

PROJECT SPECIFICATIONS

FOR
CONSTRUCTION
OF THE

PET FOOD EXPRESS

Location:

THE PARK SHOPPING CENTER
4710 FREEPORT BLVD STE 12K-A
SACRAMENTO CA 95822

ARCHITECTS

MSA architecture + design

360 22nd Street suite 800
Oakland CA 94612

415.852.4907

13 September 2019

SECTION 00 01 10 - TABLE OF CONTENTS

**PROJECT MANUAL
INTRODUCTORY INFORMATION**

Document 00 01 10 Table of Contents

CONTRACTING REQUIREMENTS

Under separate cover.

SPECIFICATIONS
DIVISION 1 GENERAL REQUIREMENTS

Section 01 11 00 Summary of Work
 01 23 00 Alternates
 01 30 00 Administrative Requirements
 01 35 15 CALGreen Environmental Requirements
 01 35 20 Historic Treatment Procedures
 01 40 00 Quality Requirements
 01 50 00 Temporary Facilities and Controls
 01 60 00 Product Requirements
 01 70 00 Execution Requirements

DIVISION 2 EXISTING CONDITIONS

Section 02 41 19 Selective Demolition for Remodeling

DIVISION 3 CONCRETE

Section 03 30 00 Cast-in-Place Colored Concrete
 03 35 50 Polished Concrete Flooring

DIVISION 4 MASONRY

Section 04 21 14 Surface Bonded Masonry Veneer
 04 22 00 Concrete Unit Masonry

DIVISION 5 METALS

Section 05 40 00 Cold-Formed Metal Framing
 05 50 00 Metal Fabrications
 05 70 00 Decorative Metal

DIVISION 6 WOOD AND PLASTICS

Section 06 10 50 Miscellaneous Rough Carpentry
 06 20 00 Finish Carpentry

DIVISION 7 THERMAL AND MOISTURE PROTECTION

Section 07 01 50 Roofing Repairs
 07 13 00 Sheet Waterproofing
 07 21 00 Thermal Insulation
 07 26 16 Below-Grade Vapor Retarder
 07 28 00 Building Envelope Underlayment
 07 32 10 Roof Tiles
 07 41 15 Metal Roofing
 07 46 23 Wood Siding
 07 53 00 Elastomeric TPO Membrane Roofing
 07 60 00 Flashing and Sheet Metal
 07 72 00 Roof Hatch
 07 84 00 Firestopping
 07 90 00 Joint Sealants
 07 95 00 Expansion Joint Cover Assemblies

DIVISION 8 DOORS AND WINDOWS

Section 08 11 13 Hollow Metal Doors and Frames
 08 14 00 Wood Doors
 08 31 00 Access Doors and Panels
 08 33 00 Overhead Coiling Doors
 08 35 40 Sliding Aluminum and Glass Walls

	08 37 00	Rigid Traffic Doors
DIVISION 8	DOORS AND WINDOWS (Continued)	
Section	08 41 00	Entrances and Storefronts
	08 42 30	Automatic Entrances
	08 62 00	Unit Skylights
	08 70 00	Hardware
	08 80 00	Glazing
	08 87 00	Glazing Surface Film
	08 91 00	Louvers
DIVISION 9	FINISHES	
Section	09 21 16	Gypsum Board Assemblies
	09 24 00	Portland Cement Plastering
	09 30 00	Tiling
	09 51 00	Acoustical Ceilings
	09 61 00	Slip-Resistant Floor Treatment
	09 65 10	Resilient Base
	09 65 90	Dog Park Surfacing
	09 77 30	Fiberglass Wall Panels
	09 90 00	Painting and Coating
DIVISION 10	SPECIALTIES	
Section	10 12 00	Enclosed Bulletin Boards
	10 14 00	Signage
	10 22 30	Folding Partitions
	10 26 10	Stainless Steel Corner Guards
	10 28 10	Toilet Accessories
	10 80 00	Treillage
DIVISION 11	EQUIPMENT	
		Not used.
DIVISION 12	FURNISHINGS	
Section	12 48 00	Entry Floor Mats
DIVISION 13	SPECIAL CONSTRUCTION	
		Not used.
DIVISION 14	CONVEYING SYSTEMS	
		Not used.
DIVISION 21	FIRE SUPPRESSION	
		Under separate cover.
DIVISION 22	PLUMBING	
		Under separate cover.
DIVISION 23	HEATING, VENTILATING, AND AIR CONDITIONING	
		Under separate cover.
DIVISION 26	ELECTRICAL	
		Under separate cover.
DIVISION 31	EARTHWORK	
		Under separate cover.
DIVISION 32	EXTERIOR IMPROVEMENTS	
Section	32 31 10	Welded Wire Fence
	32 31 20	Decorative Fence and Gates

END OF DOCUMENT

SECTION 01 11 0 - SUMMARY OF WORK

PART 1 - GENERAL

- A. Summary: Project consists of construction of the Pet Food Express as indicated in Contract Documents.
 - 1. Hazardous Materials Removal: Known hazardous materials will be removed under separate contract (NIC); inform Owner immediately where materials suspected of being hazardous are encountered.
- B. Work Sequence: Coordinate construction schedule, operations, and use of premises with Architect and Owner.
- C. Contractor Use of Premises: Limit to areas indicated on Drawings and as specified; limit access as directed by Owner; do not disturb use of adjacent buildings and areas.
- D. Lines and Levels: Establish lines and levels by use of recognized practices.
- E. Regulatory Requirements: Architect has contacted governing authorities and reviewed design requirements of local, state and federal agencies for applicability to Project.
 - 1. Contractor shall be responsible for contacting governing authorities directly for necessary information and decisions bearing upon performance of Work.
- F. Reference Standards: For Products specified by association or trade standards, comply with requirements of referenced standard, except when more rigid requirements are specified or required by applicable codes.
 - 1. Applicable date of each standard is that in effect as of Proposal date, except when a specific date is specified.
- G. Owner Furnished, Contractor Installed Products: Select products are to be furnished and paid for by Owner and installed by Contractor:
 - 1. Owner's Responsibilities:
 - a. Arrange for and deliver shop drawings, product data, and samples to Contractor.
 - b. Arrange and pay for product delivery to site.
 - c. Inspect products jointly with Contractor on delivery.
 - d. Submit claims for transportation damage.
 - e. Arrange for replacement of damaged, defective, or missing items.
 - f. Arrange for manufacturer's warranties, inspections, and service.
 - 2. Contractor's Responsibilities:
 - a. Review shop drawings, product data, and samples.
 - b. Receive and unload products at site.
 - c. Inspect jointly with Owner for completeness and damage.
 - d. Handle, store, and install products.
 - e. Finish products as required after installation.
 - f. Repair or replace items damaged by Work of this Contract.

END OF SECTION

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

- A. Requirements Included: This section includes a description of alternate work.
- B. Procedures: Alternates will be exercised at Owner's option.
 - 1. Coordinate related work and modify surrounding work as required to complete Work, including changes under each alternate, when acceptance is designated in Owner-Contractor Agreement.
- C. Alternates: Refer to Drawings.

END OF SECTION

SECTION 01 30 00 – ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

- A. Submittals: Transmit each item under AIA Form G810 or a similar approved form; distribute copies of reviewed submittals to concerned persons; instruct recipients to promptly report any inability to comply.
 - 1. Contractor shall review and approve submittals prior to submitting to Architect; inform Architect at time of submission of any proposed deviation from Contract Documents.
 - 2. Submittal by Contractor represents field measurements, catalog numbers, and similar data have been determined and verified by Contractor.
 - 3. Review of submittals by Architect is for design concept only and is not to be construed as approving departures from Contract Documents.
- B. Progress Schedules: Submit construction progress schedule with separate item for each major trade or operation, identifying first day of each week.
 - 1. Format: Horizontal bar chart and network analysis system using critical path method as approved by Architect.
 - 2. "Submittal Schedule": Show Contractor submittal dates required for shop drawings, product data, and samples, and product delivery dates; deliver to Architect per approved "Submittal Schedule."
- C. Schedule of Values: Submit typed schedule on AIA Form G703 or another approved 8-1/2" by 11" paper; Contractor's standard media-driven printout will be considered on request.
- D. Product Data: Mark each copy to identify applicable Products, models, options, and other data; supplement manufacturers' standard data to provide information unique to the Work; include installation instructions.
 - 1. Product data shall be submitted as electronic PDF files unless otherwise noted or approved by Architect in advance.
 - 2. Where paper copies are permitted submit number of copies which Contractor requires, plus two copies to be retained by Architect.
- E. Shop Drawings: Submit three reproducible prints; minimum sheet size 8-1/2" by 11"; after Architect review, reproduce and distribute.
 - 1. Shop drawings shall be submitted as electronic PDF files unless otherwise noted or approved by Architect in advance.
 - 2. Where prints are permitted submit one reproducible print; minimum sheet size 8-1/2" by 11".
- F. Samples: Submit full range of manufacturers' standard colors, textures, and patterns for Architect's selection; include identification on each sample, giving full information.
 - 1. Submit three samples unless otherwise specified; Architect will retain one sample; maintain one set of approved samples at Project Field Office.
- G. Certificates: Submit certificates, in duplicate, in accordance with requirements of each Specification section.
- H. Coordination: Coordinate use of premises and access to site under direction of Owner and Architect; coordinate work to assure efficient and orderly sequence of installation of construction elements.
 - 1. Make provisions for Owner installed items and for separate contracts.
 - 2. Verify characteristics of interrelated operating equipment are compatible; coordinate work having interdependent responsibilities for installing, connection to, and placing such equipment in service.
 - 3. Coordinate space requirements and installation of mechanical and electrical work; conceal pipes, ducts, and wiring in finished areas; coordinate locations of fixtures and outlets with finishes.
- I. Meetings: Schedule and administer Project meetings throughout progress of Work; record minutes and distribute copies within two days to Architect, participants, and those affected.

