SPECIFICATION FOR WEIGH STATION SCALE HOUSE

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SECTION 04810 - UNIT MASONRY

1. SCOPE:

A. Furnish all labor, material, equipment and related items necessary to complete the work indicated on the drawings and/or specified. These items of work to be performed shall include, but are not limited to, the following:

1. Build a sample wall of masonry for approval by the Architect before masonry work is started. Panel shall be approximately 6 ft. x 4 ft. and of proper thickness. One face shall show the workmanship, coursing, bond, thickness and tooling of joints, range of color and texture of the brick and color of the mortar, all as specified or selected. The finished work throughout the project shall match the approved sample panel.
2. Do not enclose mechanical, electrical, or work specified in other division until such work has been inspected and approved by the proper local coded authority and by the architect.
3. Build in flashings and insulation as required.
4. Furnish and install all flashings in masonry construction.
5. Build in all loose lintels, sleeves, miscellaneous steel and metal, anchors, inserts, and materials required by other subcontractors.

2. SUBMITTALS:

A. Samples of all unit masonry material shall be submitted to Architect for color and texture verification. Required samples shall be submitted sufficiently in advance of time of their installation for investigation and re-submittal if found to be nonconforming to contract requirements.
B. Prior to delivery, submit to Architect certificates attesting compliance with the applicable specifications for grades, types or classes as specified.

3. STORAGE AND HANDLING:

A. Store brick and/or concrete masonry units off ground to prevent contamination by mud, dust or materials likely to cause staining or other defects.
B. Protect adequately all materials from elements during delivery, storage, and installation until final acceptance by the architect.

4. JOB CONDITIONS:

A. Masonry shall not be laid when the air temperature is below 40 degrees F. on a falling thermometer, or when it appears probable that temperatures below 40 degrees F. will be encountered before the mortar has set. Masonry work may be started at 34 degrees F. on a rising thermometer.
B. During erection, cover top of wall with strong waterproof membrane at end of each day and extend cover minimum of 24" down both sides. Cover partially completed walls when work is not in progress. Hold cover securely in place, so wall is not exposed to elements
C. Load application:
Do not apply uniform roof loading for at least 12 hr. after building masonry columns or walls.
Do not apply concentrated loads for at least 3 days after building masonry columns or walls.
D. Provide temporary bracing during masonry erection, as required, and maintain in place until building structure provides permanent bracing.
E. Staining: Prevent grout or mortar from staining the face of masonry to be left exposed: Remove immediately grout or mortar in contact with face of such masonry. Protect all sills, ledges and projection from droppings of mortar and protect door jambs and corners from damage during construction.

6. MATERIALS:

A. Materials shall conform to the requirements of the American Society for Testing and Materials Specifications listed, and these specifications indicated otherwise on the drawings:

Portland Cement: Type I (ASTM Designation C150).
Masonry Cement: ASTM Designation C91, Type N.
Hydrated Lime: Shall conform to specifications for hydrated lime for masonry purposes (ASTM Designation C207, Type S).
Fine Aggregate: Specifications for aggregates for masonry grout (ASTM C144), except that all sand for mortar in 1/4" joints shall pass a no. 16 sieve.
Coarse Aggregate: Specifications for aggregates for masonry grout (ASTM Designation C404).
Water shall be clean and potable.
Hollow load-bearing concrete masonry units and facing units: Provide units of lt. or normal weight aggregate conforming to shall be STM C-90, grade N, Type 1.
Hollow Non-Load bearing units: Provide units of lt. or normal weight aggregate conforming to ASTM C 129, Grade N-1.
Solid load bearing units: Provide solid units of lt. weight or normal weight aggregates for masonry bearing under structural framing members Comply with ASTM C145, Grade N-1.
Brick: All brick exposed to view shall be face brick selected by the Owner. Provide "Tega Cay" by Hanson or similar.
Masonry Reinforcement and Wall Ties:
1. Mortar, masonry reinforcement and wall ties shall conform with the requirements of the International building Code Chapter 21, and any seismic requirements.
2. All materials shall be proper size for wall involved and shall include prefabricated corners and tees.
Reinforcing steel shall be ASTM A615 Grade 60.
Masonry thru-wall flashings shall be 3 oz. COP-R-KRAFT as manufactured by Advanced Building Products or equal.
Masonry dampproofing shall be Sonneborn HYDROCIDE 700, or approved equal. Apply to cavity face of concrete block by trowel in accordance with manufacturer's specification.

