas exposed to traffic during construction. Plywood must be smooth and free of fasteners and splinters.
- G. The surface on which the insulation or roofing membrane is to be applied shall be clean, smooth, dry, and free of projections or contaminants that would prevent proper application of or be incompatible with the new installation, such as fins, sharp edges, foreign materials, oil and grease.
- H. New roofing and existing roofing not yet replaced shall be complete and weather tight at the end of the work day.
- I. Contaminants such as grease, fats and oils shall not be allowed to come in direct contact with the roofing membrane.

1.13 WARRANTY

A. Roofing Contractor's Warranty:

- 1. The roofing subcontractor shall supply the Owner with a minimum **one-year** workmanship warranty. In the event any work related to the roofing, flashing, or metalwork is found to be defective within **one** years of substantial completion, the roofing contractor shall remove and replace such at no additional cost to the Owner. The roofing subcontractor's warranty obligation shall run directly to the building owner, and a copy the roofing signed warranty shall be sent to the roofing system's manufacturer.

B. Membrane Manufacturer's Warranty:

- 1. Provide manufacturer's **Red Shield 20 year Total System Warranty** covering both labor and material with no dollar limitation.
 - (a) Total system warranty shall include all roofing materials, related components and accessories including, but not limited to the substrate board, vapor retarder, insulation board, cover board, roofing membrane, membrane flashings, fasteners, adhesives, metal roof copings, metal roof edges and termination metals and roof drain assemblies. The manufacturer shall repair defects in materials and workmanship as promptly after observation as weather and site conditions permit.
- 2. **The maximum wind speed coverage shall be peak gusts of 90 mph**
- 3. Pro-rated System Warranties shall not be accepted

II. PART II - PRODUCTS

2.01 MANUFACTURERS

- A. The products to be furnished shall be provided by the manufacturer of the roofing membrane, to comprise a “system” eligible for warranty as specified in Part 1. The basis of this specification is Firestone “RubberGard” EPDM and its related line of products manufactured by Firestone Building Products. **Equal systems by the following manufacturers will also be acceptable:**
1. Carlisle “Sure-Seal”
 2. Johns Manville “NR 60”
 3. Approved equal system.
- B. Unless otherwise approved by the specifier and accepted by the membrane manufacturer, all products (including insulation, fasteners, fastening plates and edgings) must be **manufactured and supplied** by the roofing system manufacturer and covered by the warranty.

2.02 MEMBRANE

- A. Furnish RubberGard LSFR EPDM (Ethylene, Propylene, Diene Monomer), the membrane shall conform to the minimum physical properties of ASTM D4637.
1. Thickness: .060" (1.5 mm)
 2. Color: Black
 3. Reinforcement: non-reinforced, except at roof areas to receive roof paver system.
 4. Nominal Thickness Tolerance: Plus / minus 10%.
 5. Sheet Width: Provide the widest available sheets to minimize field seaming.
 6. Adhesive: **Self Adhesive**
 - (a) Factory applied across the full sheet, from edge to edge.
 7. Acceptable Product: FullForce EPDM Membrane with Secure Bond Technology by Firestone
 8. Membrane shall be Fire Retardant.
- B. Membrane Flashing: Self-curing, non-reinforced membrane composed of non-vulcanized EPDM rubber, complying with ASTM D 4811 Type II and with the following properties:
1. Thickness: .055" (1.4mm)
 2. Color same as Field membrane.
 3. Acceptable Product: *RubberGard EPDM Form Flash by Firestone.*
- C. Self-Adhesive Flashing Membrane: Semi-cured 45 mil EPDM membrane laminated to 35 mil (0.9mm) EPDM tape adhesive; *QuickSeam Flashing by Firestone.*
- D. Pre-molded pipe flashing: EPDM, molded for quick adaption to different sized pipes; *Firestone EPDM Pipe Flashing.*
- E. Adhesive Primer: Synthetic rubber base primer formulated for compatibility with EPDM membrane and tape adhesive, with VOC content less than 2.1 lb/gal (250 g/l; *QuickPrime Plus or QuickPrime Plus LVOC by Firestone.*
- F. Seam Edge Treatment: EPDM rubber-base sealant, formulated for sealing exposed edges of membrane at seams; *FullForce Sealant by Firestone.*