END OF SECTION

SECTION 01 35 15 - CALGREEN ENVIRONMENTAL REQUIREMENTS

PART 1 - GENERAL

- A. Section Includes: Comply with CALGreen environmental requirements as applicable to Project.
- B. Mandatory Measures: Comply with CALGreen Mandatory Measures applicable to Project construction.
 - 1. Voluntary Tiers: Verify if authorities require compliance beyond Mandatory Measures.
- C. Requirements: Construction team shall review CALGreen requirements relative to Project.
 - 1. Energy Efficiency: Comply with California Energy Commission requirements.
 - 2. Water Efficiency and Conservation: Comply with requirements for both indoor and outdoor water use.
 - 3. Material Conservation and Resource Efficiency: Comply with following as applicable.
 - a. Projects: Seal openings and penetrations in building envelope separating conditioned space from unconditioned space.
 - b. Construction Waste: Provide construction waste management plan as defined by CALGreen with at least 50% of construction waste diverted from landfill by recycling or salvage for reuse.
 - c. Building Maintenance and Operation: Provide operation and maintenance data as required by CALGreen.
 - 4. Residential Projects Environmental Quality:
 - a. Mechanical Equipment Pollution Control: Cover duct and related air distribution component openings to prevent dust and debris accumulation.
 - b. Finish Material Pollution Control: Comply with CALGreen requirements for volatile organic compound (VOC) emissions.
 - 1) Adhesives, sealants and caulks.
 - 2) Paints and coatings.
 - 3) Carpet systems including carpet, carpet cushion, and adhesives.
 - 4) Resilient flooring systems.
 - 5) Composite wood products formaldehyde limitations.
 - c. Filters: Comply with requirements for mechanically ventilated buildings to have air filtration media for outside and return air prior to occupancy.
 - d. Environmental Tobacco Smoke (ETS) Control: Comply with CALGreen requirements.
 - e. Interior Moisture Control: Comply with CALGreen requirements for vapor retarder at concrete slab foundations and capillary break (aggregate base).
 - f. Building Material Moisture Content: Do not use water damaged building materials, remove and place wet and high moisture content insulation, and do not enclose wall or floor framing when moisture content exceeds 19%.
 - g. Indoor Air Quality: Provide humidistat controlled bathroom exhaust fans with Energy Star compliance, ducted to terminate outside building.
 - h. Environmental Comfort: Comply with CALGreen requirements.
 - i. Outdoor Air Quality: Comply with CALGreen requirements for reduction of greenhouse gases and ozone depletion.
 - j. Project Management and Coordination: Contractor to identify one person on Contractor's staff to be responsible for CALGreen issues, compliance, and coordination including collection of required information to validate compliance.
 - 5. Experience: Environmental project manager to have experience relating to CALGreen building construction.
 - 6. Responsibilities: Carefully review Contract Documents for CALGreen issues, coordinate work of trades, subcontractors, and suppliers; instruct workers relating to environmental issues; and oversee Project Environmental Goals.
- D. CALGreen Issues Criteria: Comply with requirements listed in CALGreen and various Specification sections.

END OF SECTION

SECTION 01 35 20 - HISTORIC TREATMENT PROCEDURES

PART 1 - GENERAL

- A. Summary: Where Project is located in a historic building or historic space comply with special procedures for historic rehabilitation.
 - 1. Project includes rehabilitation in areas of historic significance; make every effort to comply with following requirements.
 - a. Where indicated match existing historic materials to maximum degree possible given present day material availability and craftsmanship.
 - b. Take special precautions in executing work to avoid damage to existing materials of historic significance. Avoid unnecessary cutting of existing historic materials.
 - 2. Building will be made available to those bidding work for review of existing materials; carefully examine materials and adjacent systems to assure total compliance.
 - a. Extent of materials of historic significance is subject to review and opinion of Architect and authorities having jurisdiction.
 - 3. Review each Specification section for applicable requirements for historic rehabilitation and renovation, and for matching of existing materials.
- B. Submittals: Submit written request well in advance of executing cutting or alteration that affects elements of historic significance. Request shall include following information.
 - 1. Identification of Project and description of proposed work and of affected work.
 - 2. Necessity for cutting or alteration and alternatives to cutting and patching.
- C. Qualifications: Employ quality craftspersons to duplicate elements of historic significance; where available, employ craftspersons specializing in historic rehabilitation and renovation.
 - 1. Craftsperson: An individual with specialized knowledge and experience capable of recognizing situations that require special attention and experience working with design professions in finding solutions for problems related to historic issues.

PART 2 - PRODUCTS

- A. Design and Performance Requirements: Conform to referenced U.S. Department of the Interior "Standards", "Preservation Briefs", and "Preservation Tech Notes" unless more stringent requirements are indicated.
- B. Materials: Comply with Specifications and standards for each product involved.
 - 1. Provide materials and fabrication consistent with historic significance of building, quality of Project, and intended for commercial construction where Specifications and standards have not been provided.
 - 2. Provide new materials for historic rehabilitation and renovation unless otherwise indicated or unless specific items have been approved.

PART 3 - EXECUTION

- A. Inspection: Inspect existing conditions of Project including elements of historic significance subject to damage. After uncovering work of historic significance inspect conditions affecting installation of products, and of performance of work.
 - 1. Report unsatisfactory conditions in writing. Do not proceed with work until Architect has provided further instructions.
- B. Preparation: Provide adequate temporary support as necessary to assure structural value or integrity of elements of historic significance. Provide devices and methods to protect existing and remodeled elements of historic significance from damage.
- C. Performance: Employ quality craftspersons to duplicate elements of historic significance. Where available, employ craftspersons specializing in historic rehabilitation and renovation.
 - 1. Restore work of historic significance in accordance with Contract Documents.
 - 2. Refinish entire surfaces as necessary to provide even finish to match adjacent finishes:
 - a. For continuous surfaces, refinish to nearest intersection.
 - b. For an assembly, refinish entire unit.

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

- A. General Quality Control: Maintain quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Manufacturer's Field Services: When specified in respective specification sections, require manufacturer or supplier to have qualified personnel provide on-site observations and recommendations.
 - 1. Representative shall:
 - a. Observe field conditions, including conditions of surfaces. Observe quality of workmanship and methods of installation.
 - b. Provide recommendations for installation and workmanship.
 - c. Where required, start, test, and adjust equipment as applicable.
 - d. Submit written report to Architect of observations.
- C. Mock-Ups: Erect field samples and mock-ups at Project site in accordance with requirements in each Specification section.
- D. Testing Laboratory Services: Where scope of Project requires testing laboratory services provide testing laboratory services required by local authorities for conformance to applicable codes and not specified as provided by Owner.
 - 1. An independent testing laboratory shall perform inspections, tests, and other services required by various Specification sections.
 - 2. Owner will employ and pay for testing laboratory services except for retesting required by non-conformance to specified requirements which shall be charged to Contractor.
 - 3. Services will be performed in accordance with requirements of governing authorities, with specified standards and Specifications.
 - 4. Reports will be submitted to Architect in duplicate giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Documents.
 - a. Where required, testing laboratory shall submit copy of test results directly to enforcing agency.
 - 5. Contractor shall cooperate with testing laboratory personnel; furnish tools, samples of materials, design mix, equipment, storage and assistance as requested.
 - 6. Notify Architect and testing laboratory sufficiently in advance of expected time for operations requiring testing services.

END OF SECTION

SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

- A. General: Provide temporary construction facilities and temporary controls as required to complete Project in accordance with Contract Documents and to conform to requirements of applicable authorities.
 - 1. Contract governing authorities to establish extent of temporary facilities and temporary controls required by authorities.
 - 2. Owner will pay local electricity and water companies directly for electricity and water used from on-site services unless otherwise.
- B. Temporary Power: Provide power service and lighting required for operations, with branch wiring and distribution boxes located to allow service and lighting by means of construction-type power cords.
- C. Temporary Water and Sanitary Services: Provide and maintain required drinking water and sanitary facilities with enclosures.
- D. Noise, Dust, and Pollution Control: Provide materials and equipment necessary to comply with local requirements for noise, dust, and pollution control.
- E. Barriers: Provide as required to protect adjacent properties from damage from operations; and as required by governing authorities.
 - 1. Fence: Minimum 8'-0" commercial chain link or solid wood construction fence; equip with gates with locks.
 - 2. Security: Maintain site and materials secure during construction period.
- F. Cleaning: Control accumulation of waste materials and rubbish; dispose of off-site at intervals approved by Architect and acceptable to applicable authorities.
- G. Signs: Subject to approval of Owner and Architect.
- H. Telephone Service: Provide cellular phone with on-site person in charge; provide phone number to Architect.
- I. Storage: Limit on-site storage to areas designated for construction operations and approved in writing in advance by Owner; provide additional weather-tight, secured off-site storage as required.
- J. Removal and Cleaning: Remove construction facilities, clean and repair damage, in excess of Contract requirements, caused by operations or use of temporary facilities.
- K. Site Waste Management: Comply with site waste management requirements of applicable authorities. Effect optimum control of solid wastes. Prevent environmental pollution and damage.
 - 1. Construction and Demolition Waste: Includes solid wastes, such as building materials, packaging, rubbish, debris, and rubble resulting from construction, remodeling, repair, and demolition operations.
 - 2. Submittals: Furnish as required by applicable authorities.
 - 3. Recycling Program: Implement recycling program that includes separate collection of waste materials of types applicable to Project; recycling program to be applied by Contractors and subcontractors.
 - 4. Handling: Keep materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to recycling process. Clean materials which are contaminated prior to placing in collection containers.
 - a. Arrange for collection by or delivery to appropriate recycling center or transfer station that accepts construction and demolition waste for purpose of recycling.
 - 5. Participate in Re-Use Programs: Rebates, tax credits, and other savings obtained for recycled or re-used materials shall accrue to Contractor.

END OF SECTION

SECTION 01 60 00 – PRODUCT REQUIREMENTS

PART 1 - GENERAL

- A. Contract Amount: Base on materials and products in Contract Documents; where listed in Contract Documents, materials and products by manufacturers not listed shall not be used without written approval.
- B. Products: Components supplied in quantity shall be interchangeable; provide new materials unless otherwise directed in Contract Documents.
- C. Installation: Install items plumb, level and secure, and in correct relation to adjacent products; secure in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.
 - 1. Comply with manufacturer recommendations and installation instructions except where more stringent requirements are specified.
- D. Transportation: Transport products to avoid product damage, deliver in undamaged condition in manufacturer's unopened containers or packaging.
- E. Handling: Provide equipment and personnel to handle products by methods to prevent soiling and damage; promptly inspect to assure products are correct, complete, and undamaged, and quantities are correct.
- F. Storage: Store material in accordance with manufacturer instructions, with seals and labels intact and legible.
- G. Protection: Provide coverings to protect products from damage from traffic and construction operations, remove when no longer needed.
- H. Specified Products: For products specified by naming one or more products or manufacturers, select products of any named manufacturer meeting Specifications.
- I. Substitutions: For product or manufacturer that is not specifically named submit request for substitution; within a period of 35 days after award of Contract, Architect will consider requests for substitutions.
 - 1. Submit separate request for each proposed substitution with data relating to changes in cost and construction schedule; note effect of substitution on other work, products, or separate contracts.
 - 2. Include accurate cost data comparing proposed substitution with product and amount of net change in Contract price.
 - 3. Do not order substitute products without written acceptance; Architect will determine acceptability of proposed substitutions and reserves right to reject due to insufficient information.
 - 4. Requests indicate Contractor has investigated product and it meets or exceeds specified product, will provide same warranty, and waives claims for additional costs that subsequently become apparent.