7. MORTAR: All mortar shall be Type "S" in accordance with ASTM C-270.

8. WORKMANSHIP

A. Common Brickwork:
Use on foundations and where not exposed. Joints shall be filled tight with mortar, each course being flushed before laying the next course. Brick shall be laid in even, level courses and to a line with all corners square and plumb.

B. Face Brickwork:
Exterior walls and where else shown (starting two courses below grade) where exposed to view shall be face brick. Lay brick after blockwork each scaffold height to facilitate application of dampproofing to cavity face of blockwork. In exposed work, lay out bond and adjust so that no course terminates at a corner or opening with less than 1/2 brick. Brick shall be laid in a first-class manner by skilled workmen; the mason shall lay off all vertical courses with a rod and shall make all vertical distances in even number of courses. No split courses shall be allowed. All cutting will be done with a masonry saw.

C. Concrete Blockwork:
Blocks shall be manufacturer's standard lightweight units with nominal face dimensions of 16"long x 6" wide x 8" high except where indicated otherwise to dimensions shown. Block shall be laid in

full bed of mortar with all joints filled. Contractor shall furnish and install such special units as may be required to form all bond beams, corners, returns, offsets, using the required shapes and sizes to work corners and openings and maintain a proper bond through the wall.

D. Weep Holes: Provide weep holes in first course immediately above all flashings with maximum spacing at 32" oc.

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E. Flashing: Extend thru-wall flashing through brick facings minimum 3", and turn up minimum 8" in wall. Interior or exterior corners where flashing is installed needs to be permanently sealed. Discontinuous flashing used at heads or sills should be dammed up into the head joint 4" to 8" past the end of the head or sill.

F. Lintels and bond beams shall be straight and true shall have at least six (6) inches of bearing at each end unless indicated otherwise on Structural Drawings.

9. FIELD QUALITY CONTROL

An independent testing agency employed by the Owner will perform field quality control tests.

10. CLEANING:

Cut out any defective joints and holes in all masonry and repoint with mortar. Clean brickwork with solution recommended by brick manufacturer. Start cleaning operation on an inconspicuous portion of the wall for approval before commencing full scale cleaning process. Use generous amounts of water before and after cleaning. Discard cleaning solution when it becomes dirty.

SECTION 06200 - FINISH CARPENTRY

PART 1 - GENERAL

1 SUMMARY

A. The intent of this section and work indicated on the drawings is create cabinetry where indicated. It is the Contractor's responsibility to verify all conditions. All work shall be constructed to the dimensions indicated and field verified to work for the intended purpose. Cabinetry shall be AWI Premium grade for stain finishes. Coordinate all equipment to be provided by others and indicate on shop drawings. **Note, construct all cabinetry from plywood, particle board will not be accepted.**

B. The types of finish carpentry include (but are not necessarily limited to) the following:
   1. Casework for stain finish. Color to be selected by the Owner.
   2. Solid Surface countertop.

2. QUALITY ASSURANCE: Quality Standard: Comply with the applicable provisions for grading and workmanship of the Architectural Woodwork Institute (AWI) "Architectural Woodwork Quality Standards and Guide Specifications", **except as otherwise indicated**.

3 . SUBMITTALS

A. Shop Drawings: Submit shop drawings and cuts for all items of finish carpentry including interior and exterior trim cabinets, counters built-in work. Include location of each item; dimensioned plans and elevations; large scale details; materials and species; thickness; sizes of parts; details and erection data associated with the work of other trades; construction; and fastenings and clearances. Do not deliver materials to the site until shop drawings and cuts have been approved. The Contractor is responsible for errors in detailing and fabrication and for correct fitting of mill-fabricated items. Shop Drawings must be based on verified field dimensions.

B. Samples And Descriptive Data: Samples will be reviewed for appearance and finish only. Compliance with all other requirements is the exclusive responsibility of the Contractor. Submit samples of the following for approval:
   1. Solid Surface: Manufacturer's standard samples for color and pattern selection.
   2. Exposed Cabinet Hardware: One unit of each type and finish.