- G. Pourable Sealer: Two-part polyurethane, two color for reliable mixing; *Pourable Sealer by Firestone*.
- H. Water Block Seal: Butyl rubber sealant for use between two surfaces, not exposed; *Water Block Seal by Firestone*.
- I. Metal Plates and Strips Used for Fastening Membranes and Insulation: Steel with Galvalume coating; corrosion-resistance meeting FM 4470 criteria.
 - 1. Termination Bars: Aluminum bars with integral caulk ledge; 1.3" (33 mm) wide by .10" (2.5mm) thick; *Firestone Termination Bar by Firestone*.
- J. Roof Walkway Pads: EPDM .30" (7.6 mm) thick by 30" x 30" (760 mm x 760 mm) with EPDM tape adhesive strips laminated to the bottom; *QuickSeam Walkway Pads by Firestone*.
- K. Yellow Safety Strip: To designate areas of caution on the roof or around rooftop objects. 5.5" (140 mm) wide x 100' (30m) long strip and nominal 30 mil (.76 mm) thick yellow TPO membrane laminated to a white, cured, seam tape. Compatible with TPO and EPDM; *QuickSeam Yellow Safety Strip by Firestone*.

2.03 ROOF INSULATION

- A. Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with black glass reinforced mat laminate to faces, comply with ASTM C 1289 Type II Class 1 with the following additional characteristics:
 - 1. Thickness: 3", top match existing thickness, per structural review. **Total thickness shall be achieved in two layers with overlapping joints.**
 - 2. Size: 4' x 8' standard size / nominal
 - 3. R-Value (LTTR): 1" (25 mm) Thickness: 5.7 R, minimum.
 - 4. Compressive Strength: 20 psi (138 kPa) when tested in accordance with ASTM 1289.
 - 5. Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents.
 - 6. Recycled Content: 19 percent post-consumer and 15 percent post-industrial, average.
 - 7. Acceptable Products: ISO 95+ polyiso board insulation by Firestone.
 - 8. The existing roof deck is pitched; tapered insulation will only be required at crickets to properly shed water and as recommended by the roofing manufacturer.
 - 9. Insulation Fasteners (at metal deck): Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided ; use only fasteners furnished by roof membrane manufacturer.

2.04 VAPOR BARRIER

- A. Vapor Barrier Membrane: Comprised of SBS modified bitumen adhesive, factory-laminated to a ri-laminated woven, high-density polyethylene top surface. Release liner protecting adhesive.
 - 1. Intended for use as a direct to deck air/vapor barrier in roof systems and may be used as a temporary roof membrane for up to ninety (90) days.
 - 2. Thickness: .0325" (.83 mm) minimum, when tested in accordance with ASTM D 5147.
 - 3. Max Load at Break at 73 Deg F (23 Deg C): 64 lbf/in, MD (11 kN/m) 88 lbf/in, XMD (15 kN/m) when tested in accordance with ASTM D 5147.
 - 4. Low Temperature Flexibility: -30 Deg F (-34 Deg C) when tested in accordance with ASTM D 5147.
 - 5. Moisture Vapor Permeance, .02 Perms (.92 Ng/Pa*s*m2) maximum, when tested in accordance with ASTM E 96.
 - 6. Air Permeability: 0.00114 ft3/min*ft2 (.007 L/sec*m2) maximum, when tested in

accordance with ASTM E 2178.

- B. Acceptable Product: *V-Force Vapor Barrier Membrane by Firestone.*

2.05 METAL ACCESSORIES

- A. Metal Roof Edging and Fascia: Continuous metal edge member serving as termination of roof membrane and retainer for metal fascia: watertight with no exposed fasteners; mounted to roof edge nailer.
1. Wind Performance:
 - (a) Membrane Pull-Off Resistance: 100 lb/ft (1460 N/m), minimum, when tested in accordance with ANSI/SPRI ES-1 Test Method RE-1, current edition.
 - (b) Fascia Pull-Off Resistance: At least the minimum required when tested in accordance with ANSI/SPRI ES-1 Test Method RE-2, current edition.
 - (c) Provide product listed in current Factory Mutual Research Corporation Approval Guide with at least FM 1-270 wind uplift rating.
 2. Description: Two-piece; 45 Deg sloped galvanized steel sheet edge member securing top and bottom edges of formed metal fascia; *Firestone EdgeGard*.
 3. Fascia Face Height: 5" (127 mm)
 4. Edge Member Height Above Nailer: 1 1/4" (31 mm)
 5. Length: 144" (3.66m)
 6. Functional Characteristics: Fascia retainer supports while allowing for free thermal cycling of fascia.
 7. Aluminum Bar: Continuous 6063-T6 alloy aluminum extrusion with pre-punched slotted holes; miters welded; injection molded EPDM splices to allow thermal expansion.
 8. Anchor Bar Cleat: 20 gage, .036" (.9mm) G90 coated commercial type galvanized steel with pre-punched holes.
 9. Curved Applications: Factory modified.
 10. Fasteners: Factory-provided corrosion resistant fasteners, with drivers; no exposed fasteners permitted.
 11. Special Shaped Components: Provide factory-fabricated pieces necessary for complete installation, including miters, scuppers, and end caps; minimum 14" (355 mm) long lengths on corner pieces.
 12. Scuppers: Welded watertight.
 13. Accessories: Provide matching brick wall cap, downspouts, extenders, and other special fabrications as shown on the drawings.
- B. Edge Metal: Formed metal edge with galvanized steel anchor / support cleats; watertight, maintenance free, without exposed fasteners; butt type joints with concealed splice plates; mechanically fastened as indicated; *Firestone Coping*.
1. Wind Performance:
 - (a) At least the minimum required when testing in accordance with ANSI/SPRI ES-1 Test Method RE-3, current edition.
 - (b) Provide product listed in current Factory Mutual Research Corporation Approval Guide with at least FM 1-90 rating.
 2. Description: Coping sections allowed to expand and contract freely while locked in place on anchor cleats by mechanical pressure from hardened stainless steel springs factory attached to anchor cleats; 8" (200 mm) wide splice plates with factory applied dual non-curing sealant strips capable of providing watertight seal.
 3. Material and Finish: 24 gage, .024" (.06 mm) thick Mil Finish finish, matching existing canopy. Concealed joint splice plates; factory-installed protective plastic film.
 4. Dimensions:
 - (a) As indicated on the drawings.
 - (b) Piece Length: Minimum 144" (3.66 m)