END OF SECTION

SECTION 01 70 00 – EXECUTION REQUIREMENTS

PART 1 - GENERAL

- A. Installer Qualifications: Installers to have minimum five years successful experience installing items similar to those required for Project, except for individuals in training under direct supervision of experienced installer.
- B. Examination: Beginning installation of a product signifies installer has examined substrates, areas, and conditions for compliance with manufacturer requirements for tolerances and other conditions affecting performance.
- C. Manufacturer's Instructions: When work is specified to comply with manufacturers' recommendations or instructions, distribute copies to persons involved, and maintain one set in Field Office.
- D. Installation: Comply with manufacturer's written recommendations and installation instructions unless more restrictive requirements are specified.
- E. Substantial Completion: Provide documentation stating Work has been substantially completed. Where Owner requires use of space prior to final completion, provide list of items to be completed.
 - 1. Architect will review list of any items to be completed and supplement list with items considered to be incomplete or unacceptable.
- F. Final Completion: Provide written certification indicating Work is in compliance with Contract Documents, systems have been tested and are operational, and Work is ready for final inspection. Submit written certification indicating the following.
 - 1. Work has been inspected for compliance with Contract Documents and Work has been completed in accordance with Contract Documents and that deficiencies noted by Architect and Owner has been corrected.
- G. Special Submittals: Submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
- H. Final Cleaning: Clean interior and exterior surfaces exposed to view, remove temporary labels, stains, and foreign substances; polish transparent and glossy surfaces; vacuum carpeted and soft surfaces; clean ducts; remove waste, surplus materials and rubbish from Project and site.
 - 1. Clean equipment and fixtures to a sanitary condition, clean or replace equipment filters.
- I. Project Record Documents: Keep documents current; do not permanently conceal any work until required information has been recorded. Indicate actual work on Drawings; indicate actual products used in Project Manual, including manufacturer, model number and options.
- J. Data: Provide material, finish, and maintenance data submitted by manufacturers bound in three ring binders, organized in format similar to Specifications.
- K. Cutting and Patching: Cut, fit, and patch as required to complete Work. Make its parts fit together properly; match existing typical. Uncover work to provide for installation of ill-timed work.
 - 1. Remove and replace defective work and nonconforming work. Remove samples of installed work as required for testing.
- L. Protection: Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation and trapping water.
- M. Warranties: Provide warranties as required by Specifications and where provided by manufacturers for products specified. Provide duplicate copies, notarized or on Contractor letterhead, countersigned by manufacturer.
 - 1. Warranties for waterproofing and roofing are to be countersigned by subcontractor and installer.
 - 2. Rejection of Warranties: Owner reserves right to reject unsolicited and coincidental product warranties which detract from or confuse interpretations of Contract Documents.
- N. Demonstrations: Prior to final inspection, demonstrate operation of each system to Owner.

END OF SECTION

SECTION 02 41 50 - SELECTIVE DEMOLITION FOR REMODELING

PART 1 - GENERAL

- A. Summary: Remove materials, systems, components, fixtures and equipment as designated and as required for completion of remodeling as indicated.
- B. Protection: Do not interfere with use of adjacent building spaces; maintain free and safe passage to and from.
 - 1. Cover and protect existing materials when demolition work is performed in areas where existing materials have not been removed.
 - 2. Prevent movement of adjacent construction, provide and place bracing and be responsible for safety and support of adjacent construction. Assume liability for movement of adjacent construction, for damage, and for injury.
 - 3. Cease operations and notify Owner and Architect immediately if safety of structure appears to be endangered; take precautions to properly support structure. Do not resume operations until safety is restored.
- C. Existing Services: Disconnect or remove utility services as required for completion of Project; disconnect, stub off, and cap utility service lines not required for new construction.
 - 1. Do not remove utilities discovered during demolition but not indicated without first determining purpose for utility coordinate with Architect and Engineers.
 - 2. Do not disrupt services to adjacent building areas not in Project.
 - 3. Place markers to indicate location of disconnected services; identify service lines and capping locations on Project Record Documents.

PART 2 - PRODUCTS

- A. Materials: Maintain possession of materials being demolished unless otherwise noted, immediately remove from site.
 - 1. Carefully remove, store and protect any materials indicated for reinstallation; where stored materials are damaged, repair to original condition or replace with new undamaged materials.
 - a. Immediately remove from site wet materials and materials with water stains, with mold, and with mildew.
 - 2. Verify extent of existing materials to be retained by Owner prior to beginning selective demolition. Carefully remove materials indicated to be retained by Owner; deliver where directed.

PART 3 - EXECUTION

- A. Demolish indicated appurtenances in an orderly and careful manner. Use methods which do not damage materials indicated to remain.
 - 1. Cut concrete and masonry using masonry saws and hand tools; provide sharp clean cuts requiring minimal patching for new construction.
 - 2. Use impact tools only where specifically approved in advance for areas where operations do not disturb building occupancy.
- B. Perform demolition in accordance with authorities having jurisdiction.
- C. Remove demolished materials from site, unless otherwise directed.
 - 1. Remove from site, contaminated, vermin infested, and dangerous materials encountered and dispose of by safe means so as not to endanger health of workers or public.
- D. Repair damage to adjacent construction caused as result of this work and repair demolition beyond that required.
 - 1. Cap and identify active utilities.

END OF SECTION

**Cast-in-place colored concrete Section 033000
(Chromix admixture for Integrally colored concrete-interior floor)**

Part 1-General

1.04 Quality Assurance

A. Reference Standards:

1. ASTM C494 .Standard specifications for chemical admixtures for concrete
2. ASTM C979 .Standard specifications for pigments for integrally colored concrete
3. ASTM C3 09 .Liquid membrane forming compounds for curing concrete
4. ACI 302 JR .Guide for concrete floor and slab construction
5. ACT 305 R .Hot weather concreting
6. ACT 306 R .Cold weather concreting
7. ACT 3 18 .Building code requirements for reinforced concrete
- 8.. NRMCA .CJP5 .Plastic shrinkage cracking

Submittals

- A. Submit manufacturer's tech-data sheets and certificates of compliance to applicable ASTM requirements.
- B. Submit applicators/contractors resume of successful projects utilizing specified Architectural concrete color system with a minimum requirement of 3 years related experience.
- C. Prior to installation of architectural colored concrete, contractor shall provide an on-site 5 foot by 5 foot mock-up of each concrete finish and color with respective score/sawcut and expansion joints for approval by the owner's representative. Upon request, the owner's representative may require modifications to be made to the mock-ups. The revised mock-ups shall be provided at no cost to owner. Once mock-ups have approved by the owner's representative, contractor shall retain approved mock-ups during construction as standard for judging completed work.
- D. Pre-Installation Meetings: At Least 7 days prior to constructing Architectural colored concrete mock-ups, conduct a meeting to review details and proper procedures of using coloring and texturing products relative to project's specific requirements.

Part 2-Products

2.01 Manufacturers

**Bob Torres
District Executive
L.M. Scofield Company
6533 Bandini Blvd.
Los Angeles, Ca. 90040
1-800-800-9900**

2.02 Materials

A. Integral Color admixture:All concrete designated as integrally colored concrete in plans or specifications shall contain the proper proportion of **ChromixP admixture** for color conditioned concrete as manufactured by the L.M. Scofield Company.It shall be certified that the colored admixtures comply with the requirements of paragraph 407 of ACI 318-83 (Building code requirements for reinforced concrete) as water-reducing admixtures, and that their water-reducing components have tested for compliance with ASTM C494. The color-conditioned admixture shall be a single-component pigmented, water-reducing concrete admixture, factory formulated, and packaged in cubic yard increments, not multiple additives and pigments to dosed separately into the mix.The pigment portion of the colored admixture shall comply with ASTM C979. No Known Equal. Color as follows

1. Concrete Paving type 1:
2. Concrete Paving type 2:

Curing

1. Curesealw- water based acrylic curing and sealing compound- application for cure per tech data.
2. Scofield ProGuard Dura Cover floor protection-multiply textured membrane .Laminated with non-woven polypropylene geotextile. 6ft x 150ft rollsx18mils

2.02 Proportioning and Mixes

A. Mixing of integrally colored concrete- The concrete color admixture shall be added at the concrete batch plant. Minimum batch size shall be three (3) yards. The same brand of cement, source of sand, and water/cement ratio must be maintained for each load of the same color. The batching procedures shall be as follows: Before adding color-conditioning admixture, the mixing drum must be thoroughly cleaned and wetted with approximately 40 gallons of the mix water and/or a portion of the aggregates. One bag of the Chromix admixture correctly packaged for the mix design should be added per yard of concrete. Proceed with normal batching of balance of ingredients After loading is complete, mix at mixing speed for a minimum of 15 minutes. No water should be added after a portion of the load has been discharged.

Part 3 Execution

3.03 Placement

A.General: Deposit concrete near its final position to avoid segregation due to rehandling or flowing. The slump should be consistent throughout the project at 4 inches or less, and should not exceed 5 inches for any load. Concrete that has started to set must not be retempered, but should be discarded. Surrounding areas must be protected by cover, to be removed at the end of the day. The subgrade must be well drained and have adequate and uniform load bearing characteristics as specified. The subgrade must be compacted as specified. The subgrade must be dampened by water in advance of concreting, but concrete should not be placed over freestanding water or muddy, frozen or soft spots. The concrete should be placed and consolidated so that it completely fills all space inside the forms .

B. Concrete finishes:

- 1 .*Integrally colored concrete flatwork:* Strike off concrete to specified level using wooden strike off bar, immediately following strike off, further level and consolidate concrete with wooden bull float or wood darby. Begin floating operation before free moisture rises to the surface. After the concrete has reached a point where bleed water disappears ,finishing may proceed. For uniformity of appearance, consistant finishing practices must be used when applying specified finish. Water must not be sprinkled or otherwise added to the surface while finishing. All final hand finishing must be done in the same direction. CuresealW cure and sealing compound to be applied with airless sprayer at 400sf per gal. as soon as surface can bear traffic-same day. After 3 days, a non-staining, reinforced protection cover (duracover), shall be shall be used to cover the floor completely with a minimum of seams for the duration of the project. Do not tape to floor.

Concrete finishing- sealer and traffic coating

Concrete cover shall be removed and concrete re-prepped per tech data.

1.1 3.4 MAINTENANCE

- A. Maintain colored and sealed surfaces by sweeping. Clean spills when they occur and rinse dirt off with water. Wet-clean heavily soiled areas by mopping or by scrubbing with a rotary floor machine equipped with a scrubbing brush and a suitable, high quality neutral PH commercial detergent. Maintain interior floors by using a compatible, premium-grade, emulsion-type, commercial floor polish, following manufacturer's instructions and safety requirements. Traffic coating shall be a minimum of 6mils thick.
 1. Carefree (matte)(Gloss) traffic coating- Diversey, 800-558-2332.

SECTION 03 35 50 - POLISHED CONCRETE FLOORING

PART 1 - GENERAL

- A. Section Includes: Provide polished concrete flooring including preparation of concrete, curing, grinding, and sealing, as required for complete finished installation.
- B. Submittals: Furnish manufacturer's literature for materials, sample panels of polished concrete, and written instructions for recommended periodic maintenance.
- C. Applicators: Firms with not less than ten years successful experience polishing concrete or terrazzo floor surfaces similar to that required for Project.

PART 2 - PRODUCTS

- A. Manufacturers: Advanced Floor Products (888.942.3144)/The RetroPlate System; W.R. Meadows (800.342.5976)/Induroshine; or PROSOCO (800.255.4255)/Consolideck.
- B. System Description: Provide polished concrete flooring including preparation of concrete substrate, curing, grinding, and sealing.
- C. Accessibility Regulatory Requirements: Provide for assuring access for persons with disabilities in accordance with state and federal regulations for slip resistance.
 - 1. Slip Resistance: Provide non-slip finish with minimum wet and dry value coefficient of friction of 0.60 when tested in accordance with ASTM C1028 or comparable test indicating compliance.
- D. System: Provide manufacturer's complete system for polished concrete flooring matching approved samples including densifier and stain resistant sealer/enhancer.