4. PRODUCT DELIVERY, STORAGE AND HANDLING

A. Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration. Deliver in an undamaged condition.

B. Delivery: Do not deliver woodwork until concrete, masonry, and plaster are dry, and operations have been completed which could damage, soil, or deteriorate woodwork in installation areas. If, due to unforeseen circumstances, woodwork must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

C. Storage: Store woodwork materials and completed woodwork only in a dry, ventilated place, protected from the weather, and complying with the temperature and humidity conditions specified by Standards and as required for installation areas.

PART 2 - MATERIALS

1. MATERIALS: Except as otherwise indicated, comply with the following requirements for finish carpentry.

2. SIZES AND PATTERNS OF WOOD PRODUCTS: Except as indicated or specified otherwise, sizes are nominal and actual sizes must be within manufacturing tolerances allowed by the standard under which the product is produced.

3. MOISTURE CONTENT OF WOOD PRODUCTS :Provide kiln-dry lumber with a maximum moisture content at time of delivery to the job site as follows:

Interior Finish Lumber, Trim, And Millwork 1-1/4 Inch Or Less In Nominal Thickness: 12% on 85% of the pieces and 15% on remainder. Moisture Content Of Other Materials: In accordance with the standards under which the products are produced.

4. INTERIOR Materials (Verify existing materials and advise the A/E if different from specification) Wood for Exposed Surfaces:

A. Exposed plywood Species: White birch, stain grade
B. Exposed plywood Cut: Rotary cut or plain sliced
C. Exposed plywood Grain Direction: Vertically for drawer fronts, doors, and fixed panels
D. Solid surface material: Homogeneous solid sheets of filled plastic resin complying with ANSI SS1.

5 SOLID SURFACE

Comply with the requirements for casework for solid surface finish.

1. Minimum 1/2" thick, in configuration indicated on drawings with radius 1-1/2", edge apron 3/8" radius.

2. Provide CORIAN products from DuPont Co. or equal. Nonporous, filled polymer, not . coated, with through body colors meeting ANSI Z124.3 or ANSI Z124.6 products.

6. MATERIALS, MISCELLANEOUS

A. Fasteners: Provide sizes, types, and spacings of manufactured building materials recommended by the product manufacturer except as otherwise indicated or specified. Provide hot-dipped galvanized steel or aluminum nails for exposed exterior work.

B. Anchors: Select the material, type, size and finish required by each substrate for secure anchorage. Provide non-ferrous metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion-resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors. Provide inserts and anchors, as required, to be set into concrete or masonry work for subsequent woodwork anchorage.

C. Wood Screws: Select the material, type, size and finish required for each use. Comply with FS FF-S-1 11 for applicable requirements.

D. Nails: Select the material, type, size and finish required for each use. Comply with FS FF-N-105 for applicable requirements.

7. FABRICATION

A. Conditions: Field verify and measure all existing conditions.

B. Cabinet Work: Units shall be factory-fabricated. Construct and install units in a substantial manner; brace in a manner to provide rigid construction, fit neatly, secure in place rigidly, and scribe to adjoining work. Provide framing, stiles, bases and aprons of solid kiln-dried material. Edge exposed plywood and particleboard edges with hardwood. Select exposed wood to receive a natural finish for uniformity in color and graining. Provide backs, bottoms, unexposed cabinet ends, and tops of wall cabinets of hard or softwood plywood. Provide PS 51 plywood, Type III, premium grade for stain finish. Brace top and bottom corners with wood blocks, glued with water-resistant adhesive and substantially secured with screws or other suitable and approved fastenings. Conceal all fastenings where practicable. Prior to final acceptance, adjust all doors and hardware and clean finished surfaces. The details shall conform to "Flush Overlay" design.

C. Doors: Grade N for exposed surfaces, AWI premium grade (1) for finishes.

D. Cabinet Hardware: Provide cabinet hardware and accessory materials associated with architectural woodwork, except for units which are specified in other sections of these Specifications. Provide corrosion resistant non-ferrous metal with a bright chrome finish.

