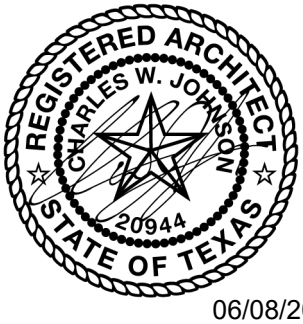
Project No. 25-0067.00

June 8, 2026



06/08/2026

ADDENDUM NO. 2
TO THE
DRAWINGS AND PROJECT MANUAL
FOR
NEW OPPORTUNITY AWARENESS CENTER
KATY INDEPENDENT SCHOOL DISTRICT
KATY, TEXAS

VLK
20445 State Highway 249, Suite 350
Houston, TX 77070
281.671.2300
vlkarchitects.com

2.1 GENERAL

A. This addendum modifies the drawings and project manual, dated May 26, 2026, as noted within and shall become part of the Contract Documents.

B. Each holder of proposal documents registered with the Architect will receive a copy of the addendum. Each prime proposer is responsible for distribution of information conveyed by this addendum to its sub-proposers and suppliers.

C. Proposers shall acknowledge receipt of this addendum in the space provided on the proposal form. Failure to do so may subject proposer to disqualification.

D. A pre-proposal conference was held at 2:00 p.m., local time, June 2, 2026 in the Field House Meeting Room of the Rhodes Stadium building. Attached to this addendum is an Attendance Register from that conference.

2.2 TABLE OF CONTENTS

A. Delete this Document in its entirety and insert attached **revised** “Table of Contents”.

2.3 SECTION 03 35 43 - POLISHED CONCRETE FINISHING

A. Delete this Section in its entirety and insert attached **revised** Section.

2.4 SECTION 06 10 00 - ROUGH CARPENTRY

A. Delete this Section in its entirety and insert attached **revised** Section.

2.5 SECTION 06 40 00 - ARCHITECTURAL WOODWORK

A. Delete this Section in its entirety and insert attached **revised** Section.

2.6 SECTION 07 21 19 - FOAMED IN PLACE INSULATION

A. Delete this Section in its entirety.

2.7 SECTION 07 26 00 - VAPOR RETARDERS

A. Delete this Section in its entirety and insert attached **revised** Section.

2.8 SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM

A. Delete this Section in its entirety and insert attached **revised** Section.

2.9 SECTION 07 92 00 - JOINT SEALANTS

A. Delete this Section in its entirety and insert attached **revised** Section.

2.10 SECTION 08 11 00 - HOLLOW METAL DOORS AND FRAMES

A. Delete this Section in its entirety and insert attached **revised** Section.

2.11 SECTION 08 14 23 - PLASTIC-LAMINATE-FACED WOOD DOORS

A. Delete this Section in its entirety and insert attached **revised** Section.

2.12 SECTION 06 10 00 - ROUGH CARPENTRY

A. Delete this Section in its entirety and insert attached **revised** Section.

2.13 SECTION 08 41 13.00 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

A. Delete this Section in its entirety and insert attached **revised** Section.

2.14 SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

A. Delete this Section in its entirety and insert attached **revised** Section.

2.15 SECTION 09 72 16 - VINYL-COATED FABRIC WALL COVERING

A. This Section, attached hereto, is entirely new and hereby made a part of this addendum.

2.16 CIVIL ADDENDUM ITEMS

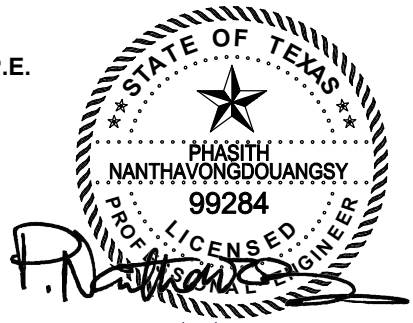
A. Attached document by Adico, LLC. Consulting Engineers shall hereby become a part of this addendum.

END OF ADDENDUM NO. 2

June 08, 2026

ADICO, LLC. CONSULTING ENGINEERS
TBPE No. F-16423

Phasith Nanthavong, P.E.



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CIVIL CONSULTANT, ADDENDUM No. 2

1. SPECIFICATION

A. Added Specifications Section 33 49 13, STORM DRAINAGE MANHOLE, FRAME AND COVER.

END OF ADICO ADDENDUM No. ITEMS

ATTENDANCE REGISTER

Reference: New Opportunity Awareness Center
Katy ISD

Date: June 2, 2026

Type of Meeting: Pre-Proposal Conference

Architect's Project No.: 25-0067.00

Name (Please print)	**Company Title**	**Email**
Elena Gonzalez	Millennium PS	estimating@mps-team.com
PAM HAYNES	GAMMA CONST	PHAYNES@GAMMACONST.COM
Jack Ellisor	Ellisor Constructors	jack@ellisorinc.com
Brice Springer	RDI Mechanical	bspringer@RDImechanical.com
Ted Tou	Patriot Contracting, LLC	ted@patriotllc.us
David Roeder	Fisk Electric - Security	droeder@fiskcorp.com
Robert Wimberley	Accutek Technologies	robert.wimberley@myaccutek.com
Jose Hernandez	TAG Comm	joseh@tagcompanies.com
Sergio flores	N.Grl Electric Company inc	Sergio.Flores@ngilelectric.com
PRASAD NUNNA	STEALING STRUCTURES	bids@steelystructures.com
MATT TATUM	BASS CONSTRUCTION	BIDS@BASSCONSTRUCTION.com

ATTENDANCE REGISTER

Reference: New Opportunity Awareness Center
Katy ISD

Date: June 2, 2026

Type of Meeting: Pre-Proposal Conference

Architect's Project No.: 25-0067.00

Name (Please print)	**Company Title**	**Email**
Jimmy McBee	Anslow Bryant Construction	jimmy.mcbee@anslowbryant.com
Valeria Castaneda	Anslow Bryant	valeria.castaneda@anslowbryant.com
Bruce Vega	Anslow Bryant	bruce.vega@anslowbryant.com
Brandon Watson	DivisionOne Construction	bid@d1construction.com
MATT TATUM	BASS CONSTRUCTION	BIDS@BASSCONSTRUCTION.COM
Victoria Lee	GTT Construction	VLee@gttconstruction.com
Korbin Mullinax	Stewart Builders	Korbin@stewartbuildersgc.com
KRIS LYNN	STEWART BUILDERS	Kris@stewartbuildersgc.com
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JEFF TEETZ	TRICO MECHANICAL	TRICOTX@GMAIL.COM
Chris Walker	CA Walker construction	Bids@cawalker.net
SCOTT MCCASHLAND	M Scott Const	scott@mscottconstruction.com
Jeff Schafer	ICI Construction, Inc.	bids@iciconstructioninc.com
Laura Reddehase	SEDALCO	bids@sedalco.com
PHILLIP CANO	PRIME CONTRACTORS	estimating@primecontractorsinc.com

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SECTION 03 35 43

POLISHED CONCRETE FINISHING

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes:

1. Installation of polished concrete floor system for new and/or existing interior concrete floors by dry grinding, application of concrete densifier, and polishing with various size grit metal-bonded and resin-bonded diamonds to the scheduled specified minimum local and overall gloss values.
2. Application of chemical dye.

B. Related Sections:

1. Section 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
2. Section 03 30 00 - CAST-IN-PLACE CONCRETE.
3. Section 07 92 00 - JOINT SEALANTS.
4. Section 09 65 00 - RESILIENT FLOORING; Rubber base.

.2 REFERENCES

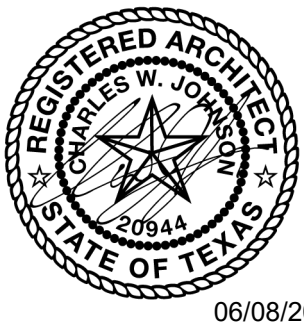
A. ACI 302.1R - Guide to Concrete Floor and Slab Construction; 2015.
B. ANSI/NFSI B101.3 - Test Method for Measuring the Wet DCOF of Hard Surface Walkways; 2022.
C. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2020.
D. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2019.
E. ASTM C779/C779M - Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces; 2019.
F. ASTM C1028 - Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method; 2007.
G. ASTM D523 - Standard Test Method for Specular Gloss; 2025.

.3 SUBMITTALS

A. General: Submit in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Product Data:

1. For each type of chemical product indicated, submit current specifications and product literature, as printed by the manufacturer of the products specified herein.
2. Submit information on all grinding equipment to be used.
   a. Planetary grinder polishing equipment
   b. Planetary grinder HEPA dust collection equipment
   c. Hand tools
   d. Hand tool dust collection equipment
   e. Diamond tooling
   f. High speed propane burnisher
   g. Polyurea pump
   h. Joint cutting saw
3. Manufacturer's chemical and product data sheets for:
   a. ~~**Specified dye**~~ ***[ADDENDUM NO. 2]***
   b. Liquid reactive surface densifier
   c. Liquid stain guard treatment
   d. Joint filler
   e. Crack and spall repair product
   f. Self leveling, dye-able, polishable overlay product
   g. Grout coat, pin hole and small defect surface treatment
4. All proposed materials and methods of application are subject to review by the Architect and Owner.



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C. Samples: Submit manufacturer's full color palette for concrete coloring materials.

D. Installer's Certification:

1. Provide list of 5 projects performed with last three years of similar type, size and complexity. Submit project names, addresses, contacts and phone numbers for each project. General Contractor is to validate references and polisher's capabilities prior to submitting bid.

2. Applicator Qualifications: Submit letter of certification from each of the following manufacturers of products and equipment specified herein, stating that the applicator is a certified applicator of the system and is familiar with proper procedures and installation methods as required by the manufacturer.
    a. Planetary grinder system
    b. Liquid reactive surface densifier and stain guard treatment
    c. Joint filler, crack and spall repair products

E. Mock-Up:
1. Prior to installation of dyed concrete finish system.
    a. Accepted mock-up shall remain as part of finished product.
2. Mock-Up size will be 100 sq. ft. at project site at location as directed by Architect. Mock-up will be under conditions similar to those which will exist during actual placement.
3. Mock-up will include properly repaired surface spalls, slab joints and slab edge treatments including complementary edge banding.
4. Mock-up will be used to judge concrete substrate preparation, workmanship, operation of equipment, material application, color selection and shine.
5. Allow a minimum of 24 hours for inspection of mock-up. Mock-up shall be accepted before proceeding with work and before any color or pattern work is started.

.4 QUALITY ASSURANCE

A. Regulatory Requirements:
1. Accessibility Requirements: Comply with applicable requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAGs) for Buildings and Facilities; Final Guidelines, revisions, and updates for static coefficient of friction for walkway surfaces.
2. Environmental Requirements: Comply with current Federal and local toxicity and air quality regulations and with Federal requirements on content of lead, mercury, and other heavy metals. Do not use solvents in floor polish products that contribute to air pollution or impact food quality.

B. Qualifications:
1. Installer trained and holding current certification for installation of specified products and polishing system.
2. Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project. Contractor shall have completed 5 jobs of similar size, scope and complexity within the last 2 years.
3. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.

C. Pre-installation Meetings: Schedule and convene a pre-installation meeting at the project site before start of installation of polished concrete floor system
1. Meeting to occur only after review and approval of required Sub-contractor submittals and completion of test panel mock-up, including specified grinding, polishing and dye, joint filling, spall and crack repairs, and specified overall gloss values.
2. Required attendance of parties directly affecting work of this section, including:
    a. Project Architect
    b. Polishing Consultant, if retained on project.
    c. General Contractor
    d. Polishing Subcontractor including Project Manager and Foreman
3. Pre-installation meeting agenda to verify project requirements, manufacturer’s installation instructions and manufacturer’s warranty requirements. Review the following:
    a. Existing conditions.
    b. Environmental requirements.
    c. Scheduling and phasing of work.
    d. Coordinating with other work and personnel.
    e. Protection of adjacent surfaces.
    f. Surface preparation.
    g. Repair of defects and defective work prior to installation.
    h. Cleaning.
    i. Installation of polished floor finishes.
    j. Application of liquid hardener, densifier.
    k. Protection of finished surfaces after installation.

.5 PROJECT CONDITIONS

A. Sequence application of concrete polishing after completion of other construction activities that would be damaging to the completed polished concrete finish.

B. Close areas to traffic during and after floor application for time period recommended in writing by manufacturer.

.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials in manufacturer's original packaging with identification labels and seals intact.

B. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.

C. Waste Management and Disposal: Remove from site and dispose of packaging materials at appropriate recycling facilities.

.7 WARRANTY

A. Project Warranty: Refer to Contract Conditions for project warranty provisions.

B. Manufacturer's Warranty: Submit 10-year warranty signed by polished concrete contractor for failure and replacement of materials and workmanship executed by authorized company official. Manufacturer's warranty is in addition to, and does not limit, other rights Owner may have under Contract Documents.

C. Warranty commences on date of Substantial Completion.

PART 2 - PRODUCTS

.1 PRODUCTS

A. Provide Polished Concrete Finishing Products by Ameripolish Concrete Polishing System (phone: 800.725.0033) or approved equal.

1. Machinery Requirements: HTC Systems Unit 800 or SASE Diamatic System Unit 780 or equivalent size and head pressure machinery made for grinding concrete.
2. Joint Filler: Semi-rigid, 2-component, self-leveling, 100% solids, rapid curing, polyurea control joint and crack filler with Shore A 80 or higher hardness.
3. Low Viscosity Crack and Spall Repair: Rapid Refloor in complementary matching color, by Metzger McGuire or approved equivalent.
4. Wide Area Surface Repairs: Diama-Top by Ardex Engineered Cements or approved equivalent.
5. Pin Hole and Surface Pitting Grout Coat: Diama-Fill, by Ardex Engineered Cements or approved equivalent.
6. Concrete Hardener, Densifier: Water based, odorless liquid, VOC compliant, chemical hardening solution leaving no surface film.
7. ~~**Concrete Colorant: Fast-drying dye, packaged in premeasured units ready for mixing with VOC exempt solvent; formulated for application to polished cementitious surfaces.**~~
   a. ~~**Color: As scheduled in "Material Finish Schedule" in drawings.**~~
   b. ~~**Finish: Standard High Gloss (HG-1), 1500 grit.**~~
   c. ~~**Oil-Repellent Sealer: Ready-to-use, silane, siloxane and fluoropolymers blended water based solution sealer, quick drying, low-odor, oil and water repellent, VOC compliant and compatible with chemically hardened floors.**~~ ***[ADDENDUM NO. 2]***
8. Cleaning Solution: Mild, highly concentrated liquid concrete cleaner and conditioner containing wetting and emulsifying agents; biodegradable, environmentally safe and certified High Traction by National Floor Safety Institute ANSI/NFSI B101.3.

B. Protect completed areas with EZ Cover by McTech Corp. (phone: 866.913.8363 website: http://www.mctechgroup.com/ezcover.html), or comparable product.

C. Design Requirements:

1. Hardened Concrete Properties:
   a. Minimum Concrete Compressive Strength:3500 psi
   b. Normal Weight Concrete: No lightweight aggregate.
   c. Non-air entrained.
   d. See structural general notes sheets for additional requirements.
2. Placement Properties:
   a. Natural concrete slump of 4-1/2 inches - 5 inches. Admixtures may be used.
   b. Flatness Requirements:
      1) Overall FF 40.
      2) Local FF 20.
3. Hard-Steel Troweled (3 passes) Concrete:
   a. No burn marks. Finish to ACI 302.1R, Class 5 floor.
   b. Class 6 floors, special colored mineral aggregate hardener with repeated hard steel trowel finish.
4. Curing Options:
   a. Damp Curing: Seven day cure.
   b. Sheet membrane (ASTM C171); polyethylene film not recommended.

c. Membrane forming curing compounds (ASTM C309, Type 1, Class B, all resin, dissipating cure).
   1) Dissipating membrane must be fully removed before polished. Mechanical removal of chemical stripping may be required if application rates are not precise or UV exposure is low.
   2) Acrylic curing and sealing compounds not recommended.

.2 SYSTEM DESCRIPTION AND PERFORAMCE

A. Performance Requirements: Provide polished flooring that has been selected, manufactured and installed to achieve the following:
   1. Abrasion Resistance: ASTM C779/C779M, Method A, high resistance, no more than 0.008 inch wear in 30 minutes.
   2. Reflectivity: Increase of 35% as determined by standard gloss meter.
   3. Waterproof Properties: Rilem Test Method 11.4, 70% or greater reduction in absorption.
   4. High Traction Rating: ANSI/NFSI B101.3, non-slip properties.

PART 3 - EXECUTION

.1 EXAMINATION

A. Site Verification of Conditions: Verify that concrete substrate conditions, which have been previously installed under other sections or contracts, are acceptable for product installation in accordance with manufacturer's instructions prior to installation of concrete finishing materials.

B. Verify Concrete Slab Performance Requirements:
   1. Verify concrete is cured to 28 day, at strength as specified in Section 03 30 00 - CAST-IN-PLACE CONCRETE.
   2. Floor and Joints: Dry and free of debris and excessive dirt, dust, clay, and mud.
   3. Floor Finish: Wide channel floated, smooth, pan, combination blade and plastic blade finished floor from edge to edge, with no rough areas. Verify concrete surfaces received a hard steel-trowel finish (3 passes) during placement.
   4. Concrete Adjacent to Floor Penetrations: Troweled flat and level with surrounding concrete.

C. Notify the General Contractor in writing of conditions that would adversely affect installation or subsequent use prior to commencement of polishing.