- (c) Curved Application: Factory fabricated in true radius
- 5. Anchor / Support Cleats: 20 gage, .036" (.9 mm) thick pre-punched galvanized cleat with 12" (305 mm) wide stainless steel spring mechanically locked to cleat at 72" (1.83 mm) on center.
- 6. Special Shaped Components: Provide factory-fabricated pieces necessary for complete installation, including miters, corners, intersections, curves, pier caps and end caps; minimum 14" (355 mm) long legs on corner, intersection, and end pieces.
- 7. Fasteners: Factory-furnished; electrolytically compatible; minimum pullout resistance of 240 lb (109 kg) for actual substrate used; no exposed fasteners.

2.06 ADHESIVES, CLEANERS AND SEALANTS

- A. Bonding Adhesive: Manufacturer's LVOC high-strength, synthetic rubber adhesive used for bonding EPDM membranes to various surfaces.
- B. Seam Tape: Manufacturer's standard 6" wide by 100' long pressure-sensitive splice tape used for splicing adjoining sections of EPDM membrane.
 - 1. Membranes with pre-applied seam tape are acceptable.
- C. Primer: Manufacturer's standard solvent-based primer used to prepare the surface of EPDM membrane for application of Splice Tape or Pressure-Sensitive products. Where permitted by manufacturer, primer can also be used in conjunction with Splicing Cement in lieu of Splice Cleaner.
- D. Lap Sealant: Manufacturer's standard black, heavy-bodied material used to seal the exposed edges of a membrane splice. Color to match membrane.
- E. Water Cut-Off Mastic: Manufacturer's standard one-component, low viscosity, self wetting, Butyl blend mastic used as a sealing agent between the EPDM membrane or Elastoform (uncured) Flashing and applicable substrates.
- F. Pourable Sealer: Manufacturer's standard black, two-component, solvent-free, polyurethane based product used for tie-ins and as a sealant around hard-to-flash membrane penetrating objects such as clusters of pipes and for a daily seal when the completion of flashings and terminations cannot be completed by the end of each work day.

2.07 FASTENERS AND PLATES

- A. Provide the membrane manufacturer's recommended fasteners required for attachment to the existing substrate to meet warranty requirements.
- B. At concrete decks, use manufacturer's approved low-rise polyurethane adhesive.
 - 1. Application rate: as required by Manufacturer to achieve specified warranty.
- C. At steel decks, fasteners shall include:
 - 1. Fastener: HD- Fasteners or manufacturer's standard threaded, #14 fastener with a #3

phillips drive used with steel roof decks. Include seam plates at all fasteners as specified herein.

2. Fastening rate: as determined by manufacturer for specified warranty. The minimum fastening rate is 8/8/16.
- D. Seam Fastening Plate: 2" diameter metal fastening plate used in conjunction with RPF strip or EPDM membrane for additional membrane securement.
- E. Polymer Seam Plate: 2" diameter plastic fastening plate incorporating barbs on the underside of the plate. This plate is required for membrane and RPF attachment installed in conjunction with gypsum or tectum roof decks.
- F. Termination bar: Manufacturer's standard 1" x .040" x 10' long galvalume-coated steel fastening bar used with HD Fasteners for membrane securement into steel or wood decks.
 1. Where termination bars are used at masonry or concrete materials, provide manufacturer's standard 1-1/4" long expansion anchor with a zinc plated steel drive pin.
- G. Membrane transition strips: Manufacturer's standard 9" wide, nominal 45-mil thick clean, cured black reinforced EPDM membrane 6" wide Factory-Applied seam tape laminated along one edge.