F. Hardware Standards: Except as otherwise indicated, comply with ANSI A1 56.9.
   1. Quality Level: Commercial, unless otherwise indicated.
   2. Cabinet Door Hardware: Provide hinges, catches and pulls of the types indicated, to properly accommodate each door size and style.
   3. Catches: Magnetic catches, BHMA A156.9, B03141.
   4. Door And Drawer Pulls: 4 inch metal wire pull type of design as selected from the manufacturer's stock selections.
   5. Door Hinges: Semi-concealed Hinges for Overlay Doors: BHMA A1 56.9, B01 521.
   6. Continuous Hinges: BHMA A156.26-2006
   7. Locks: BHMA A1 56.11, E07041, where indicated, provide standard pin-type or disc-type (5 pins or discs) tumbler locks, keyed alike except as otherwise indicated. Verify existing
   8. Shelf Supports: BHMA A156.9 where shelving is indicated as "adjustable", provide slotted-type standards and brackets of the type needed to properly support the shelves with uniform 40 pounds per square foot loading.

PART 3 - EXECUTION

1. EXAMINATION

A. Inspection: Examine the areas and conditions under which finish carpentry work is to be performed and notify the Architect in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

B. Conditioning: Do not install woodwork until the required temperature and relative humidity have been stabilized and will be maintained in installation areas. Determine the optimum moisture content and required temperature and humidity conditions.

2 INSTALLATION

A. Installation: Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8-inch in 8 feet for plumb and level (including countertops); and with 1/16-inch maximum offset in flush adjoining surfaces, 1/8-inch maximum offsets in revealed adjoining surfaces.

B. Anchorage: Anchor woodwork to anchors or blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nail as required for a complete installation. Except where prefinished matching fasteners heads are required, use fine finishing nail for exposed nailings, countersunk and filled flush with woodwork, and matching final finish.

C. Bases: Adhere rubber base to framing grounds.

D. Casework: Install without distortion so that doors and drawers will fit openings properly and be accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation.

3. PROTECTION: Adjustment, Cleaning, Finishing And Protection: Repair or replace damaged and defective woodwork to eliminate defects functionally and visually. Adjust joinery for uniform appearance. Clean hardware, lubricate and make final adjustments for proper operation. Clean woodwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas. Complete the finishing work specified as work of this section, to whatever extent not completed at the shop or prior to installation of woodwork.

SECTION 08110 - METAL FRAMES

1. SCOPE

Furnish all labor, materials, and related items necessary to complete the work indicated on the drawings and/or specified. Fabricate metal frames with 4" head and 2" jamb where indicated on drawings.

2. PRODUCTS

A. Cold Rolled steel shall conform to ASTM designations A366 and A568.
B. Hot rolled, pickled, and oil steel shall comply with ASTM designations A568 and A569.
C. Hot dipped zinc coated steel shall comply with ASTM designations A526 or A642 and A525. The coatings shall comply with A60 and G90.
D. Frames are to be thoroughly cleaned and chemically treated to insure maximum paint adhesion. All exposed surfaces of frames shall receive a factory applied coat of rust inhibiting primer, either air-dried or baked-on. The finish shall meet the requirements for acceptance stated in ANSI A224.1.
E. Door frames shall be 16 gauge and either cold or hot rolled steel sheet. Comply with SDI 100 for minimum materials and construction requirements.
F. Fabricate frames with corners mitered, reinforced, welded, and ground smooth.
G. Frames shall be provided with rubber silencers, floor anchors, and mortar guard boxes. Provide at least three (3) adjustable anchors per jamb for type of wall installation involved.
H. Reinforce, drill, and tap frames to receive hinges, locks, latches and closers. Reinforcing shall meet or exceed minimum gauges noted in SDI-107.

3. INSTALLATION:

A. Install frames plumb, rigid, and in true alignment; and fasten them securely to retain their position during construction.
B. Leave work in proper operating condition and repair or replace any frames that are defective due to warp, bow, or improper handling.
C. Touch-up prime coat injured by damage or rust with compatible air-drying primer. Sand area smooth before application.