D. Do not begin surface preparation or installation until conditions are corrected and approved.

.2 PREPARATION

A. Examine surface to determine soundness of concrete for polishing.

B. Remove surface contamination, fins and projections.

C. Chalk lines laid out for any purpose are acceptable as long as they are not sprayed down with clear acrylic.

D. Protection: Protect surrounding areas and adjacent surfaces from the following:
   1. Minimal accumulation of dust from grinding and polishing.
   2. Contact with overspray of penetrating hardener / densifier.
   3. Contact with overspray of protective surface treatment (stain guard)
   4. Contact with overspray of water or solvent based dye treatment.
   5. Contact with joint filler, crack or spall repair materials

E. On existing concrete floors, completely remove existing flooring, mastics, adhesives, self-leveling underlayment fillers and other foreign matter.

F. On existing concrete floors, remove the top 1/2 of an inch of existing joint material and replace with approved joint filler and crack repair products.

G. Clean Surfaces: Remove dirt, dust, debris, oil, grease, curing agents, bond breakers, paint, coatings, and other surface contaminants which could adversely affect installation of polished concrete floor system.

.3 INSTALLATION

A. Install polished concrete floor system in accordance with manufacturer's instructions at locations indicated on the Drawings.

B. Aggregate Exposure:
   1. Fine Aggregate: Mottled salt-and-pepper aggregate exposure.

C. Polished Concrete Floor System
   1. Open Slab Surface:
      a. As required to provide a uniform final polish or removal of existing floor coatings, begin grinding with 40 or 80-grit metal bond. Bids shall be based on starting initial cut with 40-grit metal diamonds. Expose coarse concrete aggregate when required to reach lows spots within floor surface.

b. Review condition of floor. Obtain written approval if large coarse aggregate is required to be exposed to remove existing coatings, floor underlayment or slab deficiencies. Variations to the precise grinding, densifying, polishing, dying and stain guard application are anticipated, but must be discussed and approved in writing prior to executing the work.
c. For new concrete floors, open-up concrete by grinding with 80-grit metal-bonded.
d. Progressive edge grinding will be necessary with ½" of all vertical abutments, including walls, cases, columns, posts and racking systems.
e. Joint filler and spall repairs shall be flush with surface after grinding and polishing steps. Additional passes along curled joints may be necessary to remove joint filler chatter.

2. Remove metal-bonded diamond scratches by grinding with progressively finer metal-bonded diamonds, up to metal bond 150-grit.
3. Apply densifier
   a. Per manufacturer's recommendations and the concrete's acceptance of the product.
4. Floor Polishing:
   a. Remove 150-grit metal-bonded diamond scratches by grinding with a transitional diamond per manufacturers recommendation
   b. Remove transitional resin-bonded diamond scratches by grinding with 100-grit resin-bonded diamonds.
   c. Remove 100-grit resin-bonded diamond scratches by grinding with 200-grit resin-bonded diamonds.
   d. Remove 200-grit resin-bonded diamond scratches by grinding with 400-grit resin-bonded diamonds.
   e. Remove 400-grit resin-bonded diamond scratches by grinding with 800-grit resin-bonded diamonds.
   f. ~~**Remove 800-grit resin-bonded diamond scratches by grinding with 1500-grit resin-bonded diamonds.**~~ ***[ADDENDUM NO. 2]***
5. Apply stain guard
   a. Apply in accordance with manufacturer's published instructions.
   b. Apply first coat per manufacturer's recommendation (DO NOT OVER APPLY).
   c. Use applicator pad, pre-wetted with stain guard, to pull material out to create a thin film prior to drying.
   d. Remove product completely from areas of over application, as evidenced by surface streaking, and replace with unused stain guard.
   e. Apply second coat of stain guard at all high traffic areas identified on the drawings per manufacturer's instructions.
6. High speed burnish:
   a. After each application of stain guard is dry, burnish surface.
   b. Burnish using approved pads, at a slow movement pace using high speed machine with 400 or 800 grit diamond impregnated pads as required to achieve specified gloss requirements.
   c. Burnish with several passes. Make each progressive pass at 90 degrees from previous pass.
   d. Burnishing, pad type, and pace of forward movement shall combine to develop a minimum floor surface temperature of 91-degrees F directly below the burnishing pad as continuously measured by the operator during installation.

D. Penetrating Dye
1. Mix dye in accordance with installer's instructions.
2. Where shown on Architectural drawings, saw-cut reveal line around room periphery. Use Mongoose concrete saw or similar to cut precise intercepts. Use tape and protection along saw cut to prevent main floor dye from penetrating concrete surface to receive edge band.
3. Apply 2-coats of AmeriPolish or approved equivalent solvent based dye color per plans.
4. Apply penetrating dye after 200 or 400-grit resin-bonded diamond-grinding step in accordance with manufacturer's recommendations and approved mock-up.
5. Thoroughly auto-scrub surface clean of excess dye residue in accordance with manufacturer's instructions.
6. Repeat application of penetrating dye if due to porosity of floor or darker color is desired as selected by Architect. Bids shall be based on providing 2 applications of Dye.

.4 FIELD QUALITY CONTROL

A. Inspect completed polished concrete floor system with the Architect, Concrete Consultant, General Contractor, and Polished Concrete Installer.

B. Review procedures with Owner's Consultant to correct unacceptable areas of completed polished concrete floor system.
C. Specular Gloss/Reflectance, ASTM D523:
1. Perform polishing and burnishing work necessary to produce a Specified Overall Gloss Value (SOGV) = 50 prior to applying protective surface treatment, SOGV = 60 after applying protective surface treatment, Minimum Local Gloss Value (MLGV) = 40 after applying protective surface treatment as measured using a Horiba IG-320 60 Degree Gloss Checker.
2. Gloss shall be considered as a quantitative value that expresses the degree of reflection when light hits the concrete floor surface. Gloss measurements will be taken independent of ambient lighting and will be taken within a sealed measurement window located beneath the test unit.
3. Collects 12 readings minimum, throw out low and high measurements and average remaining measurements. Average shall exceed SOGV. No single measurement shall be less than MLGV.

.5 ADJUSTMENTS
A. Polish to higher gloss those areas not meeting specified gloss levels per mock-up.
B. Fill joints flush to surface.

.6 FINAL CLEANING
A. Final clean in accordance with Section 01 74 13 - CLEANING.
B. Mechanically scrub treated floors for seven days with soft to medium pads with approved cleaning solution.
C. Clean adjacent materials and surfaces and work area of foreign materials resulting from work of this section.
D. Upon completion, Contractor must remove surplus and excess materials, rubbish, tools and equipment.

.7 PROTECTION
A. Protect completed polished concrete floor system from damage until Substantial Completion.
1. Do not allow vehicle and pedestrian traffic on unprotected floor.
2. Do not allow construction materials, equipment, and tools on unprotected floor.
3. Prohibit parking of vehicles on concrete slab.
4. Protect from petroleum stains during construction.
5. If construction equipment must be used for application, diaper components that might drip oil, hydraulic fluid, or other liquids. This is especially important with hydraulic lifts.
6. No tire embedments (rocks, nails, screws, etc.) that will scratch or pit slab surface.
7. Check lift tires daily for screws.
8. Prohibit pipe cutting using pipe cutting machinery on concrete slab.
9. Prohibit temporary placement and storage of steel members or reinforcing steel on concrete slab.
10. Prohibit acids and acidic detergents from contacting concrete surfaces.
11. Cover concrete floors with drop cloths or use breathable drop cloths during painting. If paint is spilled on concrete floor, remove paint immediately.
12. Protect slab surface from standing moisture for 72 hours to prevent re-emulsification of surface treatment prior to cure
B. Protect adjacent materials from damage during installation of polished concrete.
C. Chalk lines laid out for any purpose are acceptable as long as they are not sprayed down with clear acrylic.
D. Immediately remove mortar splatter, spilled liquids, oil, grease, paint, coatings, and other surface contaminants which could adversely affect completed polished concrete floor system.
E. Repair damaged areas of completed polished concrete floor system to satisfaction of the Architect and Owner's Consultant.
F. Protect completed areas with EZ Cover by McTech Corp. (phone: 866.913.8363 website: http://www.mctechgroup.com/ezcover.html), or comparable product.

END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

06/08/2026

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes: Wood blocking, framing with dimension lumber, nailers, wood furring and grounds, plywood sheathing, subflooring, and plywood backing panels.

B. Related Sections:

1. Section 06 40 00 - ARCHITECTURAL WOODWORK

.2 REFERENCE STANDARDS

A. AFPA (NDS) - National Design Specification for Wood Construction; 2018.

B. APA E30 - Engineered Wood Construction Guide; 2019.

C. ASTM D2898 - Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010 (Reapproved 2024).

D. ASTM D3201/D3201M - Standard Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Based Products; 2020 Edition.

E. ASTM D3498 - Standard Specification for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor System Framing; 2019a.

F. ASTM D5664 - Standard Test Method for Evaluating the Effects of Fire-Retardant Treatments and Elevated Temperatures on Strength Properties of Fire- Retardant Treated Lumber; 2017 Edition.

G. ASTM D6841 - Standard Practice for Calculating Design Value Treatment Adjustment Factors for Fire-Retardant-Treated Lumber; 2016 Edition.

H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026a.

I. AWPA U1 - Use Category System: User Specification for Treated Wood; 2025.

.3 SUBMITTALS

A. General: Submit in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Product Data:

1. Include all data for rough carpentry products required for installation.
2. Fire-retardant-treated wood product data, including 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.

C. Warranty: Provide warranty of chemical treatment manufacturer for each type of treatment.

.4 QUALITY ASSURANCE

A. Lumber Grading: Lumber Grading Rules and Wood Species in accordance with Voluntary Product Standards. Grading rules of following associations apply to materials furnished.

1. Southern Pine Inspection Bureau (SPIB).
2. West Coast Lumber Inspection Bureau (WCLIBB).
3. Western Wood Products Association (WWPA).

B. Grade Marks: Identify lumber and plywood by official grade mark.

1. Lumber: Include symbol of grading agency, mill name, grade, species, grading rules and condition of seasoning at time of manufacturer.
2. Plywood: Include type, span rating or group number, exposure durability classification, and agency mark of APA.

.5 QUALIFICATIONS

A. Design structural site fabricated items under direct supervision of a professional structural engineer experienced in design of this work and licensed in the State of Texas.

.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, handle, and protect products in accordance with SECTION 01 65 00 - PRODUCT DELIVERY REQUIREMENTS and SECTION 01 66 00 - PRODUCT STORAGE AND HANDLING REQUIREMENTS.

B. Store products above ground, on platforms or skids, and covered with waterproof coverings. Provide for adequate air circulation.

C. Do not store seasoned materials in damp or wet locations.

D. Support products in such a way as to prevent warping and distortion.

.7 WARRANTY

A. Provide a 20-year warranty for each type of chemical treatment.

PART 2 - PRODUCTS

.1 MATERIALS

A. Wood: Lumber for framing and general carpentry work shall be sound, well manufactured, surfaced S4S material with a moisture content limit of 19%.
   1. Dimension: SPIB grade marked No.2 Dimension Southern Pine or WCLB grade marked No. 2 Dimension Douglas Fir.
   2. Boards: SPIB grade marked No. 2 Boards Southern Pine.
   3. Redwood: RIS grade marked Construction Heart California Redwood.

B. Plywood: Plywood for general carpentry work shall be APA trademarked, 23/32" minimum thickness, Tongue & Groove.
   1. ~~**Interior: APA Rated Sturd-I-Floor, 24 oc, Exposure 1, fire-retardant treated.**~~
   2. ~~**Exterior: APA Rated Sturd-I-Floor, 24 oc, Exterior, fire-retardant treated.**~~
   3. **Interior: B - D, Group 2, Exposure 1, fire-retardant treated.**
   4. **Exterior: C - C plugged grade, Group 2Exterior, fire-retardant treated.**
   [ADDENDUM NO. 2]

C. Rough Hardware:
   1. Anchors, bolts, screws, and spikes shall be of proper types and sizes to support the work, to draw the members into place, and to hold them securely. Bolt heads and nuts bearing on wood shall have standard washers.
   2. Metal fasteners to secure wood grounds and blocking to masonry and concrete shall be of the type best suited to the conditions and spaced no more than 16" o.c. Wood plugs and nailing blocks are not acceptable.
   3. Nails shall be of the sizes and types intended for the particular use.
   4. Rough hardware exposed to the weather or embedded in exterior masonry and concrete walls or slabs shall be hot-dipped galvanized.
   5. Nails and bolts used with preservative treated lumber shall be hot-dipped galvanized.

.2 WOOD TREATMENT

A. Preservative Treatment:
   1. Comply with applicable requirements of AWPA U1; Category UC2 for interior construction not in contact with ground, Category UC3b for exterior construction not in contact with ground, and Category UC4a for items in contact with ground.
      a. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
      b. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
   2. Kiln-dry lumber and plywood after treatment to a maximum moisture content of 19% for lumber and 15% for plywood. Do not use material that is warped or that does not comply with requirements for untreated material
   3. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.

B. Fire-Retardant Treatment:
   1. General: Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
   2. Wood shall be fire-retardant chemically treated and pressure impregnated; with a flame spread index of 25 or less and a smoke development of 0-450 when tested according to ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
   3. Treatment shall not promote corrosion of metal fasteners.
   4. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D2898. Use for exterior locations and where indicated.
   5. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D3201/D3201M at 92 percent relative humidity. Use where exterior type is not indicated.
   6. Design Value Adjustment Factors: Treated lumber shall be tested according to ASTM D5664 and design value adjustment factors shall be calculated according to ASTM D6841.

7. Kiln-dry lumber and plywood after treatment to maximum moisture content of 19% for lumber and 15% for plywood.
8. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.

C. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment. Inspect each piece of lumber or plywood after drying; discard damaged or defective pieces.

PART 3 - EXECUTION

.1 INSTALLATION

A. General

1. Discard units of material with defects which might impair quality of work, and units which are too small to fabricate work with minimum joints or optimum joint arrangement.
2. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted. Scribe and cope as required.
3. Securely attach carpentry work to substrates by anchoring and fastening as required by recognized standards and as required to draw members into place and securely hold same unless otherwise indicated. Use washers under all bolt heads.
4. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials.
5. Make tight connections between members to develop full strength of members.
6. Install fasteners without splitting of wood.
7. Pre-drill as necessary.
8. Comply with APA E30 requirements for plywood.
9. Install fasteners at spacings recommended by AFPA (NDS) National Design Specifications for Stress Grade Lumber and Its Fastening for lumber and APA E30 for Plywood, unless more restrictive code requirements dictate tighter spacing or heavier fasteners.
10. Locate members as indicated on the drawings. Size, spacing or spans shall not be changed without specific approval of Architect. Take care to place proper grades and species of members where indicated in accordance with the lumber schedule herein.
11. Temporary brace framing at the end of each days' work until all framing is completed and securely anchored. Leave temporary bracing in place as long as required for safety. As work progresses, securely connect work to compensate for dead load, wind and erection stresses.

B. ~~**Plywood Paneling: Arrange in uniform width.**~~

1. ~~**Install in full lengths without end joints.**~~
2. ~~**Install with uniform end joints. Locate end joints only over furring or blocking.**~~
3. ~~**Fasten paneling with trim screws, set below face and filled.**~~ ***[ADDENDUM NO. 2]***

C. Shoring: Construct shoring for masonry where required. Brace and maintain it until the mortar has set sufficiently to permit removal.

D. Blocking: Install 2x6 wood blocking between studs to stiffen the structure and for the support of other work. Provide 2x6 blocking for installation of wall-mounted objects.

E. Nailers: Install nailers of adequate size where detailed. Nailers shall be bolted in place. Where bolt sizes and spacing are not specifically noted, use not less than 3/8" bolts at 32" o.c., staggered.

F. Roof Curbs: Construct wood curbs as detailed to frame openings and support flashings in roof decks.

G. Bucks: Install wood bucks for frames as required. Members shall be at least 2 x 4 material. Spike securely together. In masonry, provide 16 ga. corrugated metal jamb anchors screwed to the back and spaced to work masonry bed joints, not more than 32" apart.

H. ~~**Floor Underlayment for Platforms/Masonite Flooring: Install underlayment with face grain perpendicular to supports and spanning minimum two spans. Locate ends and sides over supports and stagger the short joints. Leave 1/8" spacing between all panel ends and edges. Use screw-type nails on 6" centers at ends and 12" centers at intermediate supports. Set screw heads 1/16". Start nails 3/8" from panel edges. Nail and glue using adhesives meeting APA specification AFG-01 or ASTM D3498, with installation per APA E30.**~~ ***[ADDENDUM NO. 2]***

I. Plywood Backing Panels: Screw attach through gypsum board to supports.

.2 PROTECTION

A. Protect products from moisture absorption and subsequent warping or deterioration until subsequent construction can proceed.

END OF SECTION

SECTION 06 40 00

ARCHITECTURAL WOODWORK

06/08/2026

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes: panelwork, window sills, shelving.

B. Related Sections:

1. Section 06 10 00 - ROUGH CARPENTRY.
2. Section 08 14 23 - PLASTIC-LAMINATE-FACED WOOD DOORS.
3. Section 08 71 00 - DOOR HARDWARE: masterkey cabinet locks.
4. Section 09 91 00 - PAINTING: applied finishes.
5. Section 12 32 16 - MANUFACTURED PLASTIC-LAMINATE-CLAD CASEWORK.
6. Division 22 - PLUMBING.

.2 REFERENCE STANDARDS

A. AWI (AWS) - Architectural Woodwork Standards; 2014, with Errata (2016).

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

.3 SUBMITTALS

A. General: Submit following items in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Product Data:

1. Manufacturer's technical literature for factory fabricated items and components.

C. Shop Drawings

1. Indicate profiles, sections, and views of stock items as well as specially fabricated items for the work, at scale large enough to permit checking for design conformity.
2. Indicate sizes, quantities, markings, materials, wood species, finishes and accessories.
3. Include assembly and installation drawings to show methods of blocking, fastening, bracing, jointing, and connecting to work of other trades.