2.08 METAL EDGING AND MEMBRANE TERMINATIONS

- A. General: All metal edgings shall be tested and meet ANSI/SPRI ES-1 standards and comply with International Building Code as amended by 780CMR.
 1. Metal Edge Flashing: a metal fascia/edge system with a .050 aluminum continuous anchor cleat and .040 inch thick aluminum fascia. Metal fascia finish shall be flouropolymer and color shall be as designated by the Owner, to match adjacent roofs.
 2. Metal edging shall be provided by, or approved by, the membrane manufacturer for inclusion in the system warranty. Third party or field-fabricated edgemetal is not acceptable.

2.09 OTHER MATERIALS

- A. Metal flashing (other than edge flashing): minimum 0.024" coated aluminum where in contact with existing aluminum flashing (color to match existing). Mill aluminum may be used elsewhere.
- B. Pipe flashing: molded EPDM boot-style flashing with pressure-sensitive adhesive flange. Provide stainless steel clamp ring and water cut-off mastic.

III. PART III - EXECUTION

3.01 EXAMINATION

- A. Prior to the start of work, the roofer shall examine the project area and the surrounding site, to develop a logistical plan for the execution of the work. The following shall be reviewed and discussed with the Owner and Prime Contractor:
 - 1. Location of dumpsters and chutes.
 - 2. Method of preventing adhesive fumes from entering the building HVAC.
 - 3. Locations of hoisting equipment, and location of stockpiled materials on roof.
- B. Prior to the start of demolition, the roofer shall arrange an on-site conference with a field representative for the membrane manufacturer, to review any special details which may be required for issuance of the specified warranty. The roofer shall be prepared to perform any test cuts or exploratory work required by the manufacturer's representative, and to patch the same.
- C. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Architect prior to starting work.
- D. The functionality of all accessories affected by the scope of work owned by the Prime Contractor, shall be verified prior to the start of construction. If any items are found to not be in working order or damaged, the contractor shall notify the owner and provide a written list of all items / locations prior to the start of work. Any items found to be not be in working order or damaged after the project is complete, that were not on the submitted list, shall be the responsibility of the contractor to replace or restore proper function at no additional cost to the owner.

3.02 COORDINATION

- A. The roofer shall coordinate his operations with the Owner, relative to the continued use of the building by other contractors tenants as the work progresses.
- B. The roofer shall coordinate the demolition with the owner's abatement monitor so they can be on site while demolition is occurring.

3.03 DEMOLITION

- A. Demolish materials in a careful manner, so as not to disturb or damage materials scheduled to remain, or not scheduled for demolition. Provide test cuts or inspectional demolition of small areas as required to verify the presence of hidden materials that could be damaged by demolition operations. Repair or make good any materials not scheduled for demolition that become damaged by construction operations.
- B. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Designer in written, accurate detail. Pending receipt of directive from Designer, rearrange selective demolition schedule as necessary to continue overall job progress without delay.
- C. Notify Architect immediately if materials scheduled to remain are found to be unsuitable for the installation of the new work, or if existing conditions deviate substantially from those shown on the drawings. Remove and replace, or make good, any existing materials unsuitable for installation of new work.

- D. Do not remove any more materials than can be replaced in the same day. Do not remove materials when the forecast is for rain or high winds. Should inclement weather arise at any time during the project, the roofer shall cease operations and secure the roof and any stored materials from damage by wind or rain.
- E. Cover or protect roof drains prior to demolishing roof, and remove protections as soon as roof has been cleared.
- F. Remove roof hatch assemblies as note of the drawings and coordinate in-fill per cutting and patching section.
- G. Demolish the existing roofing system completely, down to the existing original roof slab. Remove all cants, rubber or metal flashings, drain strainers and other work as detailed. Leave all through-wall flashings in place, and bend them as required to perform the demolition and install the new work.
- H. Remove from the Owner's property and legally dispose of materials or items demolished and not designated to become the property of the Owner.
- I. The existing roofing system, and the deck below that, may be wet in many locations. The roofer shall anticipate this, and take steps to dry the deck out prior to the installation of the new roofing, including the use of tools such as blowers, wet vacuums or fans. Torches shall not be used.
- J. The building will be occupied by Residents at all times during this contract. Execute the work in a careful and orderly manner, with the least possible disturbances to the public.
- K. The Contractor shall have at least one person in charge of operations on the ground below during roof material removal operations. This person shall be cognizant of occupants and other persons in the work area and shall remove debris that may obstruct passage or otherwise present a danger to occupants.
- L. Safely remove all demolished materials to dumpsters at grade, and legally dispose of materials, recycling where required by other sections of this specification.