SECTION 08200 - WOOD DOORS

1. SCOPE:

   A. Furnish all labor, materials, and related items necessary to complete the work indicated on the drawings and/or specified. These items of work to be performed shall include, but are not limited to, Interior wood doors.
   B. Work not included in this section and specified in other sections includes, but is not limited to, the following: Metal Doors and Frames, Finish Hardware, Painting

2. MATERIALS:

   A. All interior wood doors shall be 1-3/4" thick solid core, flush wood doors as scheduled, as mfr'd. by Algoma Hardwoods, Inc., Marshfield Door Systems, Eggers Industries; or approved equal; with face veneers to match existing.
   B. All wood doors shall meet or exceed W.D.M.A. I.S. 1A, WOOD FLUSH DOORS, and requirements of AWI Quality Standards for custom grade doors, Section 1300.
   C. See floor plans and details for number, location, sizes, and design.
   D. Doors shall have mfr.'s limited warranty for life of original installation. Warranty shall provide for repair or replacement of the door as originally furnished. Provide owner with two (2) copies.
   E. Doors shall be particleboard core wood doors, DPC-1.

4. SUBMITTALS:

   A. Product data: Submit the following:
      1. Materials list of items proposed to be provided under this Section;
      2. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of the adjacent trades;
      3. The number of copies of submittals required for the work, plus two (2) copies for the Architect.
   B. Make submittals far enough in advance of scheduled dates for installation to provide time required for review, for securing approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.

5. WORKMANSHIP:

   A. Work shall be performed in conformance with good trade practice, recommendations of manufacturer and these specifications unless specifically indicated otherwise on the drawings.
   B. Metal bucks improperly set shall be corrected at the General Contractor's expense.
   C. Protect doors against dampness and other damages during delivery and installation in accordance with manufacturer's recommendations and the WDMA.
   D. For doors, provide clearances of 1/8" at jambs and heads, and 1/2" from bottom of door to decorative floor finish (carpet, tile, etc.). If threshold is used, provide clearance of 1/4" at bottom of door.
   E. Repair, re-hang, or replace any defective or damaged doors.
   F. See floor plans, door schedule and details for number, location, sizes and design.

SECTION 08410 - ALUMINUM DOORS AND FRAMES

1. DESIGN CRITERIA:

Design of the system for the locale of installation and compliance with all applicable codes is solely the responsibility of the manufacturer/supplier. Engineer certified shop drawings are required, licensed the state of the project's locale. Furnish all materials, labor, and related items required to complete work indicated on drawings and/or specified.

2. SUBMITTALS:

A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.
B. Submit the number of copies which are required for the work, plus two (2) copies which will be retained by the Architect.
C. Begin no fabrication or work until required submittals have been returned with the Architect's approval.
D. Provide manufacturer's specifications, warranty certifications, samples and other data needed to prove compliance with the specified requirements.
E. Provide color samples of each material.

3. TYPE AND QUALITY:

All products shall be as manufactured by Kawneer Company, Inc. or equal.
451T Framing system, 8400 TL sliding windows and 451m TriFab Entry System.
Manufacturer's Qualifications: Five (5) years experience in fabrication.
Installer's Instructions: Five (5) years experience in installation.
Warranty: Two Years from date of Substantial Completion.

4. MATERIALS AND CONSTRUCTION:

A. Framing members, transition members, mullions, adapters, and mountings shall be extruded of aluminum with alloy and temper consistent with the method of manufacture. These members shall be 6063-T5 extruded aluminum alloy (ASTM B221-54T alloy GS 10A-T5). All screws, miscellaneous fastening devices, and internal components shall be of stainless steel, or plated or corrosion-resistant materials of sufficient strength to perform the functions for which they are used.
B. Glass framing members shall provide for flush glazing on all sides with through sight lines, and no projecting stops.
C. The system shall provide fully resilient settings for glass by use of EPDM Elastomeric Glazing gaskets on both sides of the glass.
D. Door molding shall be accurately fitted to flush hairline joints and mechanically fastened with screw and spline joinery at door corners and sub-frame intersections.

5. FINISH:

A. All exposed surfaces of and new grid framing members, thresholds, etc. required, shall be free of scratches and other serious surface blemishes and shall be finished as specified herein.
B. All materials including framing, windows, door and matching hardware and accessories shall be clear anodized aluminum, Class I, 0.018mm or thicker..

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7. ERECTION:

A. All items under this heading shall be set in their correct locations as shown in the plans and details and shall be level, square, plumb, and at proper elevations.
B. All joints between framing and mullion members shall be tightly caulked.
C. All materials shall be screwed in place using backing, masonry plugs, or anchor straps as required.
D. When mouldings are joined, they shall be cut and fitted for tightly closed joint.
E. Clean after erection by the installer.