D. Samples

1. Two samples of each type and species of plywood, M-2, 45# particleboard, and finish lumber specified, complete with applied finish.
2. Each type of hardware and fastening device required in the construction of the work specified herein.

E. Certificate: Submit certification by testing plant stating chemicals and process used, conformance with referenced standards and governing ordinances, and non-bleeding quality of treatment.

.4 QUALITY ASSURANCE

A. AWS Quality Standard AWI (AWS) : Comply with grades of interior architectural woodwork, construction, finishes and other requirements of the “Architectural Woodwork Standards”, 2nd Edition, 2014, adopted and published jointly by Architectural Woodwork Institute (AWI (AWS)), Architectural Woodwork Manufacturers Association of Canada (AWMAC/WI (NAAWS)), and Woodwork Institute (WI), except as otherwise indicated.

1. Use Premium Grade, except use Economy Grade for millwork in custodian closets and storage rooms. Items not given a specific quality grade shall be Premium Grade.

B. Lumber and Plywood Material Grading: As defined in AWS Section 4 - Sheet Products, and as defined by the rules of the recognized associations of lumber and plywood manufacturers producing the materials specified.

C. Fabrication Standards: Fabricate items in accordance with AWI (AWS) standards listed below using Premium Grade except at millwork scheduled to be installed in Custodian's Closets and storage rooms, which shall be Economy Grade.

1. Lumber grades: AWS Section 3 - Lumber.
2. Miscellaneous Work: AWS Section 6 - Interior & Exterior Millwork.
3. Painted Millwork: AWS Section 10 - Casework.
4. Countertops: AWS Section 11 - Countertops.

D. Regulatory Requirements: Conform to applicable code for fire retardant requirements.

E. Accessibility Standards: Meet Texas Accessibility Standards (TAS) special requirements for the following:

1. Countertop height with or without cabinet below
2. Kneespace clearance to be minimum clearance
3. 12 inch deep shelving, adjustable and fixed
4. Wardrobe cabinets, furnished with rod/shelf adjustable to 48 inches above finished floor, with a maximum 21 inch shelf depth.

5. Sink cabinet clearances
6. Cabinet locks, latches, and other operating mechanisms, except locked bottom drawers at base cabinets.

.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver woodwork to the project site only when dry and product storage space is available at or in the building so that it can be kept dry and protected from injury.

.6 PROJECT CONDITIONS

A. Protection: Protect finish woodwork surfaces from soiling and damage during handling and installation. Keep covered with polyethylene film or other protective covering. Woodwork damaged through neglect of the above requirements shall be repaired or replaced without additional cost to the Owner.

.7 ENVIRONMENTAL REQUIREMENTS

A. Install finish carpentry products only when temperature and humidity conditions have been stabilized and will be maintained.

B. Maintain temperature and moisture conditions as recommended by woodwork fabricator from date of installation through remainder of construction period.

PART 2 - PRODUCTS

.1 MATERIALS

A. General:
1. Comply with quality and grading standards contained herein for each material.
2. Sizes noted on drawings or indicated herein for lumber are nominal unless detailed by specific dimensions of actual size.
3. Cabinets: Plywood and M-2, 45#, particleboard ¾" thickness unless noted or detailed otherwise.
4. Countertops: Plywood and M-2, 45#, particleboard 1" thickness unless noted or detailed otherwise.
5. Products surfaced four sides, unless noted otherwise.

B. Softwood Lumber
1. Quality standard: PS 20.
2. Grading Standard: AWS Premium grade.
3. Maximum moisture content: 6% for interior work; 10% for exterior work.
4. Species: Douglas fir.
5. Grain: Plain sliced.

C. Softwood Plywood
1. Quality standard: PS 1.
2. Grading standard: AWS Premium grade.
3. Core material: C-D Plugged INT-APA.
4. Face quality: A-B INT-APA.
5. Species: Douglas fir.
6. Ply construction: 3 ply - 3/8-inch; 5 ply - 1/2-inch; 7 ply - 3/4-inch.

D. Hardwood Lumber
1. Quality standard: FS MM-L-736C.
2. Grading standard: AWS Custom grade.
3. Maximum moisture content: 6%.
4. Species: White Oak.
5. Grain: Plain sliced.

E. Hardwood Plywood
1. Quality standard: PS51.
2. Grading standard: AWS Custom grade.
3. Core material: Fir Veneer.
4. Face veneer: White Oak.
5. Grain: Plain sliced.
6. Ply construction: 3 ply - 3/8-inch; 5 ply - 1/2-inch; 7 ply - 3/4-inch.

F. Hardboard
1. Quality standard: PS 58.
2. Grade: Tempered.
3. Face: Both faces sanded.
4. Thickness: 1/4-inch.

.2 ACCESSORIES AND TREATMENT

A. Contact Adhesive: FS MMM-A-130B, of type recommended by millwork manufacturer to suit application.

B. Wall Adhesive: Solvent release cartridge type, compatible with substrate, capable of achieving durable bond.

C. Bolts, Nuts, Washers, Lags, Pins, Nails, and Screws: Size and type to suit application.

D. Nails: Size and type to suit application, plain finish.

.3 SHELVING

A. Exposed shelving shall be of the same AWS quality grade and finish as the cabinets in which installed.
   1. Set fixed shelves on cleats where so detailed, and house other fixed shelves into supports.
   2. Adjustable Shelf Supports: Provide twin pin design with anti tip-up shelf restraints for both 3/4-inch and 1 inch shelves. Design to include keel to retard shelf slide-off, and slot for ability to mechanically attach shelf to clip. Load rating to be minimum 300 lbs each support without failure. Cabinet interior sides shall be flush, without shelf system permanent projection. Product/manufacturer; one of the following, no substitutions:
      a. #3206 Shelf Support; Bainbridge Manufacturing
      b. SC240 Plastic Shelf Clip; Case Systems, Inc.
      c. No. 282.47.403; Häfele
      d. Clear Polycarbonate Shelf Clip; TMI System Design Corp.

.4 WINDOWSILLS

A. Plastic Laminate Faced Windowsills: Fabricate the windowsill to detail.
   1. Plastic laminate faced 3/4-inch thick “A-A” grade plywood (untreated) with waterproof and heatproof “Urea” based cement.
      a. Laminate Grade: High pressure decorative laminate, HGS (0.050-inch nominal thickness) Grade.
      b. Plastic Laminate finish shall be selected by Architect from manufacturer’s full color and pattern range.
         Product/manufacturer; one of the following:
            Formica Brand Laminate; Formica Corp.
            Pionite or Nevamar; Panolam Industries
            Wilsonart; Wilsonart LLC
   2. Edge Treatment: Red Oak wood trim with 1/4-inch eased edges, extended 3/4-inch past jambs. Transparent finish color as selected by Architect.

B. ~~**Solid Surfaced Windowsills: Fabricate the windowsill to detail using solid surfacing panels as manufactured by Wilsonart. Use seam adhesive and color-matched sealant. Finish shall be matte and color shall be as scheduled in Material Finish Schedule in drawings.**~~ ***[ADDENDUM NO. 2]***

.5 SHOP FABRICATION

A. Fabricate millwork to AWS Premium standards for flush overlay construction as detailed (or as indicated in AWS Section 6 Millwork if details are not present).
B. Sanding/Filling
   1. Perform work according to AWS requirements.
   2. Sand work smooth and set exposed nails and screws.
   3. Apply wood filler in exposed nail and screw indentations and leave ready to receive applied finishes.
   4. On items to receive transparent finishes, use wood filler which matches surrounding surfaces and of types recommended for applied finishes.
C. Prime seal concealed and semi-concealed surfaces. Brush apply only.
D. Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes, and other fixtures. Verify locations of cutouts from site dimensions. Seal edge surfaces of cutouts.
E. Before proceeding with millwork required to be fitted to other construction, field-verify applicable measurements and include on shop drawing details.
F. Fabricate millwork to dimensions, profiles, and details shown.
G. Route and groove back of flat trim members, kerf backs of other wide flat members except plywood or veneered members.
H. Assemble millwork in mill in as large of units as practicable to minimize field cutting and fitting.
I. Miter trim joints, where required, by joining, splining, and gluing to complying with requirements for specified grade.
J. Band exposed plywood and particleboard edges with hardwood trim, 3/8-inch x width of sheet unless otherwise noted or shown to be trimmed with plastic or aluminum.

.6 FINISH

A. Sand work smooth and set exposed nails.
B. Apply wood filler in exposed nail indentations.
C. On items to receive transparent finishes, use wood filler which matches surrounding surfaces and of types recommended for applied finishes.

D. Refer to SECTION 09 91 00 - PAINTING for field applied finish descriptions.

PART 3 - EXECUTION

.1 PREPARATION

A. Verify location of wood blocking prior to installation of finish carpentry.

.2 INSTALLATION

A. Installation of Standing and Running Trim and Millwork: Comply with applicable AWS Section installation requirements.

B. Workmanship: Exposed woodwork shall have a smooth finish, free from machine and tool marks, abrasions, and raised grain on exposed surfaces. Joints shall be tight and formed so as to conceal shrinkage.

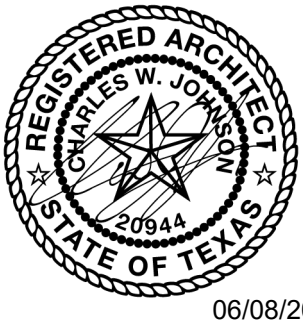
C. Interior Woodwork Installation:

1. Accurately scribe and closely fit face plates, filler strips and trim strips to abutting walls and to irregularities of adjacent surfaces.
2. Set wood finish straight, plumb, and level, in true alignment, and rigidly fastened in place. Nailing and fastening shall be concealed where possible. Set exposed nail heads for puttying.
3. Anchor base and wall cabinets to walls with fully threaded oval head wood screws with finishing washers set at a minimum of 12 inches on center.

END OF SECTION

SECTION 07 26 00

VAPOR RETARDERS



06/08/2026

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes:
   1. Vapor retarder placed on soil surface

B. Related Sections:
   1. Section 03 11 00 - CONCRETE FORMING AND ACCESSORIES: Masonite topping sheet.
   2. Section 03 30 00 - CAST-IN-PLACE CONCRETE.
   3. Section 07 62 00 - SHEET METAL FLASHING AND TRIM: Vapor retarder at roof expansion joints.
   4. Section 31 31 00 - SOIL TREATMENT: Temporary polyethylene sheeting over treated soil.

.2 REFERENCE STANDARDS

A. ASTM D882 - Standard Test Method for Tensile Properties of Thin Plastic Sheeting; 2018.

B. ASTM D3776/D3776M - Standard Test Methods for Mass Per Unit Area (Weight) of Fabric; 2020 (Reapproved 2025).

C. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.

A. ASTM E154/E154M - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover; 2008a (Reapproved 2025).

B. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2024.

C. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2017 (Reapproved 2023).

D. ASTM F1249 - Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor; 2025.

.3 SUBMITTALS

A. General: Submit in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Product Data:
   1. Provide product data for each type of product.
   2. Manufacturer’s installation instructions for placement, seaming, penetration prevention and repair, and perimeter seal per ASTM E1643.
   3. Product Test Reports: For each product, for tests performed by a qualified testing agency.

PART 2 - PRODUCTS

.1 MATERIALS

A. Vapor Retarder: Product/manufacturer; one of the following:

   Ecoshield-E; Epro Services
   Stego Wrap (15 mil) Vapor Retarder; Stego Industries, LLC
   Perminator (15 mil); W.R. Meadows

   1. Vapor Retarder membrane shall have the following qualities:
      a. Permeance of less than 0.01 Perms [grains/(ft2*hr*inHg)] as tested after mandatory conditioning tests ASTM E154/E154M (sections 8, 11, 12, 13) per ASTM F1249 or ASTM E96/E96M.
      b. ASTM E1745 Class A.
      c. Minimum thickness 15 mils.
   2. Accessories:
      a. Seam Tape: High-density polyethylene tape with pressure sensitive adhesive. Minimum width 3.75 inches.
      b. Pipe Boots (Penetrations of Vapor Retarder): Construct pipe boots from vapor retarder material and pressure sensitive tape per manufacturer’s instructions.
      c. Perimeter/edge seal: Provide the following as manufactured by Stego Industries LLC, (887) 464-7834 www.stegoindustries.com.

         Stego Crete Claw
         Stego Term Bar.
         StegoTack Double-Sided Tape.

B. Reinforced Vapor Retarder at Mechanically Ventilated Crawlspaces: Provide Griffolyn 20 mil Reinforced White as manufactured by Reef Industries or approved equivalent.

1. Material: 3-ply laminate, combining 2 layers of linear low density polyethylene and 1 high-strength non-woven cord grids.
   a. Weight, ASTM D3776/D3776M: 93 lb/1,000 ft^2 (45 kg/100 m^2).
   b. Puncture, Propagation Tear: ASTM D 2582: 50 lbs (222 N)
   c. Permeance (Perm), ASTM E96/E96M: 0.019 grains/hr-ft^2-in Hg (1.06 ng/(Pa-s-m^2)).
   d. Drop Dart D-1709: 910 g.
   e. Tensile Strength, 3 Inches, ASTM D882: 150 lb/2,630 psi (667N/18,100 kPa).
   f. Usable Temperature Range: -45 to 170 degrees F (-42 to 77 degrees C).
2. Self-Adhesive Tape: Griffolyn® White Sealant Tape RI Part Number: 60-0153.
   a. Description: Reinforced white backing with Gray Adhesive.
   b. Weight: 3.0 lbs for 4 inch x 50 foot roll.
   c. Thickness: 26 mils (0.65 mm).
   d. 3 inch Seam Shear: 30 lbs (134 N)
3. Pipe Boots: Griffolyn® pipe boots, factory-fabricated.

PART 3 - EXECUTION

.1 PREPARATION

A. Remove soil treatment protective vapor retarder before placement of permanent vapor retarder.
B. Ensure that subsoil is approved by Architect and/or geotechnical engineer.

.2 INSTALLATION

A. Install vapor retarder in accordance with manufacturer's instructions and ASTM E1643.
B. Unroll vapor retarder with the longest dimension parallel with the direction of the concrete pour.
C. ~~Extend vapor retarder to the perimeter of the slab. If practicable, terminate it at the top of the slab, otherwise (a) at a point acceptable to the structural engineer or (b) where obstructed by impediments, such as dowels, waterstops, or any other site condition requiring early termination of the vapor retarder. At the point of termination, seal vapor retarder to the slab itself using perimeter/edge seal, such as Stego Crete Claw or termination bar and tape per manufacturer's instructions.~~
   1. ~~Continue vapor retarder down the interior face of the perimeter grade beam, across the bottom of the grade beam, and up the outside face to within 6" of finish grade.~~
D. ~~At Crawlspaces:~~
   1. ~~Install reinforced vapor retarders in accordance with manufacturer's instructions.~~
   2. ~~Install vapor retarders continuously at locations in crawl space as indicated on the drawings. Ensure there are no discontinuities in vapor retarder at seams and penetrations~~
   3. ~~Ensure surface beneath vapor retarder is smooth level and compacted, with no sharp projections.~~
   4. ~~Join sections of vapor retarder and seal penetrations in vapor retarder with mastic tape. Ensure vapor retarder surfaces to receive mastic tape are clean and dry.~~
   5. ~~Immediately repair holes in vapor retarder with self-adhesive White Sealant Tape.~~
   6. ~~Seal around piers, pipes and other penetrations in vapor retarder with pipe boots in accordance with manufacturer's instructions.~~
   7. ~~At walls, install two rows of double-sided tape. Install one at the base of the wall and another one a couple inches above that.~~
   8. ~~Mechanically attached vapor retarder to wall with termination bar/cleat.~~
   9. ~~Seal top edge of vapor retarder and termination bar.~~ ***[ADDENDUM NO. 2]***
E. Overlap joints a minimum of 6" and seal with manufacturer's seam tape.
F. Seal all penetrations (including pipes) with manufacturer's pipe boot.
G. Use reinforcing bar supports with base sections that eliminate or minimize the potential for puncture of the vapor retarder.
H. Repair damaged areas by cutting patches of vapor retarder, overlapping damaged area 6" and taping all four sides with tape.

END OF SECTION

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

06/08/2026

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes: Sheet metal flashing and trim.

B. Related Sections:

1. Section 07 41 20 - PREFINISHED METAL ROOF PANELS
2. Section 07 71 13 - MANUFACTURED COPINGS
3. Section 07 92 00 - JOINT SEALANTS.
4. Section 09 91 00 - PAINTING.

.2 REFERENCE STANDARDS

A. ANSI/SPRI GT-1 and G-2 - Test Standard for External Gutter Systems; 2022.

B. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems; 2022.

C. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2026.

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

E. ASTM A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.

F. ASTM B32 - Standard Specification for Solder Metal; 2020.

G. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2025.

H. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement; 2025.

I. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

.3 SUBMITTALS

A. General: Submit in accordance with SECTION 01 33 23-SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Samples:

1. Submit for approval samples of parapet coping cover expansion joint and soldered joint.

C. Product Certificates:

1. Showing that each type of coping and roof edge flashing is ANSI/SPRI/FM 4435/ES-1 tested.
2. Showing that each type of gutter securing the perimeter edge of the roof membrane on low-slope (less than 2:12 slope) built-up, modified bitumen and single-ply roofs is ANSI/SPRI GT-1 tested for Test Methods G-1 and G-2.

D. Evaluation Reports:

1. For copings and roof edge flashing, from an agency acceptable to authority having jurisdiction showing compliance with ANSI/SPRI/FM 4435/ES-1
2. For gutters securing the perimeter edge of the roof membrane on low-slope (less than 2:12 slope) built-up, modified bitumen and single-ply roofs, from an agency acceptable to authority having jurisdiction showing compliance with Test Methods ANSI/SPRI GT-1 and G-2.