PART 3 - EXECUTION

- A. Examination: Prior to application of polish ensure surfaces are level, with maximum surface variation of 1/4" in 10'-0". Ensure surfaces are clean and well cured.
 - 1. Do not commence work until surface conditions are within tolerances required for proper finishing. Start of work indicates acceptance of conditions.
- B. Preparation: Clean concrete slab free from foreign matter.
- C. Installation: Produce polished concrete finish surface to match approved samples. Follow manufacturer recommendations for finishing including rough grinding, grouting, curing grout, fine grinding, cleaning and sealing; but not less than following.
 - 1. Rough Grinding: Rough grind with 24 or finer grit stones or comparable diamond plates and follow with 80 or finer grit stones.
 - 2. Grouting: Clean and rinse floor, remove excess rinse water and machine or hand apply grout matching concrete. Take care to completely fill voids.
 - 3. Fine Grinding: Fine grind with 100 or finer grit stones until grout is removed from surface, and polished finished matching approved sample is achieved.
 - 4. Densifying and Sealing: Apply densifier and seal in accordance with manufacturer's directions.
- D. Cleaning: Use clean water and stiff bristle fiber brushes to clean polished concrete flooring. Do not use wire brushes, acid type cleaning agents, cleaning compounds with caustic or harsh fillers, or materials or methods that could damage concrete.

END OF SECTION

SECTION 04 21 15 – SURFACE BONDED MASONRY VENEER

PART 1 - GENERAL

- A. Summary: Provide bonded thin cultured stone masonry veneer with integral waterproof membrane, latex-cement thin set mortar, thin masonry veneer, and accessories for complete installation.
 - 1. Underlayment is in Section 07 28 00; lath and plaster base is in Section 09 24 00.
- B. System Description: Provide system complying with applicable code requirements for bonded thin masonry veneer.
- C. Reference Standards: Comply with ANSI A108.5: Tile installed with Latex-Portland Cement Mortar and Tile Council of North America (TCNA): Handbook for Ceramic Tile Installation.
- D. Pre-Installation Meetings: Convene pre-installation meeting prior to commencement of work of this section; require attendance of parties directly affecting work of this section.
- E. Submittals: Submit product data for each component, shop drawings of custom items, and samples of masonry veneer.
 - 1. Manufacturer's Certificate: Submit system manufacturer's certification noting Contract Documents have been thoroughly reviewed and conditions and substrates are acceptable and in conformance with applicable codes and Contract Documents.
- F. Installer Qualification: Minimum five years successful experience in similar projects.
- G. Mockup: Provide not less than 10 square foot section of bonded stone veneer indicating proposed construction including corners and special shapes and raked joints.
- H. Site Conditions: Take precautionary measures to ensure plaster is not subjected to excessive sun and wind, excessive evaporation, premature dehydration, or cracking.

PART 2 - PRODUCTS

- A. Cultured Stone Veneer: Cultured stone as indicated, designed to provide natural stone appearance when installed, complete with matching preformed corners and special shapes.
 - 1. Manufacturers: Eldorado Stone; Coronado Stone Products Inc.; Napa Valley Cast Stone.
 - 2. Color and Size: Match Architect's samples.
- B. Latex Bond Coat and Integral Waterproofing Systems: Premixed latex and waterproofing system recommended by manufacturer for application of veneer on plaster base and for grout.
 - 1. Manufacturer: Laticrete International, Inc./Laticrete; Mer-Kote Products, Inc./Mer-Krete; Bostik Construction Products/Hydroment Acrylic Latex Tile Mate; Custom Building Products/Custom Crete Crete-Mix.
 - 2. Types: Match specific materials including Laticrete/211 Crete Filler Powder or 3701 with Floor & Wall Thinset, Laticrete 4237 Latex Thin Set Mortar Additive, Laticrete/9235 Waterproof Membrane, and Laticrete Grout and Grout Admix.
- C. Accessories: Provide as required for complete finished bonded masonry veneer installation.
- D. Water: Clean, fresh and free from injurious amounts of oil, acid, alkali, organic matter or other deleterious substances.

PART 3 - EXECUTION

- A. Masonry Veneer: Bond veneer to plaster substrate in accordance with reference standards, masonry supplier and bonding material manufacturer recommendations and installation instructions for bonded masonry veneer.
- B. Adhered Masonry Veneer: Install masonry veneer in accordance with bonding material manufacturer's instructions, ANSI A108.5, and TCNA W221 with latex bond coat.
 - 1. Place in accordance with patterns as indicated; carefully plan masonry veneer layouts; ensure pattern is uninterrupted from one surface to next. Neatly cut masonry veneer where required; accurately form corners, intersections and returns.
 - 2. Provide waterproofing system integral with bonding system; comply with waterproofing system manufacturer recommendations for applications indicated.
- C. Joints: Tool joints to create rodded joint as approved by Architect and matching mock-up.

END OF SECTION

SECTION 04 22 00 - CONCRETE UNIT MASONRY

PART 1 - GENERAL

- A. Summary: Provide concrete masonry unit construction, with mortar, reinforcement, anchorage, and accessories as required for complete installation; cut and fit for work of other trades.
- B. Work Installed not Furnished: Build in items supplied by other trades and suppliers.
- C. Design/Build: Calculate structural properties of concrete masonry assemblies in accordance with applicable code requirements.
- D. Requirements: Perform concrete unit masonry work in accordance with requirements of applicable building codes, except where more restrictive requirements are specified.
- E. Pre-Installation Conference: Convene conference prior to concrete unit masonry unit work; require attendance of parties affecting masonry work; review procedures and coordination.
- F. Submittals: Furnish shop drawings for reinforcing and samples of masonry and mortar.
 - 1. Engineer Design/Build Certification: Provide certification by civil or structural engineer registered in California indicating compliance with Contract Documents and applicable codes; submit calculations directly to enforcing agency where requested.

PART 2 - PRODUCTS

- A. Concrete Masonry Units: Hollow loadbearing units conforming to ASTM C90, Type I; normal, medium or light weight units Contractor option unless classification is indicated on Drawings.
- B. Mortar: Conform to ASTM C270, Type S.
- C. Grout: Conform to ASTM C476, with minimum compressive strength of 2,000 psi.
- D. Mortar and Grout Materials: Mortar ASTM C270, Type S; grout ASTM C476, with 2000 psi or better compressive strength.
- E. Reinforcement and Anchorages: Provide as indicated on Drawings and required by code.

PART 3 - EXECUTION

- A. Preparation: Supply metal anchors required for concrete masonry to appropriate trades for placement; provide in sufficient quantity and direct placement; ensure items built in by other trades are properly located and sized.
- B. Installation: Do not wet concrete masonry units; lay units in mortar with full bed and head joints, properly jointed with other work; fully bond corners and intersections; perform cutting with proper power tools to provide straight and true, unchipped edges.
- C. Mortar Joints: Compress joints with a round or curved metal tool unless otherwise indicated.
- D. Grouting: Place grout when concrete masonry units are surface dry; consolidate and reconsolidate by mechanical vibration.
- E. Tolerances: Maximum 1/32" between units; maximum 1/4" out of plane; maximum 1/4" out of plumb; maximum 1/8" off level coursing in 3', 1/4" in 10'.
- F. Built-In Work: As work progresses, build in frames, lintels, nailing strips, anchor bolts, plates and other items supplied by other trades.

END OF SECTION

SECTION 05 40 00 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

- A. Summary: Provide non-loadbearing metal framing, 18 gage and heavier, with anchorage and bracing, and with accessories as required for complete installation.
 - 1. Light gage (20 gage and lighter) metal studs are in Section 09 21 00 – Gypsum Board Assemblies.
- B. Design/Build: Calculate structural properties of metal framing system in accordance with American Iron and Steel Institute (AISI) "Specification for Design of Cold-Formed Steel Structural Members;" comply with applicable codes.
- C. Submittals: Furnish shop drawings and product data to indicate component details, framing of openings, and welds, type and location of mechanical fasteners and accessories, and items required of other work for complete installation.
 - 1. Engineer Design/Build Certification: Provide certification by civil or structural engineer registered in California indicating compliance with Contract Documents and applicable codes; submit calculations directly to enforcing agency where requested.

PART 2 - PRODUCTS

- A. Manufacturers: ClarkDietrich; CEMCO; United Metal Products; or Steel Stud Manufacturers Association Member.
- B. Framing Members, Track, Bracing, Plates, Gussets, Clips: Sheet steel conforming with ASTM A446, ASTM A570 or ASTM A611, formed into "C" shaped sections; with knurled sides and faces.
 - 1. Gages: As indicated on Drawings; 18 gage framing minimum 33,000 psi, 16 gage and heavier minimum 40,000 psi.
- C. Fire Rated Assemblies: Framing approved for use in assemblies indicated to be fire rated.
- D. Fastenings: Types as recommended by manufacturer for application and conforming with applicable code requirements; welding to comply with AWS D1.3.
- E. Finishes: Approved rust resistant primer at interior framing; galvanized, ASTM A924 and A653, minimum G60 coating where at exterior walls.
- F. Fabrication: Fabricate assemblies and framed sections of sizes and profiles indicated, with joints fitted and secured, reinforced, and braced to meet design requirements.
 - 1. Comply with fabrication and connection recommendations of NAAMM ML/SFA 540, "Lightweight Steel Framing Systems Manual."
- G. Fabrication Tolerances: Fabricate panels to maximum allowable tolerance variation from plumb, level, and true to line of 1/8" in 10'-0".

PART 3 - EXECUTION

- A. Install metal framing systems in accordance with manufacturer's printed instructions.
 - 1. Comply with connection and erection recommendations of NAAMM ML/SFA 540, "Lightweight Steel Framing Systems Manual."
- B. Assure framing provides true and flat surfaces, ready to receive finish, with maximum variance of 1/8" in 10'-0".

END OF SECTION

SECTION 05 50 00 - METAL FABRICATIONS

PART 1 - GENERAL

- A. Summary: Provide stock and custom fabricated metal items complete in respect to function as intended and not part of structural steel or systems specified elsewhere.
 - 1. Decorative metal including stainless steel fold-up exam table is in Section 05 70 00 – Decorative Metal.
- B. Submittals: Furnish shop drawings for custom fabrications, product data for manufactured items; provide templates for anchor installation by others.
 - 1. Certification: Provide certification signed by engineer licensed in Project state indicating compliance with design requirements.

PART 2 - PRODUCTS

- A. Steel Shapes, Plates and Bars: ASTM A36.
- B. Structural Steel Sheet: Hot rolled, ASTM A570; or cold rolled, ASTM A611, Class 1; of grade required for design loading.
- C. Steel Pipe: ASTM A53, Type S seamless, grade as selected by fabricator and as required for design loading; minimum standard weight, STD or Schedule 40.
- D. Steel Tubing: Cold formed ASTM A500; or hot rolled, ASTM A501; minimum Grade B; seamless where exposed.
- E. Castings: Gray iron, ASTM A48, Class 30; malleable iron, ASTM A47.
- F. Grout: ASTM E827, non-shrink, non-metallic, pre-mixed, factory-packaged, non-staining, non-corrosive; type specifically recommended by manufacturer as applicable to job condition.
- G. Fasteners and Rough Hardware: Type required for specific usage; provide zinc-coated fasteners for exterior use or where built into exterior walls.
- H. Welding Materials: AWS D1.1, type required for materials being welded.
- I. Paint: Provide primers as recommended by paint manufacturers for substrates and paints specified in Section 09 90 00 – Painting and Coating.
 - 1. Galvanizing Repair: High zinc-dust paint for regalvanizing welds in galvanized steel.
- J. Fabrication: Fabricate items with joints neatly fitted and properly secured; grind exposed welds continuous, smooth and flush with adjacent finished surfaces, and ease exposed edges to approximate 1/32" uniform radius.
 - 1. Make exposed joints flush butt type, hairline joints where mechanically fastened.
 - 2. Railings: Comply with California Building Code and ADA Standards and with requirements of NAAMM "Pipe Railing Manual"; configurations indicated; welded construction; cap exposed ends.
 - 3. Ladders: Comply with requirements of ANSI A14.3 and Cal/OSHA.
 - 4. Steel Bollards: Schedule 80 seamless steel piping, filled with minimum 2000 psi concrete.
 - 5. Concrete Stair Nosing: Cast-in- Place one-piece stair nosing, nonslip surface; comply with California Building Code requirements for 2" stripe at stair treads and landings.
 - 6. Metal Roof Curbs: Acme Manufacturing Corp., FastCurbs (877.728.3278)/Metal Roof Curb Welded Clip Type FCMR-1 unless otherwise indicated.
 - 7. Pre-Engineered Support Systems: Unistrut or Grinnell/PowerStrut manufactured pre-engineered support system consisting of minimum 12 gage "C" channel supports with anchors, attachments, and accessories as required for complete installation.
 - 8. Finishes: G90 galvanize and prime paint exterior work and prime paint interior work; comply with requirements of Section 09 90 00 for preparation and priming.