SECTION 08700 - FINISH HARDWARE

1. GENERAL: Finish hardware for use in areas accessible to handicapped shall meet all requirements of the ADA Accessibility Guidelines for Building and Facilities and CABO/ANSI-A117.1latest editions. All hardware for all exit and egress doors shall comply with the 2015 International Building Code and NFIPA.

2. SCOPE: It is the intent of this specification to include the finishing hardware requirements for the building project. Any units not specifically mentioned herein must be furnished and should be consistent with that specified for similar units. The hardware supplier shall have sufficient experience to properly handle, detail, and service the hardware in a satisfactory manner.

3. DETAILS: The hardware supplier shall consult the project drawings and details and otherwise familiarize himself with the work to the end that all items of hardware furnished shall conform to units to which it is applied. He shall coordinate the hardware with other conflicting trades such as millwork, doors and frames, etc.

4. SUMITTALS: The hardware supplier shall prepare and submit to the Architect for approval copies as required of the complete schedule and shop drawings indicating material compliance with the specifications.

5. SAMPLES: Samples of exact hardware to be furnished other than listed in this specification must be submitted to the Architect prior to the bid date and permission to bid on any substitute item must be obtained. If this procedure is not followed, the Architect will consider no items other than those listed in this specification.

6. All cylinders shall be master keyed to Owner's grand master key system in sets as directed.

<u>DOOR HARDWARE SCHEDULE:</u>

HARDWARE SET NO. 1 - DOOR 1 - Entry

3 Hinges BB1191 4-1/2 x 4-1/2 NRP US32D	Hager
1 Rim Cylinder 951 26D	Falcon
1 Closer 4041 REG/PA 4040-18PA TBSRT AL	LCN
1 Exit Device 33A-NL-OP x 388NL US26D	Von Duprin

NOTE: Door Pull, Threshold and Weatherstripping by Door Supplier

HARDWARE SET NO. 2 - DOOR 2 - ADA Toilet, DOOR 3 - Employee Toilet

3 each hinges BB1279 4-1/2 x 4-1/2 NRP USP	Hager
1 each Privacy set LM301 x QN 626	Falcon
1 each Wall Stop 236W US32D	Hager
3 each Silencers 307D GREY	Hager

HARDWARE SET NO. 3 - DOOR 4 - STORAGE, DOOR 5 - DATA

1 each Hinges BB1279 4-1/2 x 4-1/2 NRP USP	Hager
1 each Privacy set LM581 x QN 626	Falcon
1 each Wall Stop 236W US32D	Hager
3 each Silencers 307D GREY	Hager

SECTION 08800 - GLAZING

1. SCOPE:

A. Furnish all materials, labor, and related items required to complete work indicated on drawings and/or specified.
B. Items of work include, but are not necessarily limited to, 1" thick, Double-Glazed Solar Control Insulating Glass Units with Laminated Outboard lite for glazing of door frames, windows and storefront.
C. Items of work specified in other divisions, but related to work in this division are:
D. Inspect all frames to be glazed before starting work. If any corrections are required notify Architect in writing, and start work only after the frames are in proper condition.
E. Clean all glass after installation and after painting or other work which might soil the glass has been completed.
F. Furnish all materials and labor necessary to have the project free of chipped, cracked, broken, or otherwise damaged of defective glass and glazing at the time the project is accepted by the Owner.

3. SUBMITTALS:

A. Product Data: Submit manufacturer's product data, including performance characteristics and installation instructions.
B. Shop Drawings: Submit manufacturer's or fabricator's shop drawings, including plans, elevations, sections and details indicating glass dimensions, tolerances, types, thicknesses and coatings. Verify field dimensions and include on shop drawings.
C. Submit manufacturer's samples of each type, thickness and coating.
D. Submit fabricator's certification by manufacturer.
E. Submit manufacturer's cleaning instructions.
F. Submit manufacturer's standard warranty for sealed insulating glass units.

4. REFERENCES:

A. American Society for Testing and Materials (ASTM)
ASTM E 773 Standard Test Method for Accelerated Weathering of Sealed Insulating glass Units.
ASTM E 774 Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units.
ASTM C 1036 Standard Specification for Flat Glass.
ASTM C 1048 Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
ASTM C1172 Standard Specification for Laminated Architectural Flat Glass.
ASTM F 1233 Standard Test Method for Security Glazing Materials and Systems.
ASTM C 1376 Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Glass.