.4 QUALITY ASSURANCE

A. Standard: Comply with the requirements of the Architectural Sheet Metal Manual published by SMACNA.

B. Installer Qualifications: Company specializing in sheet metal flashing work with three years minimum experience in similar sized installations

.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, handle and protect products under provision of SECTION 01 65 00 - PRODUCT DELIVERY REQUIREMENTS and SECTION 01 66 00 - PRODUCT STORAGE AND HANDLING REQUIREMENTS

B. Stack pre-formed material to prevent twisting, bending, and abrasions, and to provide ventilation.

C. Prevent contact with materials which may cause discoloration or staining.

.6 WARRANTY

A. Furnish to the Owner a written warranty providing the following without cost to the Owner.

1. Sheet metal roof flashings shall be maintained in normal repair and free of leaks for a period of 2 years from the date of acceptance of the roof.
2. At end of 2-year period, Owner and Contractor shall make final inspection of flashing work. Holes, breaks and other defects shall be promptly repaired at the Contractor's expense.

PART 2 - PRODUCTS

.1 MATERIALS

A. Sheet Metal: ASTM A653/A653M

1. Roof top accessories, including but not limited to, expansion joint covers, flanges, and concealed counterflashings not visible from ground level shall be stainless-steel, ASTM A666/A666M, unless jurisdiction requires ASTM A240/A240M, Type 304, dead soft, fully annealed, with smooth, flat surface.
   a. Minimum 24 gauge thickness unless noted otherwise.
   b. Finish: 2D (dull, cold rolled)
2. Areas which can be seen from the ground level, including but not limited to, coping, edging, gutters, conductor heads, downspouts, and expansion joint terminations shall be zinc coated (galvanized) copper-bearing steel sheet prefinished with fluorocarbon coating containing 70% Kynar 500. Colors shall be selected by Architect from Fluropon Standard colors as manufactured by Valspar..

B. Reglet: Two piece snaplock receiver, Per Figure 4-4C, SMACNA (ASMM) Manual, 8th Edition, of 24 gauge stainless steel**.**

C. Underlayment: ASTM D226/D226M, 30 lb/100 s.f. weight felt containing no additives corrosive to sheet metals.

D. Solder: ASTM B32, made from block tin and pig lead (50/50) with no antimony.

E. Solder for Stainless Steel: ASTM B32, Grade Sn60, with an acid flux of type recommended by stainless-steel sheet manufacturer.

F. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.

G. Sealant: Two component polyurethane, non-sagging, sealant as specified in SECTION 07 92 00 - JOINT SEALANTS.

H. Asphalt Roofing Cement: ASTM D4586/D4586M, asbestos free, of consistency required for application.

I. Miscellaneous items such as nails and mastic shall be furnished as required by the conditions of use and must be of the best grade available.

.2 FABRICATION

A. Form sections true to shape, accurate in size, square, free from distortion and defects, to profiles indicated in accordance with SMACNA (ASMM) Architectural Sheet Metal Manual.

B. Fabricate cleats and starter strips of same material as sheet, interlockable with sheet.

C. Form pieces in longest practical lengths.

D. Hem exposed flashings on underside 1/2"; miter and seam corners.

E. Solder and seal metal joints except those indicated or required to be expansive type joints. After soldering, remove flux. Wipe and wash solder joints clean.

F. Fabricate corners from one place with minimum 18" long legs; solder for rigidity; seal with sealant.

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

H. Fabricate flashings to allow toe to extend minimum 2" over wall surfaces.

I. Fabricate as much as possible in shop with machinery to eliminate as much hand tooling on the job as possible. Shop fabricate to allow for adjustments in the field for proper anchoring and joining.

PART 3 - EXECUTION

.1 EXAMINATION

A. Verify that surfaces and conditions are ready to receive work of this section. Notify Architect of any existing conditions which will adversely affect execution. Beginning of execution will constitute acceptance of existing conditions.

B. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, cant strips and reglets in place, and nailing strips located.

C. Verify membrane termination and base flashings are in place, sealed, and secure.

.2 PREPARATION

A. Field measure site conditions prior to fabricating work.

B. Install starter and edge strips, and cleats before starting installation.

C. Install surface mounted reglets true to lines and levels. Seal top of reglets with sealant.

D. Install one layer of underlayment prior to installing copings.

.3 INSTALLATION

A. General: Fabricate, assemble, and install sheet metal work in conformance with referenced standard.

1. Make adequate provision for metal expansion and contraction without buckling or splitting. Use cleats and watertight slip and expansion joints.

2. Nails and screws shall be of the same metal as the member on which used. Nails through exposed wash surfaces will not be permitted.
3. When soldering, use flux and wash off surplus flux after soldering has been completed.
4. Set sheet metal with horizontal lines straight and level. Surfaces shall be flat without wrinkles and waves. Profiles shall align at joints with no offsets.
5. Conform to drawing details included in manuals published by SMACNA and NRCA.
6. Edge Securement for Low-Slope Roofs: Design in accordance with ANSI/SPRI/FM 4435/ES-1 for basic wind speed zone with 3-second gusts.
7. Gutter Securement for Low-Slope Roofs: Design in accordance with ANSI/SPRI GT-1 and G-2 for basic wind speed zone wit 3-second gusts.
8. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
9. Seal metal joints watertight.
10. Provide electrolytic separation between dissimilar metals with protective back paint.

B. Reglet: Install surface mounted reglets on walls.
1. Clean surface of oil, grease and loose particles.
2. Place sealant bead on back in groove and on lap.
3. Secure reglet in precise alignment to wall with power driven pins spaced 12" o.c.
4. Lap joints 3" and bed in sealant. Miter and seal corners.

C. Reglet Counterflashing: Counterflashing for reglet shall be formed of 24 gage metal to fit the reglet in conformance with the manufacturer's instructions.
1. Lap counterflashing down over flashing strip approximately 4" and form lower edge with a spring bend against the base flashing.
2. After roofing and flashing strip have been installed, snap counter-flashing up into reglet so that it is held securely in place without screws or clips.
3. Lap end joints 3" and bed in sealant. Miter and seal corners.

D. ~~**Parapet Coping Cover: Form and install coping covers and fascia covers of 24 gage metal. Finish coping covers with a fluorocarbon coating containing 70% Kynar 500. Color shall be selected from Fluropon Standard colors as manufactured by Valspar.**~~
1. ~~**Make up the coping in 10 ft. lengths.**~~
2. ~~**Bend outside bottom edge to form drip and lock to continuous cleat, 22 gage min., secured to wood blocking with nails and to masonry with screws into expansion shields.**~~
3. ~~**On roof side copings shall be fastened through slotted holes located 2' o.c. with screws and watertight washers.**~~
4. ~~**Provide loose-locked expansion joints filled with sealant where each 10' section meets. Provide an expansion joint within 10 ft. of each corner.**~~
5. ~~**Corners shall be mitered, locked and soldered seams.**~~
6. ~~**Show compliancy with ANSI/SPRI/FM 4435/ES-1**~~ ***[ADDENDUM NO. 2]***

E. Vent Stack Roof-Penetration Flashing: Flashing shall have a weight range of 2 - 4 lbs/sq. ft. Coordinate installation of roof-penetration lead flashing flange with installation of roofing and other items penetrating roof. Base flashing shall be flanged 4 in. onto the roof. The flange is fastened through the roofing felts and is then stripped in by the roofer. Turn the top of the flashing down inside the vent pipe. Seal with sealant per Section 07 92 00 - JOINT SEALANTS, and clamp flashing to pipes that penetrate roof.

F. Downspout: Form and install downspouts of 24 gage metal.
1. Install with the top slipped up over the outlet sleeve and anchor to the wall with 2" wide by 18 gage metal straps fastened with galvanized bolts into metal expansion shields.
2. For each downspout, set the straps at the top, bottom and at intermediate points spaced not more than 8' apart.

G. Gutter: Form and install hung molded gutters of 26 gage metal at roof eaves. At gutters securing the perimeter edge of the roof membrane on low-slope (less than 2:12 slope) built-up, modified bitumen and single-ply roofs, form and install hung molded gutters of nominal thickness as required to meet performance of ANSI/SPRI GT-1 and G-2 requirements.
1. Provide watertight lap or butt type expansion joints at intervals of 50 ft. and not more than 16 ft. from inside and outside corners.
2. Support molded outside edge with 1" wide 18 gage strap hangers at 36" centers and weld to gutter as detailed.
3. Form downspout outlet sleeves and rivet and solder sleeves to gutter. Fit each sleeve with a removable, galvanized wire basket strainer.

H. Roof-Edge Fascia: Manufactured, two-piece, roof-edge fascia consisting of snap-on metal fascia cover in section lengths not exceeding 12 feet and a continuous metal receiver with integral drip-edge cleat to engage fascia cover and secure modified roof membrane. Provide matching corner units.

1. Metallic-Coated Steel Sheet Fascia Covers: Zinc-coated (galvanized) steel, nominal thickness as required to meet performance ANSI/SPRI/FM 4435/ES-1 requirements.
   a. Surface: Smooth, flat finish.
   b. Finish coping covers with a fluorocarbon coating containing 70% Kynar 500. Color shall be selected by Architect from Fluropon Standard colors as manufactured by Valspar.

I. ~~**Fascia/Gutter: Form and install fascia/gutter of 24 gage metal at roof edge where shown.**~~
   1. ~~**Make up fascia/gutter in 10' lengths with scupper continuously soldered.**~~
   2. ~~**Install over the single-ply roofing membrane on flashing tape and nail flange with nails spaced in staggered pattern 6" on centers near the back edge.**~~
   3. ~~**Strip the horizontal flange with another layer of single-ply roofing membrane.**~~
   4. ~~**Lap end joints 8" and bed in roof cement (roof cement must be approved by single-ply membrane manufacturer). Miter and seam solder the joints at corners before installing them on single-ply membrane.**~~ ***[ADDENDUM NO. 2]***

J. Miscellaneous flashings and other items of sheet metal roof work shall be provided as required for a weathertight job.

END OF SECTION

SECTION 07 92 00

JOINT SEALANTS

06/08/2026

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes: Sealing and caulking of joints.

B. Related Sections:

1. Section 03 30 00 - CAST-IN-PLACE CONCRETE.
2. Section 04 20 00 - MASONRY UNITS.
   Section 06 40 00 - ARCHITECTURAL WOODWORK
3. Section 07 62 00 - SHEET METAL FLASHING AND TRIM.
4. Section 07 84 00 - FIRESTOPPING.
5. Section 08 80 00 - GLAZING.
6. Section 09 21 16 - GYPSUM BOARD ASSEMBLIES.

.2 REFERENCE STANDARDS

A. ASTM C834 - Standard Specification for Latex Sealants; 2017 (Reapproved 2023).

B. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2024.

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

A. ASTM C1184 - Standard Specification for Structural Silicone Sealants; 2023.

B. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2025.

C. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2023.

D. ASTM D1056 - Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber; 2020.

.3 SUBMITTALS

A. Submit under provisions of SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Submit product data indicating sealant chemical characteristics, performance criteria, limitations, color availability and application instructions.

C. Submit two samples 1/4" diameter x 4" in size illustrating color selections available.

D. Submit manufacturer's certificate under provisions of SECTION 01 45 00 - QUALITY CONTROL that products meet or exceed specified requirements.

.4 QUALITY ASSURANCE

A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum 3 years documented experience.

B. Applicator: Company specializing in applying the work of this section with minimum 3 years documented experience and approved by sealant manufacturer.

C. Conform to Sealant and Waterproofers Institute requirements for materials and installation.

.5 FIELD SAMPLES

A. Provide samples under provisions of SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Construct one field sample joint, 5 feet long, illustrating sealant type, color, and tooled surface.

C. Locate where directed.

D. Accepted sample may remain as part of the work.

.6 PROJECT CONDITIONS

A. Environmental Requirements: No caulking shall be done at temperatures below 40°F.

.7 WARRANTY

A. Furnish to the Owner a written warranty that the sealants shall remain watertight for a period of 2 years from the date of acceptance of the building. Joints which prove defective by leaking, cracking, melting or shrinking of the sealant shall be re-sealed without additional expense to the Owner.

PART 2 - PRODUCTS

.1 MATERIALS

A. Reference “SEALANT SCHEDULE” at end of this specification section for locations of Sealant Types.

B. Modified Polyurethane (Type 1 Sealant):

1. Two or three-part conforming to ASTM C920, Type M, Grade NS, Class 25.
2. Color: Custom colors as selected by Architect.
3. Acceptable products:
   Sikaflex NP2 (formerly MasterSeal NP2), Sika USA.

C. Pourable Urethane (Type 2 Sealant):
1. Multicomponent conforming to ASTM C920, Type M, Grade P (pourable), Class 25, Use T (traffic).
2. Color: Custom color as selected by Architect.
3. Acceptable products:
Urexpan NR-200, Pecora Corp.
Sikaflex SL 2 (Formerly MasterSeal SL 2), Sika USA.
THC 900 (Self leveling) or 901 (low sag), Tremco.

D. Pourable Urethane Sealant (Type 3 Sealant):
1. Single-component conforming to ASTM C920, Type S, Grade P (pourable), Class 25, Use T (traffic).
2. Color: Gray or limestone as selected by Architect.
3. Acceptable products:
Sikaflex - SL 1 (formerly MasterSeal SL 1), Sika USA.
Vulkem 45; Tremco

E. Silicone, General Purpose (Type 4 Sealant)
1. One-part low modulus rubber based silicone conforming to ASTM C920, Type S, Grade NS, Class 100/50.
2. Color: As selected by Architect.
3. Acceptable products
Dowsil 790 Building Sealant, Dow Corning.
SCS2700 Silpruf LM, GE Silicones.
Spectrem 1, Tremco.

F. Polyurethane Hybrid, Paintable (Type 5 Sealant):
1. One-part, moisture-cure, polyurethane hybrid sealant for interior use, conforming to ASTM C920, Type S, Grade NS, Class 35 and Fed. Spec TT-S-00230C, Class A, Type II.
2. Acceptable product:
Dymonic FC, Tremco

G. Silicone, Sanitary (Type 6 Sealant):
1. One-part conforming to ASTM C920, Type S, Grade NS, Class 25, F.D.A. Regulation 21 CFR177.2600, and FDA Food Additive Regulation 121.2514.
2. Color: Clear.
3. Acceptable products:
786 Silicone Sealant - M, Dow Corning.
SCS1700 Sanitary, GE Silicones.

H. Acrylic Latex (Type 7 Sealant)
1. One-part, non-sag acrylic latex, siliconized, conforming to ASTM C834, Type P, Grade NF or -18° C.
2. Acceptable products:
AC-20+, Pecora Corp.
Tremflex 834; Tremco.

I. Acoustical Sealant (Type 8 Sealant):
1. Acrylic Latex Acoustical sealant for concealed locations.
2. Acceptable products:
AC-20 FTR Acoustical and Insulation Sealant, Pecora Corp.
Acoustical Sealant, Tremco
Sheetrock Acoustical Sealant; USG Co.

J. Sealant (Type 10 Sealant): Reference SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

K. ~~**Silicone Sealant (Type 11 Sealant):**~~
1. ~~**ASTM C1184, One-part, neutral-cure, silicone sealant.**~~
2. ~~**Color: Clear.**~~
3. ~~**Product/manufacturer:**~~
~~**Dow Corning 995 Silicone Structural Glazing Sealant.**~~

L. ~~**Silicone Sealant (Type 12 Sealant):**~~
1. ~~**One-part medium modulus rubber based silicone conforming to ASTM C 920, Type S, Grade NS, Class 50.**~~
2. ~~**Color: As selected by Architect.**~~
3. ~~**Acceptable products; one of the following or approved equivalent:**~~
~~**Dowsil 795 Silicone Building Sealant, Dow Corning.**~~
~~**Pecora Contractor Silicone (PCS); Pecora Corp.**~~ ***[ADDENDUM NO. 2]***

.2 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
C. Joint Backing: ASTM D1056 and ASTM C1330. In vertical joints use closed cell polyethylene foam rod; oversized 30 to 50 percent larger than joint width. In horizontal joints, use solid neoprene or butyl rubber, Shore A hardness of 70.
D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 - EXECUTION

.1 EXAMINATION

A. Verify that surfaces and joint openings are ready to receive work and field measurements are as shown on drawings and recommended by the manufacturer.
B. Beginning of installation means installer accepts existing substrate.

.2 PREPARATION

A. Joint surfaces shall be clean and dry. Remove loose mortar and other material completely with compressed air or by brushing.
    1. Joints to be caulked shall be at least 1/4" wide unless specifically specified smaller. At any point where the width of the joint is appreciably less, cut or grind out the joint to that width to assure an adequate volume of sealant along the length of the joint, except at concrete paving joints, those shall remain 1/8" wide as indicated.
    2. Pack with backing material the voids and recesses around metal frames which are deeper than the depth required for caulking. Leave the proper depth for the sealant.
    3. In open joints and where detailed, install rod stock as backing material. Roll the material into the joints to avoid stretching. The natural thickness of the rod stock shall be approximately twice the thickness of the joint in which it is installed.
    4. In raked masonry joints, apply a bondbreaker strip of polyethylene or masking tape along the bottom of the joints.
    5. Where sealant is to be applied against smooth metal surfaces, wipe these surfaces clean with a suitable ketone solvent immediately prior to caulking.
    6. Particular attention shall be paid to the preparation of horizontal joints in wear surfaces to be filled with sealant. Adjust joint depth to comply with sealant manufacturer's recommendations by malleting down the joint filler or filling in with rod stock as may be required. Joints in concrete paving shall be primed in accordance with manufacturer’s recommendations.
    7. Perform preparation in accordance with ASTM C1193 for solvent release sealants, ASTM C1193 for latex base sealants, ASTM C919 for acoustical applications, and ASTM C1193 for elastomeric sealants.