3.04 GENERAL

- A. Comply with the manufacturer's published instructions for the installation of the membrane roofing system including proper substrate preparation, jobsite considerations and weather restrictions.
- B. Position sheets to accommodate contours of the roof deck and shingle splices to avoid bucking water.
- C. Install new in-fill decking as described on the project drawings.

3.05 VAPOR BARRIER INSTALLATION

- A. All deck / deck cover substrate must be primed prior to applications. Use only primer supplied by the membrane manufacture.

- B. Expanded Polystyrene, Extruded Polystyrene, Common Polyisocyanurate, fiberglass, Wood Fiber, Perlite and existing single ply roofs are not acceptable substrates for SBS bitumen adhesive.
- C. Application can be made at ambient temperatures as low as 25 Deg F (-4 Deg C as long as membrane has been stored in a heated areas so that it will be between 50 Deg F (10 Deg C) and 100 Deg F at the time of application.
- D. Install with a minimum 3" side lap and 6" end laps.
- E. Roll with a 75lb roller to fully mate each roll to substrate, including all lap areas.

3.06 INSULATION

- A. Install insulation on configuration and with attachment method specified in Part 2, under roofing System.
- B. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- C. Lay roof insulation in courses parallel to roof edges. Install over the substrate with boards butted tightly together with no joints or gaps greater than 1/4 inch. Stagger joints both horizontally and vertically.
- D. Secure insulation to the substrate with adhesive at all concrete roof deck locations. Mechanical fasteners may be used at metal deck locations.
 - 1. Adhesive Attachment: Apply in accordance with membrane manufacturer's instructions and recommendations. "Walk-in: individual roof insulation boards to obtain maximum adhesive contact.

3.07 SELF ADHERING MEMBRANE PLACEMENT

- A. Substrate must be clean, dry and free from foreign material which could inhibit adhesion. Install membrane only when ambient and substrate and ambient temperatures are 20 Deg F and rising. Do not install membrane below minimum manufacturer's temperature.
- B. Lay out membrane pieces so that the field and flashing splices are installed to shed water. Install membrane without wrinkles and without gaps or fish-mouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details **NOTE:** All seams must be primed for proper adhesion and finished using manufacturer approve lap sealant.
 - 1. Once membrane has relaxed in place for 30 min (may be longer in cold weather) and the seam positions are aligned, carefully fold back the leading edge of the membrane at one end to expose the release liner. Do not fold the length of the roll in half to remove liner.
 - 2. Starting from the center split of the exposed release liner, remove both halves of the liner at 45 deg angles from the center of the sheet back beyond the membrane edge. Be Sure to pull enough of the release liner to hold below the membrane. Remove at lease 5' of release liner from one end of the sheet and adhere it to the substrate. The removed liner should extend at a 45 deg angle beyond the edges of the membrane. Do not remove the 4" strip or release liner along the seam edge at this time.
 - 3. Keeping the membrane flat and secured, and the seam overlap aligned, continue removing

the release liner at a 45 deg angle along the entire length of the sheet; up to 100'. Pulling the release liner at an alternative angle can cause the sheet to move and may trap air. The two halves of the release liner should be pulled out at the same time by two people. Keep the release liner as close to the roof surface as possible during removal. **Note:** Removal of the liner and any handling of the exposed SA adhesive should be completed by two persons minimum.

4. To initiate adhesive, use a stiff bristled broom and apply downward pressure across the installed membrane. Broom the membrane from the center of the sheet working towards the edge. Repeat the process on the other half of the sheet.
 5. Remove the 4" strip of release liner from the edge overlapping the lower sheet of EPDM. Peel the liner at a 45 deg angle to the seam edge and then along the length of the seam, making sure there is sufficient contact between the two membranes layers.
 6. Use a 1 1/2" to 2" wide silicone roller to roll the entire seam at a right hand angle toward the outer seam and then along the length of the seam.
 7. Roll the installed membrane with a weighted roller (5lb per lineal inch) across the width of the sheet to ensure full contact with the substrate. **Note:** Do not roll membrane in place with a weighted roller if installed over ISOgard HD or ISOgard CG.
- C. Fold back the remaining half of membrane and repeat the preceding steps.
- D. Edge securement
1. Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12" (1:6) using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
 - (a) Exceptions: Round pipe penetrations less than 18" in diameter and square penetrations less than 4" square.
 - (b) Metal edging is not merely decorative, ensure anchorage of membrane as intended by roofing manufacturer.