ASTM E 1886 Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
ASTM E 1996 Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes.
ASTM E 2188 Standard Test Method for Insulating Glass Unit Performance.
ASTM E 2190, Standard Specification for Insulating Glass Unit Performance.
B. ANSI Z97.1 Standards for Glazing Materials used in Buildings – Safety Performance Specifications & Methods of Test.

C. CPSC 16CFR 1201 Safety Standard for Architectural Glazing Materials.

D. Glass Association of North America (GANA) Glazing Manual.

5. QUALITY ASSURANCE:

A. Manufacturer's Qualifications: Minimum of 5 years experience manufacturing solar control coated glass.

B. Fabricator's Qualifications:
Minimum of 5 years experience manufacturing sealed insulating glass units meeting ASTM E 2190, Class CBA.
Minimum of 5 years experience manufacturing Laminated glass units meting ASTM C 1172, CPSC 16CFR-1201, and ANSI Z 97.1.
Certified by manufacturer.

3. MATERIALS:

A. Glass shall be Solar Control Insulating Laminated Coated Glass as manufactured by Guardian Industries Corp. or approved equals.

B. Fabricator shall be Arch Aluminum & Glass Company, Inc. or an approved equal.

C. Conformance: ASTM E 2190, Class CBA.
Glass Unit Performance Characteristics:
Visible Light Transmittance: 66 percent
Visible Light Reflectance Outdoors: 11 percent
Visible Light Reflectance Indoors: 12 percent
Winter U Value Nighttime: .28
Summer U Value Daytime: .27
Shading Coefficient: .42
Solar Heat Gain Coefficient: .37
Summer Relative Heat Gain: 87
Edge Seals: ASTM E 773, with aluminum spacers and manufacturer standard sealant for glass to spacer seals.
Sealant: Approved by glass manufacturer.

4. WORKMANSHIP:

A. All glazing shall be done by experienced workman in a first class workmanship-like manner. Install glass in accordance with manufacturer's instructions, except where special settings are shown or specified or where local codes or GANA Glazing Manual indicate more stringent requirements.
Verify glazing openings are correct size and within tolerance. Verify glazing channels, recesses and weeps are clean and free of obstructions. Surfaces to be glazed and glass shall be thoroughly clean and dry at time glazing is done. All glass shall be cut and edges finished according to manufacturers specifications for type of glass and area of installation.
Clean glass promptly after installation in accordance with manufacturer's instructions. Remove labels from glass surfaces. When cleaning glass, do not disturb glazing compound, do not use acid solutions or water containing caustic soaps; and perform the work in such a manner that glass, glazing compounds, stop bead and other nearby materials are clean, whole, and in perfect condition.
All glazing shall comply with ASTM C1048, CPSC 16 CFR 1201, ANSI Z97.1 and Section 2406 of the 2003 International Building Code. Tempered glass will have labels of compliance permanently etched in a corner of each panel of glass.

5. FIELD QUALITY CONTROL:

A. Coated glass, when viewed from minimum of 10 feet, exhibiting slightly different hue or color not apparent in hand samples, will not be cause of rejection of glass units, as determined by the Architect.
B. Verify glass is free of chips, cracks and other inclusions that could inhibit structural or aesthetic integrity.
C. Protect installed glass from damage during construction.
D. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.

SECTION 09900 - PAINTING

1. SCOPE: Furnish all tools, labor and material and perform all operations necessary for painting work scheduled and indicated on the drawings and specified herein.

2. SUBMITTALS

   A. Product data: Submit the following:

      1. Materials list of items proposed to be provided under this section.
      2. Manufacturer's specifications, warranty certifications, samples and other data needed to prove compliance with the specified requirements.
      3. Color charts and actual color samples of each selection to the Architect. Approval of these samples are required prior to painting.

3. MATERIALS: Paint shall be only "top quality product" from manufacturer's line. All paints shall be ready mixed and shall be delivered to the job in unopened containers bearing the mfr.'s label specifying his name and the quality, grade, and description of the contents. The materials shall be applied in strict accordance with the mfr.'s directions, and they shall not be reduced or adulterated except as specified herein or directed and then only in accordance with mfr.'s directions. All colors shall be selected by the Architect.