.3 APPLICATION

A. Priming: Prime porous joint surfaces, particularly masonry and concrete. Test the primer to make sure it causes no staining of the material on which it is applied.
B. Depth of sealant: Seal joints to a depth of approximately 1/2 the joint width, but never less than 1/4" deep. Follow the sealant manufacturer's recommendations where possible.
C. Apply the sealant in accordance with the manufacturer's instructions.
    1. Force the sealant into joints with enough pressure to expel all air and provide a solid filling. Correct any flowing or sagging before final inspection is made.
    2. Where adjacent surfaces permit, use masking tape to obtain straight, even lines. Remove tape immediately after the joints have been sealed.
    3. Fill joints flush with adjacent surfaces except where a recessed joint is specifically detailed. Tool beads with a sled runner or similar tool to insure full contact with joint faces.
    4. For caulking horizontal joints in wear surfaces, use a gun with a narrow nozzle. Apply the flow type sealant with the nozzle riding along the bottom so that the sealant is forced up to completely fill the slot without cavities. Provide and use a portable vacuum cleaner to remove loose dirt from the joints just ahead of the caulking gun.
D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
E. Tool joints concave. Sealant shall achieve a firm skin before surface coating is applied.

.4 CLEANING/REPAIRING

A. Clean adjacent surfaces of soiling due to caulking operations. This applicator shall be responsible for and shall bear the cost of replacing any material damaged or discolored due to caulking operations.
B. Repair or replace defaced or disfigured finishes caused by work of this section.

.5 SEALANT SCHEDULE

A. Locations specified below for sealants and caulking required under this section are general and shall not be considered as affecting the required use of sealing compounds specified under other sections of the specifications.

B. SEALANT TYPE: 1
1. Vertical control and expansion joints in exterior and unpainted interior masonry surfaces. At joint width 1" or more, reference section 07 95 00 - EXPANSION CONTROL.
2. Vertical joints at perimeter of window, door, and storefront elements where adjacent to stone, masonry, or concrete surfaces.
3. Reglets: The top groove along the surface-mounted flashing reglets.
4. Sealing joints in sheet metal fabrications.
5. Unless noted otherwise, any other exterior vertical joints.

C. SEALANT TYPE: 2
1. Interior horizontal control and expansion joints in flooring, stone, masonry and tile flooring and at junctures between these materials and other adjacent materials.

D. SEALANT TYPE: 3
1. Exterior horizontal control and expansion joints in concrete paving.
2. Filling of roof penetration pockets (pitch pans).

E. SEALANT TYPE: 4
1. Sealing of joints between plumbing fixtures and substrates and between plastic laminate splashes and adjacent tops and walls.
2. Threshold and windowsills set in full bed of sealant.
3. Sealing of EIFS to EIFS joints. Seal to base coat and not to finish coat. Finish coat shall not turn into the joint.

F. SEALANT TYPE: 5
1. General caulking as part of interior painting in joints subject to movement.

G. SEALANT TYPE: 6
1. Sealing joints between countertops and substrates in concession areas and elsewhere which may be in contact with food.

H. SEALANT TYPE: 7
1. General caulking as part of interior painting.

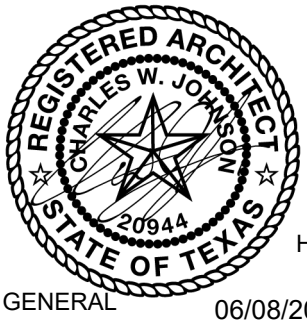
I. SEALANT TYPE: 8
1. Setting sill track, head track, and end studs to substrates on acoustically rated partitions. Refer to 09 21 16 - GYPSUM BOARD ASSEMBLIESfor application requirements.

J. SEALANT TYPE: 10
1. Sealing of joints in exterior glass-mat gypsum sheathing.

K. ~~**SEALANT TYPE: 11**~~
1. ~~**Sealing of joints in butt glazing.**~~

L. ~~**SEALANT TYPE: 12**~~
1. ~~**Sealing of joints of EIFS to other surfaces, perimeter seals.**~~ ***[ADDENDUM NO. 2]***

END OF SECTION



SECTION 08 11 00

HOLLOW METAL DOORS AND FRAMES

06/08/2026

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes: Hollow metal doors and frames, sidelight frames, and borrowed light frames.

B. Related Sections:

1. Section 08 14 23 - PLASTIC-LAMINATE-FACED WOOD DOORS.
2. Section 08 34 73 - SOUND CONTROL DOOR ASSEMBLIES.
3. Section 08 71 00 - DOOR HARDWARE: hardware locations.
4. Section 08 80 00 - GLAZING - Glazing: glass for doors, sidelights, and borrowed lights.
5. Section 09 91 00 - PAINTING: finishing of hollow metal doors and frames.

.2 reference standards

A. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2026.

B. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2023.

C. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable; 2026.

D. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.

E. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.

F. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

.3 SUBMITTALS

A. Shop Drawings: Submit in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

1. Include door sizes, construction, frame types, wall anchors, and accessories required for installation.
2. Include cable routing diagram through hollow metal doors indicating the cable routing from the power supply to the electric hinge to the electrified locking device.

.4 REGULATORY REQUIREMENTS

A. Conform to applicable local building codes for fire rated requirements of metal door/metal frame and wood door/metal frame assemblies.

B. Fire Rated Door Construction: Conform to NFPA 252 or UL 10C.

.5 QUALITY ASSURANCE

A. Standard: Provide steel doors and frames complying with the Steel Door Institute ANSI/SDI A250.8 and as herein specified. Hollow metal provider that is not a member of the Steel Door Institute is not approved and must submit product data and samples for review.

B. Fire-Rated Door Assemblies: Provide door and frame assemblies which are identical in materials and construction to units tested in door and frame assemblies per NFPA 252 and which are labeled and listed for ratings indicated by UL. Metal UL classification markers shall be attached to these doors and frames.

1. Test Pressure (positive-pressure testing): After 5 minutes into the test, the neutral pressure level in furnace shall be established at 40 inches or less above the sill.

C. Conform to requirements of ANSI/SDI A250.8.

D. Installed frame and door assembly to conform to UL 10C for fire-rated class indicated or scheduled.

E. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver metal doors and frames to the project site with no dents or open seams and store upright in a protected dry area. Provide packaging and wrapping to protect hollow metal items.

PART 2 - PRODUCTS

.1 ACCEPTABLE MANUFACTURERS

A. Provide steel doors and frames as manufactured by one of the following:

Ceco Door Products; an ASSA ABLOY Group Co.
Curries Company; an ASSA ABLOY Group Co.
Deansteel Mfg., Inc.
Mesker Door, Inc.
Republic Builders Products Co.

Steelcraft; an Ingersoll-Rand Co.

.2 MATERIALS

A. Sheet and Strip: ASTM A1008/A1008M, commercial quality, leveled, cold-rolled steel free of scale and other surface defects.

.3 FABRICATION

A. Flush Steel Doors: Full flush type of welded seamless construction with no visible seams or joints on faces or vertical edges.

1. Exterior Doors:
   a. Extra Heavy Duty; 0.053” thick metallic-coated steel sheet faces (16 ga.); ANSI/SDI A250.8 Level 3; ANSI/SDI A250.4 Performance Level A; Edge Construction Model 2 Seamless.
   b. Provide foamed-in-place polyurethane insulation with maximum U-factor of 0.37 for assembly with frame.
   c. Steel reinforced, stiffened and sound-deadened by laminating insulation completely filling the door and formed steel vertical stiffeners spaced 6" o.c. and attached to face sheets by spot welds and with the spaces between stiffeners filled with insulation material.
   d. Face: Metallic-coated steel sheet, with minimum A60 coating.
2. Interior Doors:
   a. Heavy Duty; 0.042” thick uncoated steel sheet faces (18 ga.); ANSI/SDI A250.8 Level 2; ANSI/SDI A250.4 Performance Level B; Edge Construction Model 2 Seamless.
   b. Steel reinforced, stiffened and sound-deadened by laminating to small cell impregnated kraft honeycomb core completely filling the door.
3. Fire Rated Doors: Provide mineral fiberboard core as scheduled and/or as required to meet applicable codes.
4. Steel thickness is thickness of base metal without coatings according to NAAMM-HMMA 803 or ANSI/SDI A250.8.
5. Continuous vertical interlocking joints on lock and hinge edges with seams continuously welded, filled and dressed smooth. Bevel vertical edges.
6. Top and bottom edges closed with continuous recessed steel channels spot welded to both faces. Top edge of exterior doors sealed flush with closing channel to exclude water.
7. Fixed glass moldings welded to security side of door. Loose moldings of 20 gage steel fastened with countersunk flat head screws. Fabricate stops to receive vinyl gaskets.
8. Overlapping steel astragals for pairs of labeled doors as required by manufacturer to meet codes.
9. Louvers: Provide factory installed louvers with fusible link closure for use at fire-rated locations, all-welded construction, size as indicated on drawings.

B. ~~**Stile and Rail Doors: Provide tubular stile and rail construction, 1-3/4" thick and fabricated from 16 gage cold-rolled steel.**~~

1. ~~**Stiles shall extend the full height of the doors. Rails shall be mechanically joined to the stiles forming a neat seam on the face.**~~
2. ~~**Continuous vertical interlocking joints on lock and hinge edges with seams continuously welded, filled and dressed smooth. Bevel vertical edges.**~~
3. ~~**Top and bottom edges closed with continuous recessed steel channels spot welded to both faces.**~~
4. ~~**Fixed glass moldings welded to security side of door. Loose moldings of 20 gage steel fastened with countersunk flathead screws. Fabricate stops to receive vinyl gaskets.**~~ ***[ADDENDUM NO. 2]***

C. Steel Frames: Combination buck, frame and trim type. Provide frames with face width, throat opening, backbend, and jamb depth as per dimensions shown.

1. Exterior Frames:
   a. Extra Heavy Duty; 0.067” thick metallic-coated steel sheet (14 ga.); ANSI/SDI A250.8 Level 3; ANSI/SDI A250.4 Performance Level A.
   b. Continuously welded (full profile welded).
   c. Minimum U-factor of 0.60 for assembly with door.
   d. Provide foamed-in-place polyurethane insulation with maximum U-factor of 0.37 for assembly with frame.
2. Interior Frames:
   a. Heavy Duty; 0.053” thick uncoated steel sheet (16 ga.); ANSI/SDI A250.8 Level 3;ANSI/SDI A250.4 Performance Level B.
   b. Continuously welded (full profile welded).

3. Brake-form to profile free of warp, buckles, and fractures with corners square and sharp. Form stop integral with frame except where detailed otherwise. Dress sheared edges straight and smooth.
4. Close corner joints tight with trim faces mitered and continuously welded. Dress exposed welds flush and smooth.
5. Fabricate frames for large openings in knocked-down sections for field assembly with butt joints and internal reinforcing sleeves. Knocked-down frame assemblies shall be trial assembled in the shop.
6. Loose glazing stops shall be 16 gage steel, mitered corners, fastened with countersunk flathead screws. Fabricate stops to receive vinyl gaskets.
7. Weld 14 gage steel floor anchors inside each jamb with two holes each anchor for floor anchor bolts.
8. Furnish frames with steel spreader temporarily fastened to the feet of both jambs for rigidity during shipping and handling.
9. For each jamb in masonry construction provide 3 or more 16 gage adjustable jamb anchors of the T-strap type spaced not more than 30" apart. Furnish yoke type Underwriters anchors for labeled door openings only.
10. For each jamb in steel stud construction provide 4 or more 18 gage drywall type jamb anchors. Weld anchors inside each jamb and wire or bolt to the studs.

D. Transom Panels: Full flush hollow metal panels of the same materials and construction as specified for doors.
E. Shop Finish: After fabrication, doors and frames shall be degreased, phosphatized, and factory painted inside and out with a rust inhibitive synthetic primer. Apply mineral filler to eliminate weld scars and other blemishes.
F. Fabricate frames and doors with hardware reinforcement plates welded in place. Provide mortar guard boxes.
G. Reinforce frames wider than 48" with roll formed steel channels fitted tightly into frame head, flush with top.
H. Prepare frame for silencers. Provide three single rubber silencers for single doors and mullions of double doors on strike side, and two single silencers on frame head at double doors without mullions.
I. Attach fire-rated label to each frame and door unit.
J. Close top edge of exterior door flush with inverted steel channel closure. Seal joints watertight.
K. Fabricate frames for masonry wall coursing with 2" head member.

.4 HARDWARE PREPARATION

A. Prepare doors and door frames for hardware. Mortising, reinforcing, drilling, and tapping shall be done at the factory for mortised hardware. Reinforcement shall be provided for surface-applied hardware, and the drilling and tapping for this hardware shall be done in the field. Provide plaster guards for hinge and strike reinforcements and cutouts on frames.
B. Reinforcement plates in doors and frames for hardware shall be 7 gage for hinges and 12 gage for all other hardware.
C. Punch for and install rubber silencers on all interior hollow metal door frames. Furnish 3 silencers for each single door and 2 silencers for each pair of doors. Set out and adjust strikes to provide clearance for the silencers. Omit silencers on exterior door frames.

.5 CLEARANCES

A. Doors shall have pre-fit clearances of:
   1. At Head and Lock Stile: 1/8".
   2. At Hinge Stile: 1/16".
   3. At Door Sill:
      a. Without Threshold: 1/8" from bottom of door to top of decorative floor finish or covering.
      b. With Threshold: 1/8" from bottom of door to top of threshold.
   4. Between meeting edges of pair of doors: 1/8".
B. Fitting Clearances for Fire-Rated Doors: Comply with NFPA 80. Bevel fire-rated doors 1/8" in 2" in lock edge.

.6 ACCESSORIES

A. Rubber Silencers: Resilient rubber.
B. Anchors: Three per jamb, typically, of type to suit supportive construction.

PART 3 EXECUTION

.1 EXAMINATION

A. Verify substrate conditions under provisions of SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION.
B. Verify that opening sizes and tolerances are acceptable.

C. Verify surfaces and conditions are ready to receive work of this section. Notify Architect of any existing conditions which will adversely affect execution. Beginning of execution will constitute acceptance of existing conditions.

.2 INSTALLATION

A. Install frames in accordance with SDI-105.
B. Install doors in accordance with DHI.
C. Install fire-rated frames and place fire-rated doors in accordance with NFPA 80.
D. Coordinate with masonry and wallboard construction for anchor placement.
E. Coordinate installation of glass and glazing.
F. Install doors accurately in frames, maintaining specified clearances.
G. Setting Frames:
   1. Check frames for rack, twist and out-of-square, and correct.
   2. Set frames accurately to maintain scheduled dimensions, hold head level and maintain jambs plumb and square.
   3. Anchor frames securely to adjacent construction. Anchor to floor at each jamb with two bolts to prevent twist.
   4. Leave spreader bars in place until frames have been permanently built into the walls.
   5. Install fire-rated frames in accordance with NFPA 80.
H. Hanging Doors:
   1. Fit and hang the doors to maintain specified door clearances. Metal hinge shims are acceptable to maintain clearances.
   2. Doors shall be out of wind and shall operate smoothly and quietly after adjustment.
   3. Place fire-rated doors with clearances as specified in NFPA 80.

.3 TOLERANCES

A. Maximum Diagonal Distortion: 1/8" measured with straight edge, corner to corner.

END OF SECTION

SECTION 08 14 23

PLASTIC-LAMINATE-FACED WOOD DOORS

06/08/2026

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes:

1. Solid core plastic-faced wood doors.
2. ~~**Fire-rated plastic-faced wood doors.**~~ ***[ADDENDUM NO. 2]***

B. Related Sections:

1. Section 06 40 00 - ARCHITECTURAL WOODWORK: laminate clad cabinets.
2. Section 08 11 00 - HOLLOW METAL DOORS AND FRAMES: hollow metal frames.
3. Section 08 71 00 - DOOR HARDWARE: location of hardware.
4. Section 08 80 00 - GLAZING: glass for doors.
5. Section 12 32 16 - MANUFACTURED PLASTIC-LAMINATE-CLAD CASEWORK.

.2 reference standards

A. ANSI A208.1 - American National Standard for Particleboard; 2022.

B. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

C. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.

D. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.

.3 SUBMITTALS

A. General: Submit in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Shop Drawings: Indicate sizes, construction, core materials, edge banding dimensions and stop profile.

C. Product Data: Indicate door core materials and construction; type and characteristics.

D. Samples:

1. Submit a sample, 6" by 6", of each plastic laminate finish and color selected.
2. Submit a 12" x 12" sample of solid core door panel indicating construction, core, face and edge detail.
3. Submit 8-1/2" x 11" paint color samples of door glazing frame paint.

E. Certificates: Submit certification that doors comply with reference standards fabrication requirements, signed by authorized representative of door manufacturer.

.4 QUALITY ASSURANCE

A. Standard: Comply with the requirements of "Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program" as published by Architectural Woodwork Institute.

B. Fire-Rated Wood Doors: Provide plastic faced wood doors which are identical in materials and construction to units tested in door and frame assemblies per NFPA 252 and which are labeled and listed for ratings indicated by UL or Warnock Hersey. Provide metal UL or Warnock Hersey classification markers attached to door.

1. Test Pressure (positive-pressure testing): After 5 minutes into the test, the neutral pressure level in furnace shall be established at 40 inches or less above the sill.

C. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

.5 REGULATORY REQUIREMENTS

A. Fire Door Construction: Conform to NFPA 252.

B. Installed Fire-Rated Door Assembly: Conform to NFPA 80 for fire-rated class as scheduled.

.6 DELIVERY

A. Deliver doors to the project site ready for installation and to receive hardware. Each unit shall be individually plastic wrapped at the factory for protection in transit and storage.