3.08 FLASHING AND ACCESSORIES INSTALLATION

- A. Install flashing, including laps, splices, joints, binding, adhesion and attachment, as required by membrane manufacturer's recommendations and details.
- B. Metal accessories: Install metal edging, gravel stops and coping in locations indicated on the drawings with horizontal leg of edge member over membrane and flashing over metal onto membrane.
1. Follow roofing manufacturer's instructions and recommendations.
 2. Remove protective plastic surface film immediately before installation.
 3. Install water block sealant under the membrane anchorage leg.
 4. Flash with manufacturer's recommended flashing sheet unless otherwise indicated.
 5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
 6. If the edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersection of the two flashing sections.
 7. Scuppers: Set in sealant and secure to structure; flash as recommended by manufacturer.
 8. Roofing Expansion Joints: Install as shown on the drawings and as recommended by the roofing manufacturer.
 9. Flashing at Walls, Curbs, and other Vertical and Sloped Surfaces: Install watertight flashing

at al walls, curbs parapet curbs and other vertical and sloped surfaces that the roofing membrane abuts; extend flashing at least 8" high above membrane surface.

- (a) Use longest practical flashing pieces.
 - (b) Evaluate the substrate and overlay and adjust installation procedure in accordance with membrane manufacture's recommendations.
 - (c) Complete splice between flashing and the main roof sheet with specified splice adhesive before adhering flashing to the vertical surface.
 - (d) Provide termination directly to the vertical substrate as shown on the roof drawings.
10. Flashing penetrations: Flash all penetrations passing through the membrane; make flashing seals directly to the penetration.
- (a) Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.
 - (b) Flexible and Moving Penetrations: Provide weather tight gooseneck set in sealant and secured to deck, flashed as recommended by manufacturer.

3.09 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Rep employed by the roofing system manufacturer specifically to inspect installation or warranty purposes (i.e. not a sales person).
- B. Perform all corrections necessary for issuance of warranty.

3.10 DAILY SEAL

- A. If the re-roofing / new roofing cannot be completed in one day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration.
- B. Complete an acceptable membrane seal in accordance with the manufacturer's requirements.

3.11 CLEAN UP

- A. Perform daily clean-up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.
- B. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

3.12 PROTECTION

- A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damage roofing to original condition.

3.13 CLOSE-OUT

- A. Record on the as-built drawing set, all areas which received new framing or decking, and any utilities which were cut back or abandoned or other unforeseen / differing conditions.

END OF SECTION
07.53.23

SECTION 09.20.00

GYPSUM BOARD ASSEMBLIES

I PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. General and Supplementary General Conditions, Special Conditions and applicable parts of Division I as part of this Section.
- B. This Contractor must be familiar with all other Divisions and Sections which affect this Work

1.02 DESCRIPTION OF WORK

- A. **Work included:** Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Interior wallboard for walls and ceilings.
 - 2. Taped and sanded joint treatment.
 - 3. Repairs to existing wallboard and plaster.
 - 4. All required accessories.
- B. **Alternates:** None.
- C. **Items to Be Installed Only:** Install the following items as furnished by the designated Sections:
 - 1. None.
- D. **Items to Be Furnished Only:** Furnish the following items for installation by the designated Sections:
 - 1. None.
- E. **Related Work Specified Elsewhere:** The following items are not included in the Section, and will be performed under the designated Section:
 - 1. Section 061000 - ROUGH CARPENTRY - Blocking.
 - 2. Section 099000 - PAINTING - Priming and Painting of new / existing wall board.

1.03 REFERENCES

- A. ANSI/ASTM C1396 - Gypsum Wallboard.
- B. ANSI/ASTM C630 - Water Resistant Gypsum Backing Board.
- C. ANSI/ASTM C475 - Joint Treatment Materials for Gypsum Wallboard Construction.
- D. ANSI/ASTM C646 - Steel Drill Screws for the Application of Gypsum Sheet Material to Light Gage Steel Studs.
- E. ANSI/ASTM C754 - Installation of Framing Members to Receive Screw Attached Gypsum Wallboard, Backing Board, or Water Resistant Backing Board.

- F. ASTM E84- Surface Burning Characteristics.
- G. ASTM D3273- Mold Growth ASTM D3273-00 - "Standard Test Method for Resistance to Growth on Mold..."
- H. GA-201 - Gypsum Board for Walls and Ceilings.
- I. GA-216 - Recommended Specifications for the Application and Finishing of Gypsum Board.

1.04 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Provide product data on specified products.