PART 3 - EXECUTION

- A. Installation: Install items square and level, accurately fitted and free from distortion or defects detrimental to appearance or performance; ensure alignment with adjacent construction; coordinate with related work to ensure no interruption in installation.
 - 1. Supply items to be cast into or embedded in other materials to appropriate trades.
- B. After installation, touch-up field welds and scratched and damaged surfaces; use primer consistent with shop coat or recommended for galvanized surfaces, as applicable.

END OF SECTION

SECTION 05 70 00 – DECORATIVE METAL

PART 1 - GENERAL

- A. Work Included: Provide ornamental metal items including attachment devices and accessories, as required for complete, finished installation.
 - 1. Provide manufactured stainless steel fold-up exam table.
 - 2. Provide custom aluminum canopy with perforated metal roof.
 - 3. Decorative fence and gates are in Section 32 31 20.
- B. Design Requirements: Drawings indicate sizes and shapes; design and fabricate of gages and thicknesses to withstand anticipated loads; comply with applicable code requirements.
 - 1. Canopy Design: Comply with California Building Code requirements.
- C. Submittals: Furnish product data, shop drawings, and samples of each exposed metal finish.
- D. Fabricator: Firm with minimum five years successful experience fabricating ornamental metal items similar to those required for Project.
 - 1. Canopy Engineer Design/Build Certification: Provide certification by civil or structural engineer registered in California indicating compliance with Contract Documents and applicable codes; submit calculations directly to enforcing agency where requested.

PART 2 - PRODUCTS

- A. Fold-Up Exam Table: Vet's Best Division Groomers Best (groomersbest.com)/Fold Up Exam Table with fasteners and accessories for complete installation; minimum 18 gage stainless steel with not less than 200 lb. capacity; wall mounted.
 - 1. Stainless Steel: ASTM A666, Type 304 nonmagnetic corrosion resistant stainless steel.
 - 2. Finish: BHMA 630 (US32D) or NAAMM Number 4, satin directional polish.
- B. Custom Aluminum Canopy: Configuration indicated; welded construction unless otherwise approved; no exposed fasteners.
 - 1. Aluminum: Alloy and temper recommended by aluminum producer or finisher for type and use and finish indicated; sized for strength and durability consistent with application involved.
 - 2. Perforated Roof: Not less than 0.040" thick aluminum with perforations as indicated, as directed by Architect where not otherwise indicated.
 - 3. Finish: Comply with NAAMM "Metal Finishes Manual" and referenced standards.
 - a. Bronze Anodized: AA-M12C22A42, Class I, AAMA 606.1.
 - 4. Comply with following minimum standards for aluminum.
 - a. Extruded Bar and Shapes: ASTM B221, 6063-T6.
 - b. Drawn Seamless Tube: ASTM B483, 6063-T832.
 - c. Plate and Sheet: ASTM B209, 6061-T6.
 - d. Castings: ASTM B26, 356.0-T6.
- C. Steel Components: ASTM A36.
- D. Concrete Inserts: Threaded or wedge type; hot dip galvanized; ferrous castings, malleable iron ASTM A47, or cast steel ASTM A27. Bolts, washers and shims galvanized, ASTM A153.
- E. Grout: Non-shrink, ASTM E827, non-metallic, pre-mixed, factory-packaged, non-staining, non-corrosive; type specifically recommended by manufacturer as applicable to job condition.
- F. Brackets and Anchors: Unexposed plates, angles and supports may be steel; exposed items to match ornamental metal type and finish.
- G. Fasteners: Type required for specific usage; provide concealed fasteners except where specifically approved; where exposed match type and finish of metal being fastened.
 - 1. Concealed Steel Fasteners: Hot-dipped galvanized minimum G90 where built into exterior walls or subject to high humidity.
- H. Fabrication: Fabricate connections to support anticipated loads. Select materials for straightness, free of defects and irregularities. Exposed surfaces with pitting, seam marks, roller marks, "oil canning," stains, discolorations, and imperfections are not acceptable.
 - 1. Make exposed joints flush butt type, hairline joints where mechanically fastened; provide concealed connection devices with hidden fasteners.

2. Separate dissimilar materials with bituminous paint where concealed, with preformed separators, or similar method to prevent corrosion.
3. Fabricate joints exposed to weather in manner to exclude water or provide weep holes where water could accumulate.

PART 3 - EXECUTION

- A. Install ornamental metal items in accordance with manufacturer's recommendations, installation instructions, and approved shop drawings.
- B. Install plumb, true and in correct relation to adjacent work, free from distortion or defects detrimental to appearance and performance.
- C. Prior to securing continuous items, adjust to ensure proper matching at butt joints and correct alignment throughout their length.
- D. Repair or replace items damaged or marred during construction.

END OF SECTION

SECTION 06 10 50 – MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

- A. Summary: Provide miscellaneous rough carpentry including blocking and accessories as required for complete installation.
- B. Submittals: Submit wood treatment certifications and instructions for use of treated materials.
- C. Lumber Grades: Provide visible grade stamp of an agency certified by NFPA; do not place grade marking on exposed face or surface which will remain exposed in finished work.
- D. Lumber Standards: Comply with US Product Standard PS20 including moisture content and actual sizes related to indicated nominal sizes.
- E. Plywood Standards: PS-1 (ANSI A199.1) and American Plywood Association.
- F. Regulatory Requirements: Comply with California Building Code requirements for wood framing including requirements for fire blocking and venting.
- G. Delivery, Storage, and Handling: Keep materials dry; protect against exposure to weather and contact with damp or wet surfaces; immediately remove from site materials with visible mold and materials with mildew.
 - 1. Stack materials to provide for air circulation within and around stacks; provide air circulation at each course for waterborne chemical treated materials.

PART 2 - PRODUCTS

- A. Blocking: Provide dimensional lumber graded in accordance with FPS Grading Rules; Construction Grade, Douglas Fir; minimum S-Dry.
- B. Plywood: Provide minimum APA C-D exterior (CDX) plywood; stress rated where spanning between supporting members; fire retardant treated; minimum 3/4" thick unless otherwise indicated.
- C. Plywood Panel Boards: Provide panel boards for electrical and communication panel boards; APA C-D plugged, interior plywood with exterior glue, fire retardant treated; 1/2" thick.
- D. Fasteners: Galvanized; size and type to suit application. Provide fasteners as required for complete, secure installation of miscellaneous rough carpentry.
- E. Wood Treatment: Treat lumber and plywood to comply with applicable requirements of American Wood Preservers Association.
 - 1. Decay Resistance Treatment: Pressure treat following items with water-borne preservatives for above ground use, with AWPA C-2; kiln-dry wood to a maximum moisture content of 15% after treatment with water-borne preservative.
 - a. Treat below grade wood and wood in connection with roofing, flashing, vapor retarders, waterproofing, and wood in contact with masonry and concrete.
 - 2. Complete fabrication prior to treatment, wherever possible; if cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment.
 - 3. Inspect each piece after drying and discard damaged and defective pieces.

PART 3 - EXECUTION

- A. Place miscellaneous rough carpentry true to lines and levels; assemble members to minimize effects of shrinkage; correlate location so attached work will comply be properly located.
- B. Construct members of continuous pieces of longest possible lengths; discard members with defects that might impair quality of work, and units which are too small to allow minimal joints.
- C. Fit carpentry work to other work, scribe and cope as required for accurate fit; shim with, plastic, metal or slate for bearing on concrete.
- D. Securely attach carpentry work to substrates by anchoring and fastening as required by recognized standards; provide washers under bolt heads and nuts in contact with wood.
- E. Wood Grounds, Nailers, Blocking and Furring: Provide for screeding or attachment of other work; form to shapes indicated on Drawings.
 - 1. Provide grounds of dressed, key-beveled lumber not less than 1-1/2" wide and of thickness required to bring face of ground to exact thickness of finish material involved.
- F. Plywood: Comply with recommendations of American Plywood Association (APA) for fabrication and installation of plywood work.

END OF SECTION

SECTION 06 20 00 - FINISH CARPENTRY

PART 1 - GENERAL

- A. Summary: Provide exterior and interior wood trim, mop holders, and accessories for complete installation.
 - 1. Install Owner furnished cabinets and countertops.
- B. Standards: Perform finish carpentry in accordance with Architectural Woodwork Standards, Edition 1, 2009 (AWS).
- C. Submittals: Furnish product data for manufactured items, shop drawings for custom items, samples of each exposed finish.
- D. Certification: AWS certification will not be required however Owner reserves right to retain Woodwork Institute if quality of work is questionable.
- E. Delivery, Storage and Handling: Comply with AWS and manufacture recommendations.

PART 2 - PRODUCTS

- A. Exterior Trim, Transparent/Stained Finished: AWS/Premium Grade, Clear Ipe (Ironwood), Vertical Grain, surfaced.
- B. Interior Trim and Jambs, Opaque Finished: AWS/Premium Grade, Birch or Poplar, surfaced.
- C. Mop Holder: Spring loaded, anti-slip mop holders with rubber cam, with three mop holders on stainless steel; Bobrick/B-223, Bradley/9953, ASI/0796A.
- D. Anchors: Select material, type, size and finish required by each substrate for secure anchorage; provide toothed steel or lead expansion bolt screws for drilled-in-place anchors.
- E. Wood Filler: Color to match wood being filled.
- F. Fabrication: Fabricate finish carpentry items in accordance with AWS quality standard.

PART 3 - EXECUTION

- A. Install finish carpentry consistent with specified AWS quality grade, plumb, level, true and straight with no distortions; shim as required, using concealed shims.
 - 1. Install trim in single, unjointed lengths for openings and for runs less than 10'-0"; for longer runs use only one piece less than 10'-0"; provide scarf joints between members, stagger joints in adjacent members; miter corners.
- B. Install Owner furnished cabinets and countertops in accordance with manufacturer recommendations and installation instructions and in accordance with AWS requirements for Premium Grade installation.
- C. Preparation for Field Finishing: Sand work smooth and set exposed nails and screws; apply wood filler in exposed nail and screw indentations and leave ready for site-applied finishes.
 - 1. Seal concealed and semi-concealed surfaces; use primer consistent with finish coats specified under Section 09 90 00 – Painting and Coating.