.7 WARRANTY

A. Special Warranty: Provide Life-of-Installation warranty on manufacturer's standard form, signed by manufacturer, installer, and Contractor, in which manufacturer agrees to repair or replace doors that are defective in materials or workmanship or have warped (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section. Warranty shall specifically include installation of replacement doors required during term of the warranty.

PART 2 - PRODUCTS

.1 ACCEPTABLE MANUFACTURERS

A. Provide plastic laminate faced wood doors as manufactured by one of the following:

Marshfield-Algoma (Masonite Architectural)
Oregon Door
VT Industries, Inc./Eggers Industries, Architectural Door Div.

.2 MATERIALS AND FABRICATION

A. Flush Doors: Premium Grade, PC-HPDL-3 (3-ply), as defined in Section 9 of AWI Quality Standards.
1. Core: Particleboard meeting ANSI A208.1, Grade LD-2, Urea-Formaldehyde Free.
2. Stiles: Vertical edges at least 1-1/8" and bonded to core. Species shall be closed grain hardwood with factory-painted finish to match faces. At doors with wood-look plastic laminate faces, stain vertical edges to match faces.
3. Rails: Top and bottom rail edges at least 1-1/8" and bonded to core. Mill option.
4. Faces: HGS (nominal 0.048") high pressure decorative laminated plastic conforming to NEMA LD 3. Laminate to be bonded to both faces. Fire-rated plastic laminate faced wood doors shall be surfaced with fire-rated (UL Stamped) laminated plastic sheet. Color shall be as selected by Architect from manufacturer's full color and pattern range. Product/manufacturer; one of the following:
Formica Brand Laminate; Formica Corp.
Pionite or Nevamar; Panolam Industries
Wilsonart; Wilsonart LLC.
5. Stops: Provide shop primed metal glazing frames at all light openings. Fasten by through-bolted countersunk flathead screws. Field painted color as selected by Architect.
6. Louvers: Provide factory installed, inverted "V" or "Y" sightproof type fixed louvers. Furnish with standard factory baked enamel finish.

B. ~~Labeled Doors:~~
1. ~~"B" Label Doors (90-minute and 60-minute): AWI Type FD 1-1/2 or 1 non-combustible solid mineral core with chemically treated hardwood edge banding and fire-retardant cross banding. Pairs of "B Label" doors shall be furnished with necessary metal edge and astragal trim if required by door manufacturer to meet code requirements.~~
2. ~~"C" Label Doors: AWI Type FD 3/4 non-combustible solid mineral core with chemically treated hardwood edge banding and fire-retardant cross banding.~~
3. ~~20-Minute Label Doors: AWI Type FD 1/3 solid particleboard core with a 20-Minute Fire Label.~~
4. ~~Smoke Control Door Labeling: Smoke control doors shall show the letter "S" on the fire rating label of the door. The marking shall indicate that the door and frame assembly are in compliance when listed or labeled gasketing is also installed.~~
5. ~~Cut-outs for vision panels in fire-rated doors shall be factory cut. No field cutting shall be permitted.~~
6. ~~Stops: Provide listed shop primed metal glazing frames at all light openings. Fasten by through-bolted countersunk flathead screws. Field painted color as selected by Architect.~~ ***[ADDENDUM NO. 2]***

C. Fitting:
1. Cutouts for mortise hardware shall be made to template at the factory.
2. Top and bottom rail edges and core exposed by cutouts for hardware shall be factory sealed.
3. Doors shall have pre-fit clearances of:
a. At Head and Lock Stile: 1/8"
b. At Hinge Stile: 1/16"
c. At Door Sill:
1) Without Threshold: 1/8" from bottom of door to top of decorative floor finish or covering.
2) With Threshold: 1/8" from bottom of door to top of threshold.
d. Between meeting edges of pair of doors: 1/8"
4. ~~Fitting Clearances for Fire-Rated Doors: Comply with NFPA 80. Bevel fire-rated doors 1/8" in 2" in lock edge.~~ ***[ADDENDUM NO. 2]***

.3 ADHESIVE

A. Facing Adhesive: Type I - waterproof.

.4 FABRICATION

A. Fabricate non-rated doors in accordance with AWI Quality Standards requirements.
B. Fabricate fire-rated doors in accordance with AWI Quality Standards and to UL or Warnock-Hersey requirements. Attach fire-rating label to door.
C. Provide lock blocks at lock edge and top of door for closer for hardware reinforcement.
D. Fit door metal edge trim to edge of stiles after applying veneer facing.
E. Bond edge banding to cores.
F. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Provide solid blocking for through-bolted hardware.
G. Factory pre-fit doors for frame opening dimensions identified on shop drawings.

PART 3 - EXECUTION

.1 EXAMINATION

A. Verify frame opening conditions under provisions of SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION.
B. Verify that opening sizes and tolerances are acceptable.
C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

.2 PREPARATION

A. Condition plastic faced wood doors to the average prevailing humidity in the building prior to fitting and hanging.

.3 INSTALLATION

A. General: Installation of doors shall comply with the applicable requirements of Section 1700 Installation of Architectural Woodwork (Interior) of the AWI Quality Standards.
B. Hang doors to maintain uniform clearances. Doors shall be out of wind and shall operate smoothly and quietly after adjustment. Replace doors damaged during installation.
C. Cutting and fitting of plastic laminate faced doors at the project site will not be permitted. Doors which do not fit properly shall be replaced.
D. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80. Trim stiles and rails of fire-rated doors only to extent permitted by labeling agency.
E. Pilot drill screw and bolt holes.
F. Machine cut for hardware. Core for handsets and cylinders.
G. Coordinate installation of doors with installation of frames specified in SECTION 08 11 00 - HOLLOW METAL DOORS AND FRAMES and hardware specified in SECTION 08 71 00 - DOOR HARDWARE.
H. Coordinate installation of glass and glazing.

.4 INSTALLATION TOLERANCES

A. Conform to AWI requirements for fit and clearance tolerances.
B. Maximum Diagonal Distortion (Warp): 1/8" measured with straight edge or taut string, corner to corner, over an imaginary 36" x 84" surface area.
C. Maximum Vertical Distortion (Bow): 1/8" measured with straight edge or taut string, top to bottom, over an imaginary 36" x 84" surface area.
D. Maximum Width Distortion (Cup): 1/8" measured with straight edge or taut string, edge to edge, over an imaginary 36" x 84" surface area.

.5 ADJUSTING

A. Adjust work under provisions of SECTION 01 77 00.00 - CLOSEOUT PROCEDURES.
B. Adjust door for smooth and balanced door movement.

END OF SECTION

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06/08/2026

SECTION 08 41 13.00

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes: Aluminum entrance and storefront systems with associated aluminum doors.

B. Related Sections:

1. Section 07 92 00 - JOINT SEALANTS: caulking of perimeter joints.
2. Section 08 44 13 - GLAZED ALUMINUM CURTAIN WALLS
3. Section 08 71 00 - DOOR HARDWARE; hardware for aluminum doors.
4. Section 08 80 00 - GLAZING.

.2 REFERENCE STANDARDS

A. AAMA 503 - Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls and Sloped Glazing Systems; 2024.

B. AAMA 611 - Specification for Anodized Architectural Aluminum; 2026.

A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

B. AAMA SFM-1 - Aluminum Storefront and Entrance Manual; 2014.

C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2024.

E. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.

F. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

G. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2026.

H. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).

I. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2023).

J. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2023.

K. SSPC-Paint 20 - Zinc-Rich Coating (Type I - Inorganic, and Type II - Organic); 2019.

.3 SUBMITTALS

A. General: Submit in accordance with SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Shop Drawings:

1. Include drawings showing elevations of each entrance and storefront type, detail sections of typical composite members, and glazing details.
2. Verify that field measurements are as indicated on shop drawings and as instructed by the manufacturer.

C. Samples: Submit for approval duplicate samples showing the limits of color range to which the entrance, storefront, and door materials will be processed. Samples shall be representative of the materials to be furnished, and the color of the installed materials shall be within the range of the approved samples.

.4 SYSTEM DESCRIPTION AND PERFORMANCE

A. Architectural Requirements

1. Drawings are diagrammatic and do not purport to identify or solve problems of thermal or structural movement, glazing or anchorage.
2. Requirements shown by details are intended to establish basic dimensions of units, sightlines and profiles of members.
3. Provide concealed fastening wherever possible.
4. Provide continuous snap-in thermally-broken aluminum backer plate at head and jamb conditions.

B. Structural Requirements

1. System to provide for expansion and contraction within system components caused by a cycling temperature range of 170°F. without causing detrimental effects to system or components.

2. Design and size members to withstand dead loads and live loads caused by pressure and suction of wind as calculated in accordance with building code, and measured in accordance with ANSI/ASTM E330/E330M.
3. Limit mullion deflection to L/175, or flexure limit of glass with full recovery of glazing materials, whichever is less.
4. System to accommodate, without damage to system or components, or deterioration of perimeter seal: Movement within system; movement between system and perimeter framing components; dynamic loading and release of loads; and deflection of structural support framing.
5. Storefront manufacturer shall be responsible for design and engineering of storefront system, including necessary modifications to meet specified requirements and maintaining visual design concepts.
6. Attachment considerations shall take into account site peculiarities and expansion and contraction movements so there is no possibility of loosening, weakening or fracturing connection between units and building structure or between units themselves.
7. Design anchors, fasteners and braces to be structurally stressed not more than 50% of allowable stress when maximum loads are applied.
8. Engineer storefront and entrances to be free from rattles, wind whistles and noise due to thermal and structural movement and wind pressure.

C. Environmental Requirements
1. Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to exterior. No leakage shall occur in wall when tested in accordance with ASTM E331 at test pressure of 6.24 lbs/sq ft.
2. Limit air infiltration through assembly to 0.06 cu ft/min/sq ft of assembly surface area, measured at a reference differential pressure across assembly of 1.57 lbs/sq ft. as measured in accordance with ANSI/ASTM E283/E283M.
3. Thermal Transmittance (U-factor): Fixed glazing and framing areas shall have U-factor of not more than the BTU/Sp.ft. x h x deg F as listed below and determined according to NFRC 100.
   a. Tarrant County, Dallas County, Johnson County, Ellis County and Counties South and Southeast of these Counties, including the cities of Austin, San Antonio, Houston (Zone 2)
      1) Storefront: 0.45 Btu/sq.ft. x h x deg F
      2) Storefront Doors: 0.77 Btu/sq.ft. x h x deg F
4. Maintain continuous air and vapor barrier throughout assembly, primarily in line with inside pane of glass and heel bead of glazing compound.

.5 QUALITY ASSURANCE

A. Erector Qualifications: Erection of the entrance and storefront systems and doors shall be by an experienced erector approved by the manufacturer.

B. Design Criteria:
1. Deflection of glass framing members under design loads shall not exceed L/175 or 3/4", whichever is less.
2. Deadload deflection of horizontal glass framing members shall not exceed 0.125".
3. Exterior Entrances and Storefront: Design windload shall be 22 psf.

C. Perform work in accordance with AAMA SFM-1 and AAMA - Metal Curtain Wall, Window, Store Front and Entrance - Guide Specifications Manual.

D. Hardware Installer Qualifications: Employer of workers trained and approved by product manufacturers and of an Architectural Hardware Consultant who is available during the course of the Work to consult Contractor, Architect, and Owner about door hardware and keying. A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

E. Architectural Hardware Consultant Qualifications: A person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is currently certified by DHI as an Architectural Hardware Consultant (AHC).

.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver and handle system components under provisions of SECTION 01 65 00 - PRODUCT DELIVERY REQUIREMENTS.

B. Store and protect system components under provisions of SECTION 01 66 00 - PRODUCT STORAGE AND HANDLING REQUIREMENTS.

C. Provide wrapping to protect prefinished aluminum surfaces.

.7 COORDINATION

A. Manufacturer shall be responsible for details and dimensions not controlled by job conditions and shall show on his shop drawings required field measurements beyond his control.

B. Coordinate with responsible trades to establish, verify and maintain field dimensions and job conditions.

.8 ENVIRONMENTAL CONDITIONS

A. Do not install sealants when ambient temperature is less than 40°F. during and 48-hours after installation.

.9 WARRANTY

A. Special Assembly Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that deteriorate within specified warranty period.

1. Failures include, but are not limited to, the following:
   a. Structural failures including, but not limited to, excessive deflection.
   b. Noise or vibration caused by thermal movements.
   c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
   d. Water leakage through fixed glazing and framing areas.
   e. Failure or operating components to function properly.
2. Warranty Period: 2 years from date of substantial completion.

B. ~~**Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes fail within specified warranty period. Warranty does not include normal weathering.**~~

1. ~~**Warranty Period: 10 years from date of substantial completion.**~~ ***[ADDENDUM NO. 2]***

PART 2 - PRODUCTS

.1 ACCEPTABLE MANUFACTURERS

A. Provide aluminum entrances and storefronts as manufactured by one of the following:

EFCO Corp. (Apogee Architectural Metals)
Kawneer North America
Oldcastle Building Envelope
Tubelite, Inc (Apogee Architectural Metals)
YKK AP America, Inc.

.2 MATERIALS

A. Extruded Aluminum: ASTM B221; AA 6063-T5 alloy, temper.

B. Sheet Aluminum: ASTM B209; 5005-H34 alloy, temper; or other alloys and temper recommend by manufacturer appropriate for specified finish.

C. Sheet Steel: ASTM A 446; hot-dipped galvanized.

D. Steel Sections: ASTM A36/A36M; shapes to suit mullion sections.

E. Primer and Touch-Up Primer for Galvanized Surfaces: High-zinc-dust-content paint complying with SSPC-Paint 20.

F. Fasteners: Stainless steel.

.3 FABRICATED COMPONENTS

A. General: Form section true to details with clean, straight, sharply defined profiles, free from defects impairing strength or durability.

B. Framing:

1. Framing Types Basis of Design shall be Kawneer:
   a. Exterior: Provide the following thermally broken framing systems where shown on drawings.
      1) 2" x 4-1/2" Framing System: Kawneer Trifab VG 451T
   b. Interior: Provide the following framing systems where shown on drawings.
      1) 2" x 4-1/2" Framing System: Kawneer Trifab VG 450
2. Fabricate the aluminum entrance and storefront systems with the shapes and sections detailed.
3. Design the glass framing system to minimize loads on the glass due to building movement and incorporate provisions for thermal expansion by means of expansion joints. Where insulating glass is to be installed, design the glass framing system so that moisture does not accumulate in the glazing channel for prolonged periods.
4. Construction: Mill joints to a hairline fit. Assemble and connect members to form rigid, watertight assemblies. No exposed fastenings will be permitted. Reinforce the framing internally as required to meet the design criteria specified above.
5. Continuous Solid Closures: Fabricate required closures and covers to detail of aluminum sheet, plate, and angles. Provide solid continuous thermally-broken backer plate closures at head and all jambs.

6. Accessories: Provide glazing gaskets, flashing, and miscellaneous shims and other parts detailed or otherwise required to complete the work.
7. Provide manufacturer's standard closure plate at perimeter framing members to cover open side of framing member against surrounding construction. Provide solid aluminum head channel at head condition per drawings.

C. Doors: Kawneer 500 Heavy Wall Doors and Heavy Wall Framing System. The aluminum doors shall be wide-stile type with 5" stiles, 6-1/2" top rail, 5" intermediate rail (centered on panic device) and 10" bottom rail; plus square glazing stops. Construction: Doors shall be mortised and have reinforced welded corner construction with hairline watertight joints. Fastenings shall be concealed.
1. Doors shall be factory fabricated by aluminum entrance and storefront manufacturer.
2. Glazing Beads: Fixed or theft proof snap-in glazing beads on exterior or security side of doors. Interior glazing beads shall be snap-in type. All glazing beads shall have vinyl inserts and glazing gaskets.
3. Weatherstripping: Continuous contact weatherstripping on stiles and top rails of exterior doors.

D. Hardware Preparation: Prepare and reinforce doors and door frames for hardware.
1. Mortising, reinforcing, drilling, and tapping for mortised hardware shall be done at the factory.
2. Wherever possible, concealed steel reinforcement for surface-applied hardware shall be installed at the factory. The drilling and tapping for surface-applied hardware shall be done in the field.

E. Reinforced Mullion: Same profile as non-reinforced frames, of extruded aluminum cladding with internal reinforcement of steel shaped structural section.

F. Flashings:
1. Form from sheet aluminum with same finish as extruded sections. Apply finish after fabrication. Material thickness as required to suit condition without deflection or "oilcanning"; of proper alloy to match the finished extrusions.
2. Subsill Flashing: Provide manufacturer’s standard high-performance, thermally-broken aluminum subsill flashing with integral weep holes. End dams shall be manufacturer’s standard fiberglass, plastic or thermally-broken aluminum end dams.

G. Extruded Aluminum:
1. Framing System: Principal extrusions shall have a minimum wall thickness of 0.08". Moldings, trim, and glass stops shall be not less than 0.050" thick.
2. Doors and Door Framing System: Principal extrusions shall have a minimum wall thickness of 3/16". Moldings, trim, and glass stops shall be not less than 0.050" thick.

H. Reinforcement: Concealed reinforcements for hardware in doors and frames and mullions shall be plated or galvanized steel and shall be secured in place. If Kawneer Heavy Wall doors are not specified, then provide continuous reinforcement at continuous geared hinges.

I. Fabricate doors and frames allowing for minimum clearances and shim spacing around perimeter of assembly, yet enabling installation.

J. Rigidly fit and secure joints and corners with internal reinforcement, except that door corners will be welded. Make joints and connections flush, hairline, and weatherproof.