II PART 2 - PRODUCTS

2.01 GYPSUM BOARD MATERIALS

- A. Gypsum Board at all other locations (walls and ceilings):
 - 1. Thickness: 5/8" thickness, maximum permissible length; ends square cut, tapered edges.
 - 2. Water Absorption: Not greater than 5% per ASTM C 473 -
 - 3. Mold resistance score of 10 when tested to ASTM D3273-00.
 - 4. Flame spread of 15 and smoke developed of 0, per ASTM E84.

2.02 ACCESSORIES

- A. Joint Materials: ANSI/ASTM C475; GA 201 and GA 216; reinforcing tape, joint compound, adhesive, water, and fasteners
- B. Joint Compound: setting type, curing time selected by installer.
- C. Corner Beads:
 - 1. Outside and inside corners: metal and paper combination
 - 2. Intersection of dissimilar materials: J-stop, L-trim or J-trim as conditions dictate.
- D. Fasteners: as recommended by board manufacturer for specific application.

III PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that site conditions are ready to receive work and opening dimensions are as indicated on shop drawings and instructed by the manufacturer.
- B. Beginning of installation means acceptance of conditions.

3.02 GYPSUM BOARD INSTALLATION

- A. Install gypsum board in accordance with GA 201 and GA 216 and manufacturer's instructions.
- B. Install gypsum board in accordance with associated UL listed assembly number.

- C. Extend all new work to floor framing or other existing construction above the new work, and finish joint following specified procedures.
- D. Erect single-layer standard gypsum board in most economical direction, with ends and edges occurring over firm bearing. Install gypsum board tight to underside of structure on both face of each partition.
- E. Use drywall screws of appropriate size for both layers, no less than 12" o/c in all directions, to metal framing.
- F. Treat cut edges and holes in moisture resistant gypsum board with sealant.
- G. Place control joints consistent with lines of building spaces as indicated or as directed.
- H. Place corner beads at external corners. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.

3.03 JOINT TREATMENT

- A. Finish drywall installations in accordance with Gypsum Association's GA-214 as follows:
 - 1. Finished spaces, level 4 minimum.
 - 2. Concealed spaces, such as above ceilings, may be rough taped and sanded.
- B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes in strict accordance with the manufacturer's instructions.
- C. Use a 3-coat application at all joints, sanded smooth between applications. Feather coats onto adjoining surfaces. Place corner beads at external corners. Place edge trim where gypsum board abuts dissimilar materials.

3.04 WALL REPAIRS

- A. Correct all existing remaining wall damage throughout the building, leaving walls suitable for final cleaning, prep and painting, or for final wall protection surfaces, following procedures listed in 01.73.29 - Cutting and Patching.
 - 1. This includes filling nail holes, treating cracks, seams, etc.
 - 2. Tape, fill and sand repairs as required to provide a uniform surface.
 - 3. Finished spaces, level 4 minimum.
 - 4. Vacuum all dust generated by repairs.

END OF SECTION
09.20.00

SECTION 09.90.00

PAINTING

I PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. General and Supplementary General Conditions, Special Conditions and applicable parts of Division I as part of this Section.
- B. This Contractor must be familiar with all other Divisions and Sections which affect this Work.

1.02 DESCRIPTION OF WORK

- A. **Work included:** Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - (1.) The work consists of the following major items:
 - (a.) Field painting of new wallboard / patched walls.
 - (b.) Caulking around dissimilar materials, door frames, counter tops and splashes etc, where walls are to be painted.
 - (c.) Priming of all surfaces to receive paint.
 - (d.) Preparation of all items to be painted.
 - (e.) Painting surfaces as scheduled herein.
 - (f.) Protection of all items which may be affected by the work of this section.
 - (g.) Cutting and Patching as included in Section 010450.
 - (h.) All other items shown on the drawings to be painted.
- B. **Alternates:** N/A
- C. **Items to Be Installed Only:** Install the following items as furnished by the designated Sections:
 - (1.) None. All items to be installed by this trade, shall be furnished by this trade.
- D. **Items to Be Furnished Only:** Furnish the following items for installation by the designated Sections:
 - (1.) None.
- E. **Related Work Specified Elsewhere:** The following items are not included in this Section, and will be performed under the designated Section:
 - (1.) N/A

1.03 SUBMITTALS

- A. Submit product data on all finishing products under provisions of Section 013300.
- B. Submit one complete fan deck for color selection.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.
- B. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.
- C. Store paint materials at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in well ventilated area, unless required otherwise by manufacturer's instructions.
- D. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 degrees F (7 degrees C) for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F (7 degrees C) for interiors; 50 degrees F (10 degrees C) for exterior; unless required otherwise by manufacturer's instructions.
- D. Minimum Application Temperature for Varnish and Finishes: 65 degrees F (18 degrees C) for interior or exterior, unless required otherwise by manufacturer's instructions.