END OF SECTION

SECTION 07 01 50 – ROOFING REPAIRS

PART 1 - GENERAL

- A. Section Includes: Patch and repair existing membrane roofing system, including insulation, as required for new construction, with base and cant flashings and accessories as required for complete weathertight roof.
- B. Existing Roof Analysis: Provide services of independent roofing consultant to analyze existing roofing system and to provide recommendations for appropriate materials for patching and repair.
 - 1. Report: Roofing consultant to prepare report indicating available Owner information such as warranties/guarantees, observations, and recommendations. Report to note where testing may be necessary for verification of existing materials.
- C. Pre-Installation Meeting: Convene not less than one week prior to commencing work of this section. Require attendance of parties directly affecting work of this section.
 - 1. Review installation procedures and coordination required with related work.
- D. Product Data: Submit literature for roofing system and each type of material; list each material proposed on Project.
 - 1. Submit report analyzing existing roofing system.
- E. Manufacturer Certificates: Certification materials and components furnished conform to Specification requirements and are compatible with each other, existing roof, roof substrate, and related work.
- F. Installer Qualifications: Roofing manufacturer certified or approved.
- G. Supervisor: Installer to maintain full-time supervisor/foreman who is on jobsite during roofing work who is experienced in installation of roofing system specified.
- H. Site Conditions: Do not apply roofing membrane during inclement weather or when air temperature may fall below 40 degrees F, taking into consideration added wind chill factor.
 - 1. Do not allow materials to be exposed to moisture during transportation, storage, handling or installation.
 - 2. Mark damp or wet materials, including felts which froth or foam during installation, and remove from site within 24 hours.
- I. Do not apply roofing membrane to damp, frozen, and unsuitable deck surface.
 - 1. Allow sufficient time for moisture from previous precipitation, fog or dew to evaporate before proceeding with roofing work.
- J. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- K. Extended Correction Period: Provide for correcting failure of system to resist damage from anticipated sources including damage from wind and water penetration. Repair system and pay for or replace damaged materials and surfaces.
 - 1. Period: Two years.

PART 2 - PRODUCTS

- A. Manufacturers: Johns Manville Corp.; GAF Building Materials Corp.; CertainTeed Corporation; original roofing system manufacturer.
- B. System Description: Provide new materials to patch and repair existing roofing system, including insulation, as required for new construction, with base and cant flashings and accessories.
 - 1. Materials: Provide new roofing system materials by original roof manufacturer where known, otherwise provide by a single manufacturer, except where materials of other manufacturers are specified or approved by Architect.
- C. Regulatory Requirements: Provide materials capable of achieving following.
 - 1. Fire and Wind Resistance: Conform to California Building Standards Code requirements for Underwriters Laboratory (UL) Class A roof system, with UL Class 60 wind resistance classification.
 - a. Provide materials conforming to code requirements for roof/ceiling 1-hour fire resistive rating for components and materials indicated in Contract Documents.

- D. New Roofing Materials: Provide new materials matching existing material types and conforming to requirements of NRCA Roofing Manual applicable to existing system.
 - 1. Felts: Built-up type roofing felts to be minimum ASTM D2178, minimum Type IV; provide glass felts unless otherwise specifically recommended by roofing materials manufacturer.
 - a. Provide glass felts for patching and repair unless otherwise recommended by roofing consultant and roofing material manufacturer, even where existing roofing is organic felts.
 - 2. Composition Flashing System: Provide manufacturer's premium quality glass felt and asphalt base, wall, and penetration flashing system; other systems subject to Architect approval.
 - 3. Surfacing: Match existing using materials recommended by roofing system manufacturer and NRCA.
- E. Insulation: Match existing insulation systems to extent available; do not apply built-up roofing over plastic type insulation, where plastics used originally, cover with perlite fiber or glass fiber insulation.
- F. Cant and Edge Strips: Perlite cant and edge strips; conform to ASTM C208.
- G. Mechanical Fasteners: As recommended by insulation manufacturer and meeting recommendations of NRCA and specified Quality Assurance requirements for fire rating and wind blowoff resistance.

PART 3 - EXECUTION

- A. Remove existing roofing as required for Project; remove only as much roofing as can be replaced in same day unless otherwise approved in advance by Architect. Take care not to remove materials beyond those required for new construction.
 - 1. Inform Architect and Owner where existing materials beyond those required to be removed are damaged or may be unsuitable due to moisture or deterioration.
- B. Inspect substrates and roof deck to ensure substrates and deck are clean and smooth, free of depressions, waves or projections, and are properly sloped to drains, valley, or eaves.
 - 1. Ensure roof openings and curbs, and pipes, sleeves, ducts or vents through roof are solidly set, cant strips and reglets in place and nailing strips located.
 - 2. Inspect roofing materials to ensure they are dry at time of installation.
 - 3. Apply roofing over clean, dry and warm surfaces during fair weather.
- C. Protect surrounding surfaces against damage from roofing work.
- D. Insulation Application: Attach insulation in accordance with insulation manufacturer's instructions and NRCA recommendations for installation of insulation on deck involved.
 - 1. Lay insulation boards to moderate contact without forcing joints. Cut insulation to fit neatly to perimeter blocking and around projections through roof.
 - 2. Install tapered crickets, cants and edge strips in accordance with manufacturer's instructions and NRCA recommendations.
 - 3. Leave no insulation exposed at end of day's work; apply glaze coat of hot bitumen and two plies of felt over insulation and install cut-off weathertight.
- E. Roof Membrane Application: Apply roofing membrane in accordance with manufacturer's instructions and NRCA recommendations for roof type.
 - 1. Apply felts smooth, free from air pockets, wrinkles, fishmouths, prominent lap joints or tears.
 - 2. Carry felts up cant strips to vertical surfaces and secure to nailing strips and reglets.
 - 3. Comply with manufacturer's recommendations for installation of composition type base, wall and field flashings. Do not blanket composition flashing plies, install each ply separately with end laps staggered between plies.
 - 4. Install 2-ply membrane and glaze coat for cut-off at "end of day" operation; glaze exposed felts.
 - 5. Coordinate metal flashings and counterflashing. Coordinate installation of roof drains and related flashings. Mop in and seal flashings and flanges of items projecting through membrane.
- F. Cleaning: Remove bituminous markings from finished surfaces, including bitumen run-throughs into building. Leave completed roof free from debris and uniform in appearance.

END OF SECTION

SECTION 07 13 00 - SHEET WATERPROOFING

PART 1 - GENERAL

- A. Summary: Provide self-adhesive sheet membrane waterproofing system, including modified bitumen fluid applied waterproofing for sealing joints and protrusions through waterproofing, protective board covering, and accessories as required for complete watertight installation.
 - 1. Locations: Provide at foundations where waterproofing is indicated.
- B. Submittals: Furnish product data, shop drawings, and manufacturer's representative's certification work has been installed in accordance with manufacturer's recommendations.
- C. Special Warranty: Correct failure of waterproofing to resist penetration of water, except where failures are result of structural failures of building; repair waterproofing and pay for or replace damaged materials and surfaces; warranty period two years.

PART 2 - PRODUCTS

- A. Manufacturers: Grace Construction Products/Bituthene 3000 or 4000 Waterproofing System; Polyguard Products, Inc./Polyguard No. 650; or Carlisle/CCW MiraDRI Waterproofing.
- B. Waterproofing Systems: Systems consisting of sheet membrane of rubberized asphalt and polyethylene or HDPF film, with fluid applied rubberized asphalt for sealing system; specific systems as recommended by manufacturer for applications indicated.
- C. Primer: Manufacturer's recommended primer of applications involved; primer is required for waterproofing applications; conform to applicable limitations on volatile organic compound (VOC) emissions.
- D. Crack and Expansion Joint Sealants: Types as recommended by waterproofing system manufacturer, compatible with waterproofing system.
- E. Accessories: Provide as indicated, as recommended by manufacturer, and as required for watertight installations as indicated.
 - 1. Protection Boards: Types as recommended by waterproofing system manufacturer for specific applications indicated.
 - 2. Drainage Composite: Drainage composite as recommended by system manufacturer for specific application such as Grace/Hydroduct or MiraDRI/Miradrain.

PART 3 - EXECUTION

- A. Preparation: Prepare surfaces in accordance with manufacturer's recommendations.
- B. Installation: Apply waterproofing in accordance with manufacturer's recommendations and installation instructions as required for watertight installation for each type of application indicated.
- C. Protection Boards and Drainage Composite: Install over waterproofing in accordance with manufacturer recommendations for application involved.
- D. Manufacturer's Field Services: Manufacturer's representative shall inspect work of Project on regular basis and provide certification waterproofing has been installed in accordance with manufacturer's recommendations.

END OF SECTION

SECTION 07 21 00 – THERMAL INSULATION

PART 1 - GENERAL

- A. Work Included: Provide thermal insulation and accessories as required for complete installation.
 - 1. Wall Insulation: Provide foil faced batt insulation with not less than R-19.
 - 2. Ceiling Insulation: Provide white faced insulation with not less than R-30 unless otherwise indicated.
- B. Fire Ratings: Flame spread/smoke density rating maximum 200/450, ASTM E84.
- C. Submittals: Furnish product data and ceiling insulation with facing and with tape.
- D. Mock-Up: Provide not less than 100 sf installation of ceiling insulation indicating insulation, penetration disks and patterns of penetration disks, and taping of joints and perimeter. Approved mock-up may be incorporated into Project.

PART 2 - PRODUCTS

- A. Thermal Batt Wall Insulation: Preformed slag mineral or glass fiber with thermosetting resin binders, ASTM C665, with Type III aluminum facing on one side.
 - 1. Manufacturers: USG/Thermafiber FS25; Johns Manville/FSK-25 Thermal-Shield; or Owens-Corning Fiberglas/Fiberglas FS-25.
 - 2. Vapor Retarder Tape: Minimum 2" wide self-adhering type designed to maintain vapor retarder integrity and complying with fire resistance ratings as required by applicable codes.
- B. Thermal Batt Ceiling Insulation: Preformed slag mineral or glass fiber with thermosetting resin binders, ASTM C665, with PSK, Type II, white poly-scrim-kraft facing on one side.
 - 1. Manufacturers: Johns Manville/Panel Deck PSK Faced batt insulation.
 - 2. Tape: Minimum 2" wide self-adhering type designed to maintain white PSK facing and complying with fire resistance ratings as required by applicable codes.
- C. Accessories: Furnish as recommended by insulation manufacturer for insulation types, substrates, and conditions involved.