K. Develop drainage holes with moisture pattern to exterior.

L. Prepare components to receive anchor devices. Fabricate anchorage items.

M. Arrange fasteners, attachments, and jointing to ensure concealment from view.

N. Prepare components with internal reinforcement for door hardware.

O. Reinforce framing members for imposed loads.

.4 HARDWARE

A. Weatherstripping: Provide manufacturer's standard weatherstripping continuous at head, jamb, sill, and meeting stile.

B. The use of sheet metal or self-tapping screws to mount hardware is prohibited.

C. Use sex bolts and nuts for fastening closers and closer arms to aluminum doors.

D. Refer to SECTION 08 71 00 - DOOR HARDWARE for balance of hardware.

.5 FINISHES

A. Finish coating to conform to AAMA 611. Finish for aluminum entrances, storefronts, frames, doors, curtain wall, and spandrel panels shall match.

B. Aluminum Finish: Exposed aluminum surfaces of entrances, storefronts, frames, doors, curtain wall, and spandrel panels, and all their associated parts shall be Architectural Class I AA-M10C22A41 Clear Anodic Coating, .7 mil minimum. Screw and bolt heads exposed to view shall be finished to match the exposed aluminum surfaces.

C. Concealed Steel Items: Galvanized in accordance with ANSI/ASTM A123/A123M to 2.0 oz/sq ft.

D. Apply one coat of bituminous paint to concealed aluminum surfaces in contact with cementitious or dissimilar materials.

PART 3 - EXECUTION

.1 INSPECTION

A. Examine areas to receive entrances and storefronts for conditions that will adversely affect the execution and quality of work. Do not start this work until unsatisfactory conditions are corrected.

B. Field check dimensions, elevations, and slopes on the connecting work affecting the entrance and storefront to assure a proper fit and weathertight installation.

C. Verify that field measurements are as indicated on shop drawings and as instructed by the manufacturer.

.2 INSTALLATION

A. Install wall system, doors, and glazing in accordance with manufacturer's instructions and AAMA - Metal Curtain Wall, Window.

B. Erecting Storefronts: Erect the members to be plumb, level, square and in proper alignment with other work, and free from sags, waves and buckles.

1. Materials shall be accurately cut and fitted and rigidly anchored in place to resist safely all normal stresses to which the work will be subjected.
2. Cut and machined ends and recesses shall be true, accurate and free of burrs and rough edges.
3. Provide subsill extrusions positioned to collect water leakage through mullions and storefront. Subsill shall drain to the exterior. It shall run continuously across the opening width. The ends are sealed with end dams.
4. Create end dams at ends of window heads, sills, at edges of storefronts, and other vertical elements to channel water to nearest weep hole away from window mullions and other items which might allow water to travel vertically.
5. Provide clearance around the perimeter between entrance and storefront metal and the opening substrate (concrete, masonry, or stucco) for caulking.

C. Hanging Doors: Fit the doors with hardware and hang to operate smoothly, without bind or chatter.

1. Where concealed reinforcement for hardware cannot be provided, install and use Riv-Nuts for fastening surface applied hardware.
2. Use sex bolts and nuts for fastening closers and closer arms to aluminum doors.
3. The use of sheet metal or self-tapping screws to mount hardware is prohibited.

D. Sealing Joints: Seal the metal-to-metal framing joints properly with butene tape and sealant in conformance with the manufacturer's standard procedure.

E. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

F. Install hardware using templates provided. Refer to SECTION 08 71 00 - DOOR HARDWARE for installation requirements.

G. Install glass and infill panels in accordance with 08 80 00 - GLAZING, using exterior dry method of glazing.

H. Install perimeter 2 part polyurethane type sealant, backing materials, and installation requirements in accordance with SECTION 07 92 00 - JOINT SEALANTS.

.3 TOLERANCES

A. Maximum Variation from Plumb: 0.06" every 3' non-cumulative or 1/16" per 10', whichever is less.

B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32".

.4 ADJUSTING

A. Adjust operating hardware for smooth operation.

.5 PROTECT AND CLEAN

A. Protection of Aluminum:

1. Protect concealed aluminum surfaces that will contact masonry, concrete and steel with neoprene gaskets or a coat of bituminous paint to prevent galvanic and corrosive action.
2. If drainage of moisture from incompatible metal passes over aluminum, paint the incompatible metal with a coat of aluminum pigmented paint.
3. Protect finished aluminum surfaces from staining by gypsum and cement materials until all adjacent masonry and plaster work has been completed.

B. Cleaning: Upon completion of the work, wash down aluminum surfaces with water and soft cloths and leave in first class condition.

.6 FIELD QUALITY CONTROL

A. Inspections: Aluminum-framed entrances and storefront materials, accessories, and installation are subject to inspection for compliance with requirements as set forth in the project documents and in the Building Envelope Commissioning construction checklists according to Quality Assurance Program schedule.

END OF SECTION

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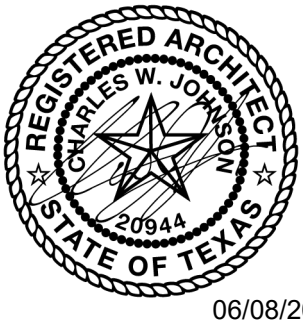
SECTION 09 21 16

GYPSUM BOARD ASSEMBLIES



06/08/2026

PART 1 - GENERAL

.1 SUMMARY

A. Section Includes:
1. Metal stud wall framing.
2. Furred wall framing.
3. Metal channel ceiling framing.
4. Gypsum board partitions, ceilings, and furrings
5. Finishing of panel joints.
6. Exterior sheathing.

B. Related Sections:
1. Section 05 40 00 - COLD-FORMED METAL FRAMING.
2. Section 07 21 00 - BUILDING INSULATION: acoustical and thermal insulation.
3. ~~**Section 07 54 19 - POLYVINYL CHLORIDE KETONE ETHYLENE ESTER ROOFING (PVC KEE): gypsum board base under roof insulation.**~~ ***[ADDENDUM NO. 2]***
4. Section 07 84 00 - FIRESTOPPING.
5. Section 09 30 00 - TILING: backer board at shower areas.

.2 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.
B. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2020).
C. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2024.
D. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.
E. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2025.
F. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2022.
G. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2024.
H. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2024.
I. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2026.
J. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2023).
K. GA-214 - Levels of Finish for Gypsum Panel Products; 2021.
L. GA-216 - Application and Finishing of Gypsum Panel Products; 2024.
M. GA-600 - Fire Resistance and Sound Control Design Manual; 2024.

.3 SUBMITTALS

A. Product Data: Submit in accordance with Section 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES. Submit materials list of items proposed to be provided, manufacturer's data indicating compliance with specified requirements, and manufacturer's recommended installation procedures.
B. Submit diagrams of proposed control joint and expansion joint layout prior to starting work.

.4 QUALITY ASSURANCE

A. Tolerances for Drywall: Do not exceed a variation of 1/8" in 10'-0" and 1/16" in 5'-0" from plumb, level, and flat (all directions) and do not exceed 1/16" offset of planes at joints between panels. Shim panels as necessary to comply with tolerances.
B. Perform Work in accordance with ASTM C840, GA-216, GA-223 and GA-600.
C. Applicator Qualifications: A company with at least 3 years specializing in construction and finishing gypsum board walls and ceilings similar to this Project.

.5 PROJECT CONDITIONS

A. Environmental Requirements: In cold weather, maintain the temperature of the building reasonably constant at no less than 55° F. during gypsum panel application and joint finishing. Provide adequate ventilation to carry off excess moisture.

.6 DELIVERY, STORAGE, HANDLING

A. Deliver, store, handle, and protect products in conformance with manufacturer's instructions and in accordance with Section01 65 00 - PRODUCT DELIVERY REQUIREMENTS and Section 01 66 00 - PRODUCT STORAGE AND HANDLING REQUIREMENTS.

B. Store inside building, on sleepers, and out of water.

.7 QUALIFICATIONS

A. Applicator: Company specializing in performing the work of this section with minimum three years documented experience.

PART 2 - PRODUCTS

.1 MATERIALS

A. Gypsum Board: ASTM C1396/C1396M. Provide Type X fire-rated; 48"w x 5/8" thick by maximum permissible length gypsum board with tapered edges. Product/manufacturer; one of the following:

CertainTeed Type X; CertainTeed Gypsum
ToughRock Fireguard X Gypsum Board: G-P Gypsum Corp.
Fire-Shield Gypsum Wallboard; National Gypsum Co.
Sheetrock Brand Firecode X Gypsum Panel; USG Corporation

B. Water- and Mold-Resistant Gypsum Board: ASTM C 1396. Provide Type X, water and mold resistant gypsum board with tapered edges; 48"w x 5/8" thick by maximum permissible length.

1. Product/manufacturer; one of the following:

M2Tech Type X; CertainTeed Gypsum
ToughRock Fireguard X Mold-Guard Gypsum Board: G-P Gypsum Corp.
Gold Bond XP Fire-Shield Gypsum Wallboard; National Gypsum Co.
Sheetrock Brand Mold Tough Firecode X Gypsum Panel; USG Corporation

2. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.
3. Provide at substrate for ceramic tile in toilets, EWC alcoves, and other wet areas (except showers).

C. Abuse-Resistant Gypsum Board: ASTM C1396/C1396M, manufactured to produce greater resistance to surface indentation than standard gypsum panels. Provide Type X fire-rated, 48"w x 5/8" thick by maximum permissible length gypsum board with tapered edges. Product/manufacturer; one of the following:

AirRenew Extreme Abuse Resistant Gypsum Board; CertainTeed Gypsum
ToughRock Abuse-Resistant Gypsum Board; G-P Gypsum Corp.
Gold bond Hi-Abuse Wallboard; National Gypsum Co.
Sheetrock Brand Abuse-Resistant Gypsum Panels; USG Corporation

D. Gypsum Tile Backer Board: Refer to Section 09 30 00 - TILING for gypsum tile backer board to be used:

1. As a substrate for ceramic tile walls at all shower areas
2. At accessible shower ceilings, unless cement plaster is indicated.

E. Glass-Mat Gypsum Sheathing: ASTM C1177/C1177M, 4' x 8' x 1/2" thick water-resistant treated core with glass mats front and back. Provide one of the following manufacturers/products:

GlasRoc Sheathing; CertainTeed Corporation
DensGlass Sheathing; G-P Gypsum Corporation
eXP Extended Exposure Gypsum Sheathing; National Gypsum Company
Securock Glass-Mat Sheathing Panels; USG Corporation

a. Joint Tape: 2" wide, 10 x 10 glass mesh tape.
b. Joint Sealant: Air infiltration per ASTM E283/E283M, Water Penetration per ASTM E331. Provide one of the following sealant types approved product/manufacturer:

Silicone: SilPruf LM SCS2700 as manufactured by GE Advanced Materials
Siliconized Acrylic Latex: AC-20+ as manufactured by Pecora Corp.
Urethane: Dymonic as manufactured by Tremco Incorporated.

F. Studs: ASTM C645. Non-loadbearing channel type roll-formed from minimum 25 gauge electro- or hot-dipped galvanized steel.

1. Provide 20 gauge studs at interior ceramic tile partitions.
   a. Interior ceramic tile partitions.
   b. Interior plaster partitions.
   c. Abuse-Resistant gypsum board partitions.
   d. Impact-Resistant gypsum board partitions.

2. Provide 18 gauge studs, per SECTION 05 40 00 - COLD-FORMED METAL FRAMING, at all X-bracing and at interior partitions where indicated on the drawings

G. Slotted Top Track: Sliptrack Systems, SLP-TRK, (phone 888.475.7875 web site: www.sliptrack.com).
1. 25 ga thick, to ASTM A653/A653M, Grade 33 with a minimum yield point of 33,000 psi, electro- or hot-dipped galvanized steel.
2. 2-1/2" down-standing legs with 1/4" wide by 1-1/2" high slots spaced at 1" on center.
3. Track width shall match stud size by manufacturer's standard length.
4. Fasteners: ASTM C1002, self-drilling, self-tapping screws.

H. Furring, Framing and Accessories: Provide in conformance with ASTM C645, GA-216, and GA-600 and as follows:
1. Cold Rolled Channels: 3/4", 1-1/2" and 2" x 9/16", 16 gauge, steel channels prime painted.
2. Furring Channels: ASTM C645, 7/8" deep x 1-1/4" face, roll-formed from 25 gauge electro-galvanized steel and furnished with galvanized wire clips.
3. Resilient Furring: 1/2" deep x 2" x 1-1/4" screw flange, 25 gage, galvanized with one leg attached only, Style RC-1 PRO as manufactured by ClarkDietrich Building Systems.

I. Suspension System for Gypsum Board Ceilings:
1. Steel: ASTM A568.
2. Main Runners: ASTM C635, heavy duty, 16 pounds per linear foot minimum load-carry capabilities. Manufactured from 0.020 inch thick steel, 1-3/8 inch wide knurled face by 1-1/2 inches high. Factory punched cross tee slots, hanger holes, and non-directional bayonet end tab couplings.
3. Cross Channels: Manufactured from min. 0.020 inch thick steel, 1-3/8 inch wide knurled face by 7/8 inch high, with straight locking end tabs.
4. Cross Tees: Manufactured from 0.020 inch thick steel, 15/16 inch wide face by 1-1/2 inches high, with stacked on clip end tab couplings. Factory punched cross tee slots and hanger holes.
5. Wall Track: Min. 0.020 inch thichk steel, 1-1/2 inches high with 1 inch top and bottom flange.

J. Fasteners: ASTM C514 for nails and ASTM C1002 for screws as follows:
1. Inserts, clips, bolts, nails or other screws as recommended by wallboard manufacturer, of type and size to suit application and to rigidly secure materials in place.
2. Self-drilling, self-tapping bugle head screws for use with power drive tool.
3. Screws: Drywall Screws, Type S Bugle Head.
4. Metal framing to structure: Power driven screw fasteners to withstand 190 lb. single shear resistance and 200 lb. bearing force when drive through structural head or base and without exceeding allowable design stress in runner, fastener, or structural support.
5. Metal to metal: 3/8", Type S or S-12, pan head screws.
6. Gypsum board to sheet metal application: Type S Bugle Head screws.
7. Gypsum board to gypsum board application: Type G screws.

K. Adhesive: Utilize adhesive meeting requirements of GA-216 over metal framing.
1. Adhesives shall have a VOC content of 50 g/L or less.
2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

L. Accessories:
1. Runners: ASTM C645, channel type sections roll-formed from electro-galvanized steel with unhemmed edges. Same gauge as studs with which used.
2. Hangers: No. 8 gauge annealed, galvanized wire.
3. Tie Wire: No. 16 gauge annealed, galvanized wire.
4. Trim: Galvanized steel corner reinforcements, edge trim angles and casings; USG No. 200 series.
5. Reinforcing Tape: 2-3/16" minimum width, cross laminated, spark perforated fiber tape.
6. Joint Compound: Quick-drying, polyindurate-type, pre-fill material.
7. Joint Topping: Vinyl base all-purpose finishing material.
8. Acoustical Sealant: A one-part acrylic base sealant designed for use with drywall construction.
9. Edge Sealant: USG Sheetrock Brand W/R Sealant for use in high-moisture room areas.
10. Control Joints: Roll-formed zinc control joints with 1/4" slot (USG #093).

M. Special Reveals/Trims: As indicated on drawing and finish accessory schedule, as manufactured by Fry Reglet and Trim-Tex 16.

PART 3 - EXECUTION

.1 INSTALLATION

A. Workmanship: The completed gypsum wallboard surfaces shall be smooth, level or plumb, and acceptable to the finish material applicators. All joint treatment on exposed wallboard shall be invisible after painting.

B. Ceiling Furring:
1. Install in accordance with ASTM C754, GA-216, GA-223 and GA-600 and manufacturer's instructions.

2. Space ceiling hangers 48" o.c. along runner channels and within 6" of ends of channel runs. Wrap or saddle-tie hangers around the runner channels to prevent twisting.
   a. Under steel construction, wrap hangers around or clip or bolt hangers to a structural steel member (not steel deck).
   b. Under bar joists suspend hangers from top chord or from bottom chord at panel points only.
   c. Under ductwork, employ trapeze system of hangers to support ceiling. Do not suspend hangers from ducts, piping or conduit.
3. Erect runner channels at 48" o.c. maximum and locate a channel within 4" of each parallel wall. Level channels with hangers taut and do not make kinks or bends in the hangers as a means of leveling. At channel splices, overlap ends 12" with flanges interlocked; secure each end with tie wire.
4. Erect furring channels at 16" o.c. for 1/2" thick gypsum or 24" o.c. for 5/8" thick gypsum board and at right angles to runner channels or main support members; secure with clips or saddle-tie to supports with tie wire. Make end splices by nesting channels 8" and wire tying each end.
5. At light troffers or other openings that interrupt the runner or furring channels, install additional reinforcing to restore lateral stability of the grillage.
6. ~~**No part of the suspended grillage (main runners and cross furring) shall be permitted to come in contact with abutting masonry walls and partitions.**~~

C. ~~**Wall Furring: For gypsum wallboard over masonry, space furring channels vertically at 24" o.c. maximum and attach with power driven anchors through alternate wing flanges (staggered), spaced 24" o.c. Make end splices with 8" nested laps anchored to wall with two fasteners in each wing. Where necessary, install furring with adjustable furring brackets and 1/2" x 3/4" steel channels to which the furring channels shall be clipped or tied.**~~ ***[ADDENDUM NO. 2]***

D. Partitions:
1. Follow recommendations of U.S. Gypsum Co., "Gypsum Construction Handbook".
2. Install studding in accordance with ASTM C754, GA-216, GA-223 and GA-600.
3. Erect partitions with studs aligned to be plumb and true. Anchor studs top and bottom with runners, shoes and clips.
4. Attach floor runners to concrete slabs using shielded screws or power driven fasteners. Locate fasteners at corners and at runner ends and spaced not to exceed 24" o.c.
5. Under drywall ceilings, attach metal runner to ceiling and position studs to engage the ceiling runner. Elsewhere, extend studs above the ceiling and brace securely to the floor above or roof structure above with a continuous top runner and channel braces unless specifically detailed otherwise. Where studs extend more than 24" above finished ceiling line, provide either 5/8" gypsum board on both sides of studs or horizontal bracing at 16" o.c. attached with mechanical fasteners to both flanges of studs.
6. For fire rated partitions and where specifically detailed or noted, extend studs full height to the floor or roof structure above.
7. Space studs as shown and noted but not more than 16" o.c. Locate studs not more than 2" from abutting partitions and partition corners. Anchor studs to runner flanges with positive screw engagement where located at corners and at door frame jambs.
8. At door frame jambs of doorways up to 4'-0" wide, double the studs or reinforce with 20 gauge steel studs. At jambs of doorways over 4'-0" wide, reinforce with two 20 gauge steel studs placed back to back. Fasten reinforcing studs to the anchor clips on each door frame with bolts or screws. Place horizontally over each frame a cut-to-length section of runner track; attach with screws to the adjacent vertical studs.
9. In chase wall construction, set studs opposite each other with the flanges in the same direction and cross brace between the rows of studs with three 12" high pieces of gypsum board or three pieces of metal stud attached to each pair of studs at the quarter points with drive screws.
10. Double the studs at vertical control joints in partitions.
11. Brace partitions to top chord of the structure above with 20 ga. diagonal braces at 4'-0" o.c. minimum. Where floor to structure height exceeds 16'-0", in addition to extending and fastening studs to structure, add 20 ga. stud diagonal braces at 4'-0" o.c. minimum.
12. At vertical junctures of partitions and window mullions, provide pre-assembled, spring-loaded, partition closure pieces.