5. WORKMANSHIP

   A. The contractor shall protect all other surfaces not included in the specific area being painted, including walls, floors, etc., from damage or injury by employees and public, damage due to misapplication of paint products or due to other operations that may be performed by the contractor. In general, the above protection shall consist of maintaining suitable covering over all other surfaces within reasonable distance of the area being painted. If damage does occur due to the painting operations, the contractor shall thoroughly clean or otherwise restore any and all such damaged surfaces to the satisfaction of the Architect. This shall include, but shall not be limited to, the following: damage caused by splattered paint and other damage directly or indirectly caused by the paint operations. All restoration and repairs shall be done at no expense to the owner. Protect all exposed floors with suitable coverings and promptly remove any paint products getting on such floor.

   B. The painting contractor shall be responsible for all field painting and final coat as called for or specified under other sections of this specification.

   C. In the event that switch and receptacle plates, hardware, escutcheons, and other finished items are erected in their final positions before painting is started, they shall be removed and later replaced upon completion of the painting by their erector. Apply no paint until these items have been removed.

   D. Post "Wet Paint" notices on all newly painted surfaces during curing period.

   E. The application of paint to all surfaces shall be accomplished with quality brushes or rollers in even, thorough coats, without runs, sags, defective brushing, clogging, laps, or other blemishes and shall include all edges. Do no painting or finishing when the surrounding temperature is below 50 deg. F. All coats shall be completely dry before applying succeeding coats.

   F. Each coat of paint required by this specification shall be applied to a minimum dry film thickness indicated in the specifications of the paint manufactured.

   G. The contractor shall provide and maintain approved type mechanical type rotating mixers of adequate

size to thoroughly mix the quantities of paint required for this work. On a specific day only the paint required for that day shall be mixed and the time of mixing carefully recorded. Each mix of paint not applied before the expiration of the pot life of the paint shall not be used. The Owner shall have free access to observe the mixing technique, and to see that the specified quantities of materials are used, and all other requirements of this specification are met.

H. Before applying any paint, thoroughly clean and prepare all surfaces as herein specified. Remove all surface contamination such as oil, grease, loose paint, mill scale, dirt, foreign matter, rust mold, mildew and sealers. Wash thoroughly and dull existing surface before repainting. Remove sanding dust. Spot prime with appropriate primer as specified. Where previously painted surfaces are to be painted, check for compatibility with a new coating by applying a test patch of 2-3 square feet. No greater area shall be cleaned at one time than can be coated with the required prime coat within the same day. Before painting wood, remove splinters and rough spots, fill voids and nail holes as required.

5. SCHEDULE OF PAINTING: The following schedule shall be construed as the general guide for the painting and finishing of the portions of the building (based on Sherwin-Williams). Products of other manufacturers which are approved as equals will be accepted subject to this Specifications. Those include :Benjamin Moore and ICI.

Exterior

Steel Bollards and all Miscellaneous Metals not prefinished or with only manufacturer's prime finish:

Primer:	Touch-up any rust, exposed areas, etc., where shop primer or factory finish was damaged or removed with Kem Kromik Universal Metal Primer B50 Z Series. Prime all galvanized metal with Galvite HS B50WZ30.
Topcoats:	2 coats Industrial Enamel Urethane - B54 Series

Interior

Steel Door Frames and other exposed miscellaneous metals not prefinished:

Primer:	Touch-up any rust, exposed areas, etc. where shop primer or factory finish was damaged or removed with Kem Kromik Universal Primer B50Z Series. Prime all galvanized metal with Galvite HS B50WZ30.
Topcoats:	2 coats Industrial Enamel Urethane - B54 Series

Concrete Block:

Block Filler:	Heavy Duty Block Filler B42W46
Topcoats:	2 coats Tile-Clad HS Epoxy B62Z-100 Series

Wood Doors and Cabinets:

Primer:	1 coat Oil stain
Topcoats:	2 coats Varnish (sand well between coats)

6. Do necessary touching up of work applied by this contractor that for any reason has been damaged during construction work. Finish work in perfect condition at completion of building, otherwise contractor must refinish any damaged work.