PART 3 - EXECUTION

- A. Preparation: Verify substrate and adjacent materials are dry and ready to receive insulation; beginning installation signifies acceptance of conditions.
 - 1. Ensure mechanical and electrical items affecting work are properly placed, complete, and have been inspected by Architect prior to commencement of installation.
- B. Wall Insulation Installation: Install insulation in accordance with manufacturer's recommendations and installation instructions. Cut and trim insulation neatly, to fit spaces.
 - 1. Faced Insulation: Use insulation free of ripped faces and edges.
 - 2. Fit insulation tight within spaces and tight to and behind mechanical and electrical services within insulation plane; leave no gaps or voids; maintain thermal barrier.
 - 3. Friction fit in place; use tape as necessary to assure permanent installation.
 - 4. Taping: Tape joints and tears in vapor retarder, including joints between insulation and surrounding construction, to ensure vapor-tight installation.
- C. White Ceiling Insulation Installation: Install insulation in accordance with manufacturer's recommendations and installation instructions. Cut and trim insulation neatly, to fit spaces.
 - 1. Faced Insulation: Use insulation free of ripped faces and edges.
 - 2. Attach insulation to ceiling using penetration clips with white tips and with white disks to match PSK facing on insulation; space as recommended by manufacturer using uniform pattern as approved by Architect.
 - 3. Leave no gaps or voids in facing or tape.
 - 4. Taping: Tape joints in facing including joints between insulation and surrounding construction, to ensure uniform white appearance acceptable to Architect.

END OF SECTION

SECTION 07 26 00 – BELOW-GRADE VAPOR RETARDER

PART 1 - GENERAL

- A. Section Includes: Provide vapor retarder system for slab-on-grade concrete including sealing joints and protrusions through vapor retarder and sand bed below vapor retarder.
- B. Product Data: Submit manufacturer's literature.
- C. Project Conditions: Do not apply vapor retarder during inclement weather or when air temperature is below 40 degrees F.

PART 2 - PRODUCTS

- A. Manufacturer: Fortifiber Corp./Ultra 15; Stego Industries, Inc./Stego Wrap (15 mil); Raven Industries, Inc./Vapor Block # VB 15 (15 mil Blue).
- B. Vapor Retarder: ASTM E1745, Class A vapor retarder consisting of 15 mil polyolefin film.
 - 1. Permeance: Maximum 0.025 perms, ASTM F1249 and E154 tests.
 - 2. Resistance to Puncture: Minimum 2200 grams, ASTM D1709, Method B.
 - 3. Tear Resistance: Minimum 8.74 lbs., ASTM D1004.
 - 4. Tensile Strength: Minimum 35 lbs/in., ASTM E154, Section 9, Method D-882, in both directions.
- C. Joint Sealer: Pressure sensitive tape as recommended by vapor retarder manufacturer and providing comparable permeability to vapor retarder.
- D. Sand Bed: Clean natural sand; free from silt, clay, loam, friable or soluble materials, and organic matter.

PART 3 - EXECUTION

- A. Preparation: Ensure sleeves, curbs and projections that pass through vapor retarder are properly and rigidly installed. Ensure substrate is free of projections and irregularities that may be detrimental to proper installation of vapor retarder.
- B. Installation: Comply with ASTM E1643 and vapor retarder manufacturer recommendations and installation instructions.
 - 1. Spread and role sand to provide smooth, even bed for vapor retarder.
 - 2. Apply vapor retarder in accordance with manufacturer's recommendations. Seal items projecting through vapor retarder with pressure sensitive tape.
 - a. Seam Overlap: Minimum 6".
 - 3. Lay vapor retarder membrane smooth with no fishmouths or bunches of material.
 - 4. Inspect and repair vapor retarder prior to application of concrete slab; tape tears and damage prior to pouring concrete.

END OF SECTION

SECTION 07 28 00 – BUILDING ENVELOPE UNDERLAYMENT

PART 1 - GENERAL

- A. Summary: Provide building envelope underlayment including wall, roof, and flashing underlayment, and seal penetrations through underlayment, with accessories as required for complete watertight installation.
 - 1. Provide concealed sheet metal flashings integral with underlayment installation.
- B. Submittals: Furnish product data; furnish samples of each type of underlayment.
- C. Pre-Installation Conference: Convene one week prior to commencing work; require attendance of parties directly affecting underlayment; review procedures and coordination.
- D. Warranty: Correct failure of underlayment to resist penetration of water; repair underlayment and pay for or replace damaged materials or surfaces; warranty period two years.

PART 2 - PRODUCTS

- A. Wood Wall Underlay: Provide unperforated asphalt saturated organic felt conforming to ASTM D226 Type I, commonly referred to as #15 felts or #15 building paper.
- B. Plaster (Stucco) Wall Underlayment: Provide two layers Fortifiber/Super JumboTex or comparable FS UU-B-790a, Type I, Style 2, Grade D, 60 minute water resistance vapor permeable kraft paper, commonly referred to as Grade D 60 minute building paper.
- C. Tile Roof Underlay: Provide unperforated asphalt saturated organic felt conforming to ASTM D4869 Type III, commonly referred to as #30 felt; such as APOC/Tuff-Felt Premium Roof Underlayment.
- D. Sheet Metal and Flashing Underlayment: Grace, Carlisle, or Protecto Wrap rubberized sheet membrane with primers and seam sealers as required for complete watertight installation; provide specific material as recommended by manufacturer for specific application.
- E. Membrane Flashing at Penetrations: Grace, Carlisle, or Protecto Wrap rubberized sheet membrane with primers and seam sealers as required for complete watertight installation; provide specific material as recommended by manufacturer for specific application.
- F. Concealed Metal Flashings Integral with Underlayments: Minimum 26 gage thick steel with minimum G90 galvanized coating; comply with general requirements for materials and fabrication specified in Section 07600 – Flashing and Sheet Metal.
- G. Bituminous Paint: Acid and alkali resistant type; black color.
- H. Plastic Cement: Cutback asphaltic type with mineral fiber components, for sealing and coating flashings in buildings; free of toxic solvents and free of asbestos; material to be capable of setting within 24 hours at temperatures of approximately 75 degrees F and 50% R.H
- I. Volatile Organic Compound (VOC) Emissions: Provide materials with minimum volatile organic compound (VOC) emissions available; comply with applicable codes and regulations.

PART 3 - EXECUTION

- A. Preparation: Install underlayment over dry surfaces free of ridges, warps and voids that could damage underlayment; coordinate with installation of items projecting through underlayment.
- B. Concealed Sheet Metal Installation: Comply with requirements specified in Section 07600.
- C. Underlayment Installation: Comply with underlayment manufacturer recommendations and installation instructions
 - 1. Wood Walls: Provide one layer of No. 15 building paper underlayment; apply plastic cement to substrate prior to application of underlayment starter strips to prevent capillary movement of water back up beneath underlayment.
 - 2. Stucco Walls: Provide two layers of Grade D building paper underlayment in accordance with applicable code requirements; apply plastic cement to substrate prior to application of underlayment starter strips to prevent capillary movement of water.
 - 3. Tile Roof: Provide one layer of membrane underlayment installed in accordance with manufacturer recommendations and installation instructions.
 - 4. Apply layer of sheet membrane underlayment extending minimum not less than 9" from penetrations; start at bottom and weatherlap joints; apply top layer over metal flashing to direct water to exterior.
 - 5. Weatherlap items projecting through underlayment and seal weathertight.

END OF SECTION

SECTION 07 32 10 - ROOF TILES

PART 1 - GENERAL

- A. Summary: Provide tile roofing system with accessories as required for complete weathertight installation; match existing tile roofing in other areas of building.
 - 1. Underlayment is specified in Section 07 28 00.
- B. Pre-Installation Conference: Convene pre-construction conference one week prior to roofing work to coordinate roofing with other trades; require attendance of parties directly affecting roofing work; review installation and coordination required with related work.
- C. Submittals: Furnish product data for each type of roofing material, shop drawings indicating treatment of ridge, hip and valley installations, and samples of tile, mortar, and fastenings.
- D. Qualification of Installer: Company with minimum five years successful experience in work of comparable scope.
- E. Mock-Up: Provide 100 square foot mock-up to be approved by Architect; approved mock-up may be incorporated into Project.
- F. Delivery: Transport and deliver tiles on manufacturer's original pallets and in a manner to avoid physical damage; clearly identify manufacturer, trade name, style and color of palletized material.
- G. Storage: Stack palletized tiles not more than two pallets high; stack loose tile on butt end on blocking and straight as possible in level rows not more than two tiles high; do not store tiles in flat position.
- H. Special Warranty: Provide for correcting failure of clay tile roofing system to resist penetration of water and damage from wind; special warranty period two years.

PART 2 - PRODUCTS

- A. Roofing Tiles: Match existing roofing tiles on building or on adjacent buildings as indicated.
- B. Fasteners: As recommended by roof manufacturer; minimum 11 gage, 7/16" head diameter, nonferrous barbed roofing nail, length to provide maximum penetration of decking; minimum pull-out strength: 40 lbs. per nail; tile tie wire minimum 10 gage copper.
- C. Roof Cement: ASTM D2822, Group I, nonsag.
- D. Mortar: ASTM C 270, Type O; cement-lime-sand type; exposed mortar colored to match tile with pure, non-fading mineral oxide color conforming with ASTM C979; designed and mixed to provide uniform finish color.
- E. Accessories: Furnish as needed for complete installation in accordance with manufacturers recommendations and approved samples; provide bird screens or blocks to prevent birds from nesting beneath tiles.

PART 3 - EXECUTION

- A. Examination: Examine roof decks to determine suitability to receive roofing; do not proceed with tile work until conditions are suitable to receive roofing.
- B. Preparation: Sweep dust, dirt and debris, leaving surface to receive roofing clean; remove sharp projections that could injure roofing. Take special care not to damage underlayment.
- C. Roof Tiles: Install tile in accordance with tile manufacturer recommendations and installation instructions, and to match approved mock-up and adjacent tile roofing.
 - 1. Cut accurately to produce needed shapes; cut using a power driven saw, equipped with carbide or diamond tipped blade.
 - 2. Fasten tiles using roofing nails, use copper or stainless steel wire where nailing through tiles is impractical.
 - 3. Bedding in Mortar (Where Required to Match Existing): Set each hip and ridge tile in bed of mortar and press into place; keep mortar 3/4" back from exposed edges of tiles.
 - 4. Where tiles overlap metal flashings, fasten tiles to deck using copper wire and daubs of roofing cement.

END OF SECTION

SECTION 07 41 15 – METAL ROOFING

PART 1 - GENERAL

- A. Summary: Provide corrugated metal roofing including accessories as required for complete weathertight installation.
 - 1. No underlayment is required, corrugated metal roofing is at trash enclosure.
- B. Design Requirements: Design metal roofing system to withstand loads as required by California Building Code.
 - 1. Design system to provide movement of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to 100 year seasonal temperature ranges.
 - 2. Design system to accommodate tolerances of structure, provided irregularities do not exceed industry recognized standards and clearances are maintained.
 - 3. Provide for positive drainage of water entering or occurring within metal roofing system.
- C. Reference: Sheet Metal and Air Conditioning Contractors National Association (SMACNA): Architectural Sheet Metal Manual.
- D. Submittals: Furnish product data, shop drawings, and samples.
- E. Warranty: Provide for correcting failure of metal roofing system to resist penetration of water and damage from wind; warranty period two years.

PART 2 - PRODUCTS

- A. Manufacturers: CENTRIA; Fabral, Inc.; MBCI.
- B. Metal Roof System: Corrugated metal roofing system complete with anchorage assembly and accessory components as required for complete secure installation.
 - 1. Type: Manufacturer's standard 1/2" corrugated profile with approximately 2.66" pitch.
 - 2. Metal: Minimum 22 gage galvanized steel, minimum G90 galvanized coating, ASTM A924 and A653.
 - 3. Finish: Fluoropolymer coating based on Kynar 500 or Hylar 5000.
 - 4. Color: As indicated, as selected by Architect from manufacturer's full range of colors where not otherwise indicated.
- C. Fasteners: Manufacturer's standard type, hot dip galvanized minimum G90 coating; finish to match roofing.
- D. Integral Sheet Metal, Flashings, Closures and Other Components: Brake formed to required profiles; conform to SMACNA Manual.