E. Slotted Top Track: Install slotted track in strict accordance with manufacturer's written instructions and recommendations.
1. Secure studs to slotted top track with #8 wafer-head screws.
2. Maintain minimum deflection gap of 0.65 inch between top of stud and top of slotted track.
3. Limit vertical movement to 1 inch, plus or minus 1/2 inch.

F. Sealant Application: Caulk those gypsum drywall partitions which have sound attenuation blankets, serving as sound barriers.

1. Apply sealant in two continuous beads underneath runners at the floor and ceiling and where runners are used at partition intersections with dissimilar wall construction.
2. Fill with sealant the grooves around the edges of wallboard at the floor, ceiling, and intersections with dissimilar walls.
3. Caulk fully the openings around all cut-outs at electrical boxes, heating ducts and the like.

G. Exterior Walls: Erect the exterior walls as detailed.
   1. Glass Mat Gypsum Sheathing:
      a. Install exterior sheathing horizontally over the outside face of metal studs (SECTION 05 40 00 - COLD-FORMED METAL FRAMING). Screw-attach sheathing to exterior of each stud with screws spaced 3/8" from ends and edges and approximately 8" o.c. Make all end joints at bearings.
      b. Seal joints with joint tape and joint sealant.
         1) Apply glass mesh joint tape to all joints, overlapping at intersections by the width of the tape.
         2) Apply approximately 3/8" bead of caulk along the joint.
         3) Embed the caulk into the entire surface of the tape with a trowel.
         4) Use backer rod for openings larger than 1/8".
         5) Apply enough caulk to each exposed fastener to cover completely when troweled smooth.
         6) Approximately rate of usage is 48 sq. ft. per 10.5 oz.

H. Wallboard Application:
   1. Apply gypsum wallboard first to the ceilings and then to the partitions. Use maximum practical lengths to minimize end joints. Fit ends and edges closely but not forced together.
   2. For single-layer ceiling application, apply wallboard with the long dimension either parallel or at right angles to the framing members. All abutting ends and edges shall occur over framing members, except in horizontal application. Stagger end joints in adjacent rows.
   3. For single-layer wall application with a ceiling height of 8'-2" or less, use either the horizontal or the vertical application method. With a ceiling height over 8'-2" and for fire-rated partitions, use only the vertical application method without any exposed horizontal joints. Stagger the vertical joints on opposite sides of a partition. Extend wallboard full height to the floor or roof structure above where so detailed.
   4. Fasten wallboard firmly to studs and furring channels with power-driven drywall screws. Gypsum board shall extend to within 1/4" of floor line. Drive screw heads close without cutting the surface paper or fracturing the core. Maximum screw spacing shall be 12" o.c. for ceilings and 16" o.c. for partitions. For fire-rated partitions, maximum spacing shall be 12" o.c. Do not drive screws closer than 3/8" from any edge.
   5. For two-layer wall application, apply the base layer of wallboard vertically; attach with screws spaced 16" o.c. Apply the face layer vertically with joints offset 24" from base layer joints; attach with adhesive and 1-5/8" screws spaced 16" o.c.
   6. Wallboard joints in single layer or in face layer of two layer applications shall not occur within 12" of the corners of door frame, window frames, and openings larger than 12" x 12", unless control joints are installed at the corners.
   7. Accurately cut and fit abutting ends, edges and holes for pipes and electrical fixtures. Support the edges of gypsum wallboard at cutouts and openings.
   8. Reinforce exposed external corners with metal corner reinforcement.
   9. Where wallboard surfaces abut dissimilar intersecting surfaces such as metal and masonry, trim the meeting edge with a metal trim angle held approximately 1/4" away from the intersecting surface. Caulk the joint full with sealant; tool smooth.
   10. After application, check all gypsum wallboard for loose fasteners; drive tight any found loose.

I. Control Joints:
   1. Isolate gypsum wallboard surfaces with control joints where specifically detailed and where the following conditions exist:
      a. Partition or furring run exceeds 30 feet without a corner or a ceiling-height door frame.
      b. Ceiling dimensions exceed 50 feet in either direction.
      c. Construction changes within the plane of the partition.
      d. Each side of column furring within a partition run.
      e. Above each door jamb from head to top of partition.
      f. At each side of furr downs.
   2. Locate control joints in partitions at less-than-ceiling-height door frames with control joints extending to the ceiling from both top corners.
   3. Make joints with roll-formed zinc control joints (USG #093) with 1/4" slot.

a. Do not install roll-formed joint behind ceramic tile. Provide a 1/4" wide gap in the substrate only.
b. At acoustical partitions, seal behind the joints with acoustical sealant.

4. Back-block ceiling control joints with face panel strips laid over the joints.
5. At acoustical partitions, seal behind partition control joints with batt acoustical insulation stuffed between the doubled studs.

J. Edge Sealing: On wallboard partitions to be covered with ceramic tile, treat cut edges, holes, corner joints, and intermediate joints with edge sealant before installation of wallboard panels. Treat all fastener heads with edge sealant after installation. Caulking of openings through ceramic tile is specified in SECTION 09 30 00 - TILING.

K. Joint Treatment:

1. Finish the joints in exposed wallboard, wallboard which is to be covered with vinyl wall covering and carpet wall covering, and wallboard in sound partitions to deck. Joints in wall board to be covered with ceramic tile shall be filled but may be left unfinished.
2. Fill the V-grooves between boards with quick drying joint compound. Wipe joints clean of excess compound and allow to harden.
3. Apply a thin layer of joint topping to joints. Immediately embed tape reinforcement over joints, follow with a skim coat of compound.
4. Apply joint topping over the tape to fill flush with the board surface.
5. Apply joint topping over the fill coat and feather out smoothly beyond fill coat edge. Sand between coats as necessary to provide a smooth surface ready for painting.
6. Fill screw head depressions flush with three coats of compound.
7. Finish metal corner reinforcements and edge and control joint trim with two or three coats of joint compound, using edge of trim as a screed to secure a smooth, flat finish.

L. ~~**Special Finishes for Gypsum Board Surfaces:**~~

1. ~~**Areas Designated with Dry Erase Coating (paint-type) and Custom Digital Vinyl Wallcovering (Graphics): Examine substrates and installation conditions to ensure surface conditions meet or exceed a Level 5 Finish per ASTM C840 and GA-214 GA-214 Recommended Levels of Gypsum Board Finish. Recess nails and screws. Repair irregular tape joints, sand and remove dust. Ensure gypsum wallboard surfaces scheduled to receive dry-erase coatings are properly primed with recommended primer.**~~
2. ~~**Areas Designated with Dry Erase Wall Covering: Examine substrates and installation conditions to ensure surface conditions meet or exceed a Level 4 finish, per ASTM C840 and GA-214 Recommended Levels of Gypsum Board Finish.**~~
3. ~~**Permanent lighting should be installed and operational for inspection of these areas prior to application of wall finish.**~~ ***[ADDENDUM NO. 2]***

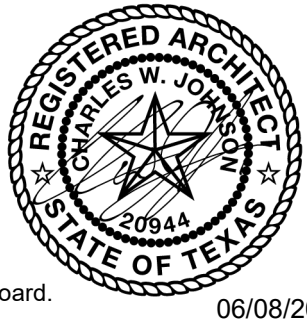
.2 TOLERANCES

A. Maximum variation from true flatness: 1/8" in 10 feet in any direction.

END OF SEC`TION

SECTION 09 72 16

VINYL-COATED FABRIC WALL COVERING



06/08/2026

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Vinyl-coated fabric wall covering.

B. Related Sections:
1. Section 09 21 16 - Gypsum Board Assemblies: taping and bedding of gypsum board.
2. Section 10 11 16 - Markerboards and Tackboards: cork wall tack surface.

1.2 SUBMITTALS

A. General: Submit in accordance with Section 01 33 23 - Shop Drawings, Product Data, and Samples.

B. Samples: Submit 6" square samples of each type of vinyl wall covering.

C. Certificate: The manufacturer of the proposed vinyl wall covering shall furnish to the Architect written certification that the material shipped to the project will meet the physical and performance requirements listed below. Certification from a dealer or distributor will not be acceptable.

D. Maintenance Instructions: Submit copies of the vinyl wall covering manufacturer's printed instructions for maintenance of the installed work.

1.3 QUALITY ASSURANCE

A. Applicator Qualifications: Work shall be performed by a skilled applicator having at least five years' experience in the installation of vinyl wall covering.

B. Source Quality Control: Flame spread rating of the material shall be determined by ASTM E 84. Each roll of goods delivered to the project shall bear Underwriters' Laboratories labels.

1.4 WARRANTY

A. Manufacturer warrants to Customer that the products sold will be free from defects in materials and workmanship for five (5) years from the date of Substantial Completion.

1.5 MAINTENANCE

A. Extra Materials: Upon completion of work, deliver to project site not less than 6 linear yards of each type, color, and pattern of vinyl wall covering installed. Furnish maintenance materials from same production run as materials installed. Other remnants, usable scraps, and overage in wall covering shall be packaged in appropriate wrapping, labeled, and delivered to the Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Vinyl Wall Covering (VWC-01, VWC-02, VWC-03); Basis of Design: Provide as indicated in Material Finish Schedule on drawings, FED CCC-W-408D, Type II/Class A; supported vinyl material shall consist of a pigmented and mildew inhibited polyvinyl chloride fused to cotton fabric. Wall covering shall have a flame spread rating of 25 or less when tested in accordance with ASTM E 84.
1. Color shall be as scheduled in the "Material Finish Schedule" in the drawings. [Color shall be as selected by Architect from manufacturer's complete color line.]

B. Adhesive: Vinyl paste as recommended by the wall covering manufacture.

C. Substrate Filler: As recommended by adhesive and vinyl wall covering manufacturers; compatible with substrate.

D. Substrate Primer and Sealer: Type as recommended by vinyl wall covering manufacturer.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine areas to receive vinyl wall covering for conditions that will adversely affect the execution and quality of work. Do not start this work until unsatisfactory conditions are corrected.

3.2 PREPARATION

A. Clean surfaces to receive vinyl wall covering, including dirt, grease, oil, other contaminants. Surfaces shall be dry, smooth, and clean. Protrusions or low spots must be sanded or filled, as needed, to achieve a smooth surface.

B. Acclimatize wall covering materials by removing them from packaging in the installation areas not less than 24 hours before installation.

C. Remove electrical plates and covers, light fixture trims, and similar items.

3.3 INSTALLATION

A. Applying Wall Covering: Follow the manufacturer's printed instructions for cutting and installing vinyl wall covering.
1. Use fabric panels in exact order as they are cut from rolls; use rolls in consecutive order. Apply paste to the fabric back using a roller or paste brush.
2. Trim deeply textured patterns, or patterns on which strip must be matched, on the worktable. Use a metal straight edge and sharp blade.
3. Handle smooth, non-match patterns by pasting strips on the wall, overlapping the edge and "double cutting" through both thicknesses. Use thin metal strip between wall and material when cutting to avoid gouging the wall.
4. Use stiff-bristled brush or flexible broad knife to eliminate air pockets and to secure the wall covering to the wall surface.
5. Fill in spaces above doors and similar areas in sequence from the roll.
6. Remove excess adhesive from each seam as it is made. Use sponge dampened with warm water. Wipe seam clean with dry cloth towel.
7. Examine each seam carefully when completed. Trim additional selvage where required to achieve a color and pattern match at seams.
8. Install seams vertical and plumb at least 6" from outside corners and 6" from inside corners, unless a change of pattern or color exists at corner. No horizontal seams are permitted.
9. Except on match patterns, hang panels by reversing alternate strips.
10. The installed fabric shall be secure, smooth, and clean without wrinkles, gaps or overlaps.

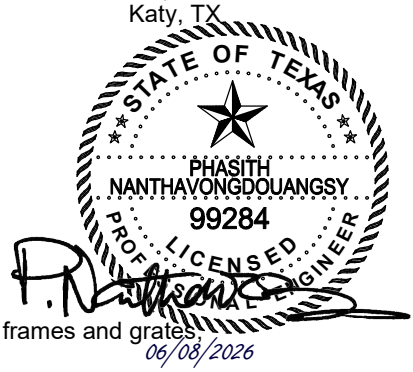
3.4 CLEANING

A. Clean vinyl wall covering with mild soap powder dissolved in warm water, and remove excess adhesive at joints and on adjacent surfaces.

B. Replace vinyl wall covering that cannot be successfully cleaned or that is applied to defective substrate surfaces.

C. Reinstall electrical plates and covers, light fixture trims, and similar items.

END OF SECTION



SECTION 33 49 13

STORM DRAINAGE MANHOLES, FRAMES AND COVERS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Iron castings for manhole frames and covers, inlet frames and grates, catch basin frames and grates, meter vault frames and covers, adjustment rings, and extensions.

B. Ring grates.

1.2 MEASUREMENT AND PAYMENT

A. Stipulated Price (Lump Sum). Contract is a Stipulated Price Contract, payment for work in this Section is included in total Stipulated Price.

1.3 REFERENCES

A. AASHTO -American Association of State Highway and Transportation Officials Standard Specification for Highway Bridges

B. ASTM A 48 -Standard Specification for Gray Iron Castings

C. ASTM A 615 -Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

D. AWS -D 12.1 Welding Reinforcing Steel.

1.4 SUBMITTALS

A. Conform to requirements of Division 1.

B. Submit copies of manufacturer's specifications, load tables, dimension diagrams, anchor details, and installation instructions.

C. Submit shop drawings for fabrication and installation of casting assemblies that are not included in Drawings or standard City details. Include plans, elevations, sections and connection details. Show anchorage and accessory items. Include setting drawings for location and installation of castings and anchorage devices.

PART 2 - PRODUCTS

2.1 CASTINGS

A. Use castings for frames, grates, rings and covers conforming to ASTM A 48, Class 35B. Provide locking covers if indicated on Drawings.

B. Use clean castings capable of withstanding application of AASHTO M306-40,000 pound proof loading without detrimental permanent deformation.

C. Fabricate castings to conform to shapes, dimensions, and with wording or logos shown on Drawings. Standard dimensions for manhole covers are 32 inches in diameter.

D. Use clean castings, free from blowholes and other surface imperfections. Use clean and symmetrical cast holes in covers, free of plugs.

2.2 BEARING SURFACES

A. Machine bearing surfaces between covers or grates and their respective frames so that even bearing is provided for position in which casting may be seated in frame.

2.3 SPECIAL FRAMES AND COVERS

A. Where indicated on Drawings, provide watertight manhole frames and covers with minimum of four bolts and gasket designed to seal cover to frame. Supply approved watertight manhole covers and frames.

B. Where shown on Drawing, provide manhole frames and covers with 48 inch diameter clear opening, with inner cover for 22 inch diameter clear opening. Provide approved inner cover with pattern shown on Drawings.

2.4 FINISH

A. Unless otherwise specified, uncoated cast iron.

2.5 FABRICATED RING GRATE

A. Fabricate ring grates from reinforcing steel conforming to ASTM A 615.

B. Conform to welds connecting bars to AWS D 12.1.

2.6 ADJUSTMENT RINGS FOR ASPHALT OVERLAYS

A. Use castings conforming to Division 33 requirements.

B. One piece casting with dimensions to fit frame and cover.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install castings according to approved shop drawings, instructions in related specifications, and applicable directions from manufacturer's printed materials.

B. Set castings accurately at required locations to proper alignment and elevation. Keep castings plumb, level, true, and free of rack. Measure location accurately from established lines and grades. Brace or anchor frames temporarily in form work until permanently set.

C. Fabricate ring grates in accordance with City of Houston standard detail, "Ring Grate for Open End of 18 Inch to 72 Inch Stubs to Ditch". Set in mortar in mouth of pipe bell.

D. Install adjustment rings in existing frames with clean bearing surfaces that are free from rocking.

END OF SECTION 33 49 13