1.06 QUALITY ASSURANCE

- A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Source Limitations: Obtain primers for each coating system from the same manufacturer as the finish coats.
- C. Mockups: Provide a full-coat benchmark finish sample for each type of coating and substrate required. Comply with procedures specified in PDCA P5. Duplicate finish of approved sample Submittals.
 - (1.) Designer will select one room or surface to represent surfaces and conditions for application of each type of coating and substrate.
 - (a.) Wall Surfaces: Provide samples on at least 4 sq. ft.
 - (b.) Small Areas and Items: Designer will designate items or areas required.
 - (2.) Apply benchmark samples, according to requirements for the completed Work, after permanent lighting and other environmental services have been activated. Provide required sheen, color, and texture on each surface.
 - (a.) After finishes are accepted, Designer will use the room or surface to evaluate coating systems of a similar nature.
 - (3.) Final approval of colors will be from benchmark samples.

1.07 WARRANTY

- A. Contractor shall warranty the finishes applied for a period of one year from final completion, and make any repairs required due to blistering, peeling or other such failures of the finish.

II PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. All materials specified in the painting schedule are **Benjamin Moore** Paints.
- B. **Sherwin Williams, ICI, or Pratt & Lambert** paints may be used may be used of the same quality or better.

2.02 MATERIALS

- A. Coatings: 100% Acrylic paint for all. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating with a good flow and brushing properties; capable of drying or curing free of streaks or sags.
- B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.03 ACCESSORY MATERIALS

- A. Caulking: DAP "Kwik-Seal Plus" or approved equal siliconized latex caulk with integral anti-microbial additive, white, suitable for painting.
- B. Include an "Anti-Mildew" additive in the paint specified for the Bathroom.

III PART 3 EXECUTION

3.01 INSPECTION

- A. Surface to be painted must be clean, dry and in sound conditions. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. Beginning of installation means acceptance of existing surfaces.

3.02 PREPARATION

- A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
- B. Correct minor defects and clean surfaces which affect work of this Section.
- C. Shellac and seal marks which may bleed through surface finishes.

- D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- E. Plaster and drywall surfaces: Fill minor defects. Spot prime defects after repair.
- F. Interior Wood Items Scheduled to Receive Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Coordinate the filling of nail holes and cracks after primer has dried; sand between coats with General Contractor. Interior trim to receive primer coat and first finish coat prior to installation. Second and final coat to be applied after trim is installed and fastener holes have been filled.
- G. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
- H. Touch up any voids in sealant placed by others, prior to painting.
- I. Sand existing T&G wood ceiling in preparation for new coating.
- J. Wood and Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.
- K. Caulk the following joints at surfaces scheduled for painting, prior to painting:
 - (1.) Door and window trim (trim-to-wall, trim-to-frame).
 - (2.) Cabinets and counters where they meet the wall.

3.03 COORDINATION AND PROTECTION

- A. Coordinate painting of exterior electrical items to occur after demolition of siding but prior to installation of new siding, to minimize the chance for spills or drips on new siding.
- B. Painter to provide all required protections for work surrounding areas to be painted, and will be responsible for any cleaning required, or replacement of materials that cannot be completely cleaned. Furnish drop cloths, shields, and protective methods to prevent splatter or droppings from disfiguring other surfaces.
- C. Protect elements surrounding the work of this Section from damage or disfiguration.
- D. Repair damage to other surfaces caused by work of this Section.

3.04 APPLICATION COATINGS

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry.
- C. Apply each coat to uniform finish.
- D. Sand lightly between coats to achieve required finish.
- E. Allow applied coat to dry before next coat is applied.
- F. The application of the final coat and of any touch-up paint should be done under conditions that reflect the manufacturer's recommendations regarding weather conditions and temperature.

3.05 CLEANING

- A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.
- D. Remove empty paint containers from site. Deliver unused paint to Owner.

3.06 CLOSE OUT

- A. Furnish a typewritten list of all paint products used, including the paint codes required for mixing future matches. GC to include list in close out manuals.

3.07 PAINT SCHEDULE

A. **Interior surfaces:**

- (1.) Gypsum board finish at interiors (new and existing):
 - (a.) First Coat - Benjamin Moore Fresh Start All Purpose 100% Acrylic Primer. White 023-00.
 - (b.) Second Coat - Benjamin Moore K and B 322.
 - (c.) Color: to be selected by Owner. *(Owner to select two separate colors)*
 - (d.) Finish: Eggshell
 - (e.) *(All interior paint shall be bathroom rated)*

END OF SECTION
09.90.00