PART 3 - EXECUTION

- A. Installation: Install metal roofing in accordance with manufacturer's recommendations, installation instructions, and approved shop drawings.
 - 1. Install metal flashing and sheet metal in accordance with SMACNA Architectural Sheet Metal Manual.
- B. Completed installation shall be free of rattles, noise due to thermal and air movement, and wind whistles.

END OF SECTION

SECTION 07 46 20 - WOOD SIDING

PART 1 - GENERAL

- A. Summary: Provide tongue and groove Ipe board siding over wood purlins with accessories as required for complete weathertight installation.
 - 1. Underlayment is specified in Section 07 28 00.
- B. Qualification of Installer: Approved by manufacturer and with minimum five years successful experience with similar size and type projects.
- C. Submittals: Furnish samples of siding and purlins.
- D. Mock-Up: Mock-up wood siding installation as approved by Architect, not less than 100 square feet.
- E. Delivery, Storage and Handling: Store to prevent warping and weather damage; elevate on level blocking; covering shall permit adequate ventilation; acclimatize siding to site by storing outside on job site minimum five days prior to installation.
- F. Warranty: Repair or replace defective siding which fails through corrosion or finish damage because of manufacturing or installation defects; warranty period two years.

PART 2 - PRODUCTS

- A. Board Siding: Tongue and groove board siding, S1S2E, vertical grain.
 - 1. Board Size: Nominal 1" thick by face widths indicated.
 - 2. Wood: Clear Ipe (Ironwood) as approved by Architect; do not use pieces with knots.
- B. Wood Purlins: Clear Western Red Cedar; do not use pieces with knots.
- C. Nails: Corrosion resistant nonmagnetic stainless steel siding nails, minimum 10d for attachment over sheathing.
- D. Accessories: Provide components required for complete, finished siding installation.
 - 1. Trim: Specified in Section 06 20 00.

PART 3 - EXECUTION

- A. Preparation: Install siding over surfaces which are dry, free of ridges, warps and voids; coordinate installation with items projecting through siding; ensure openings are properly sized and located prior to siding installation.
- B. Installation: Install wood purlins and wood siding in accordance with manufacturer's instructions and to match patterns indicated on Drawings.
- C. Avoid exposed face nailing on siding, conceal fasteners when possible; power driven staples shall not be permitted.

END OF SECTION

SECTION 07 53 00 - ELASTOMERIC MEMBRANE ROOFING

PART 1 - GENERAL

- A. Section Includes: Provide fully bonded reinforced thermoplastic polyolefin (TPO) sheet roof membrane system with base flashing, and accessories for complete, weather-tight installation.
- B. Reference Standards: National Roofing Contractors Association, The NRCA Roofing and Waterproofing Manual.
- C. Pre-Installation Conference: Convene prior to commencing roofing work; require attendance of parties directly affecting roofing work. Review procedures and coordination required with related work.
- D. Submittals: Furnish membrane manufacturer's literature for membrane and base flashing materials and furnish samples of each exposed material.
- E. Materials Certification: Submit manufacturer certification materials and components conform to Specifications and are compatible with each other, roof substrate, and related work.
- F. Manufacturer Representative Certification: Submit certification by manufacturer's representative indicating work has been installed in accordance with manufacturer's recommendations and installation instructions.
- G. Qualification of Installers: Company with minimum five years successful experienced in TPO membrane roof application on projects of similar scope. Roofing and insulation manufacturer certified or approved.
- H. Special Project Warranty: Provide for correcting failure of roofing system to resist penetration of water and damage from wind; repair roofing and pay for or replace damaged materials and surfaces; Special Project Warranty period two years.

PART 2 - PRODUCTS

- A. Manufacturers: Johns Manville; Firestone Building Products Co.; GenFlex Roofing Systems Division GenCorp.; GAF Building Materials Corp.
- B. Performance Requirements: Conform to applicable code requirements and Underwriters Laboratory (UL) for Class A roof system.
 - 1. Wind Resistance: Provide system certified by manufacturer to be capable of withstanding wind pressures comparable to UL approved wind resistance Class 60 classification.
- C. Roof Membrane: ASTM D6878, Thermoplastic Poleolefin (TPO) membrane, type and thickness as recommended by roof membrane manufacturer for application involved, but no less than 60 mils; comply with NRCA Roof and Waterproofing Manual recommendations.
 - 1. Provide special coating if required to meet requirements for "Cool Roof" rating.
- D. Roof Deck Board: Georgia Pacific/DensDeck Prime, 5/8" thick Class A fire rated; provide if required to achieve Class A fire rating.
- E. Accessories: Provide as recommended by membrane manufacturer and system manufacturer as required for complete weathertight installation:
- F. Roof Protection Pads: Provide protection materials as recommended by membrane manufacturer where traffic is anticipated over membrane; secure pads in place.

PART 3 - EXECUTION

- A. Preparation: Verify deck is dry, clean and smooth, free of depressions, waves and projections detrimental to roofing membrane, and properly sloped for drainage. Beginning installation indicates acceptance of substrate.
 - 1. Install roof deck board over roof to provide uniform substrate for membrane roofing.
- B. Installation: Install membrane roofing system in accordance with manufacturer's recommendations and installation instructions and as required to meet requirements for warranty and applicable codes.
 - 1. Comply with NRCA Specification Guide for Thermoset Roof Membranes as applicable; where conflicts exist comply with manufacturer's recommendations.
- C. Roof Membrane: Apply membrane in accordance with membrane manufacturer's recommendations and installation instruction.
 - 1. Apply sheet membrane smooth, free from air pockets, wrinkles, fishmouths, unslapped joints, or tears, over first layer insulation.
 - 2. Coordinate installation of roof drains and related flashings.
 - 3. Seal flashings and items projecting through membrane; seal terminations with additional layer of membrane and mastic.

4. Apply special membrane or coating of membrane, as recommended by membrane manufacturer, at areas where membrane may be exposed to sunlight.
- D. Roof Protection Pads: Place in accordance with membrane manufacturer recommendations and as required to ensure protection of membrane from traffic over roof.
- E. Manufacturer's Field Services: Manufacturer's representative shall inspect work of Project on regular basis and provide certification roofing system has been installed in accordance with manufacturer's recommendations.
 1. Provide unobstructed access to roofing work.
 2. Correct defects and irregularities as advised by manufacturer's representative.

END OF SECTION

SECTION 07 60 00 - FLASHING AND SHEET METAL

PART 1 - GENERAL

- A. Summary: Provide flashing and sheet metal including accessories as required for complete weathertight installation, including integral concealed sealants.
 - 1. Underlayment and concealed metal flashing at underlayment is in Section 07 28 00; metal flashing integral with metal roofing is in Section 07 41 15.
- B. System: Allow for movement of components without causing buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to 100 year seasonal temperature ranges.
- C. Standards: Sheet Metal and Air Conditioning Contractors National Association (SMACNA) Architectural Sheet Metal Manual.
- D. Submittals: Furnish product data for manufactured products and samples of copper components.
- E. Warranty: Correct failure of metal flashing system to resist penetration of water and damage from wind; warranty period two years.

PART 2 - PRODUCTS

- A. Galvanized Steel: ASTM A924 and A653 G90 galvanized steel; minimum 24 gage.
 - 1. Mill phosphatized where indicated to be field painted.
 - 2. Location (Concealed): Where indicated, if not otherwise indicated, provide where flashing will not be exposed to view from exterior of building and where not exposed to view from spaces within building.
- B. Shop Finished Galvanized Steel Flashing and Sheet Metal: ASTM A924 and A653 G90 galvanized steel; minimum 24 gage; with factory applied fluoropolymer coating based on Kynar 500 or Hylar 5000.
 - 1. Manufacturers: Merchant & Evans Industries, Inc./Customform; Moncrief-Lenoir Manufacturing Co./Molenco; Vincent Brass and Aluminum Co./Color Klad.
 - 2. Location (Exposed): Where indicated, if not otherwise indicated, provide where flashing will be exposed to view from exterior of building, and where exposed to view from spaces within building. Color as directed by Architect.
- C. Manufactured Reglets: Fry/Springlok or MM Systems/Snap-Tite, for two-piece flashing; metal to match flashing and sheet metal.
- D. Solder and Fasteners: As recommended by SMACNA and complying with applicable codes and regulations; nonferrous fasteners compatible with copper flashing and with substrate.
- E. Concealed Sealant: Butyl type for use in conjunction with sheet metal; non-staining; non-corrosive; non-shrinking and non-sagging; ultra-violet and ozone resistant for exterior concealed applications.
- F. Bituminous Paint: Acid and alkali resistant type; black color; asbestos free.
- G. Gaskets: Sandell/Polytite or Emseal/Secondary Seal; type suitable for use in conjunction with sheet metal; non-staining, non-corrosive, non-shrinking, non-sagging, ultra-violet resistant, and ozone resistant; for exterior concealed applications.
- H. Fabrication: Comply with SMACNA Manual; form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance. Hem exposed edges on underside 1/2".
 - 1. Backpaint flashings with heavy bodied bituminous paint where in contact with cementitious materials or dissimilar metals.

PART 3 - EXECUTION

- A. Install metal flashing and sheet metal in accordance with SMACNA Architectural Sheet Metal Manual; tight in place, with corners square, surfaces true and straight in planes, and lines accurate to profiles as indicated on Drawings.
- B. Install sealants where required to prevent direct weather penetration.
 - 1. Install continuous gasket behind surface applied reglets.
- C. Completed installation shall be free of rattles, noise due to thermal and air movement, and wind whistles.

END OF SECTION

SECTION 07 72 00 - ROOF HATCH

PART 1 - GENERAL

- A. Summary: Provide prefabricated roof hatch with integral support curb, operable hardware, counterflashings, and accessories as required for complete, weathertight installation.
- B. Submittals: Furnish product data.

PART 2 - PRODUCTS

- A. Manufacturers: Babcock-Davis; Bilco; Dur-Red; Milcor.
- B. Roof Hatch: Single leaf type, 3'-0" by 2'-6".
- C. Construction: Construct with full welded corner joints, insulated hatch lids, and internal support curbs.
 - 1. Provide complete with integral counterflashings to roof flashing system and flanges on support curb for anchorage to roof deck.
 - 2. Loading: Capable of supporting minimum 40 psf external loading and 20 psf internal loading pressure.
- D. Opening Hardware: Manufacturer's standard manually operating type.
 - 1. Capable of ensuring effortless control and smooth operation without causing damage to hatches and roofing system.
 - 2. Capable of being opened from inside and outside.
 - 3. Complete with hold-open mechanism and inside padlock hasps.
- E. Integral Railings: Provide railings fixed to roof hatch curbs (not requiring additional penetration of roof assembly); comply with applicable code requirements; welded construction; cap exposed ends.
 - 1. Railing Design Requirements: Comply with applicable codes and regulations requirements but not less than lateral force of 50 lbs. /lin. ft. uniform load and 200 lbs. at any single point without permanent set or damage; ASTM E935.
 - 2. Rails: Seamless steel tube rails, 42" height above roof surface, 1-1/2" outside diameter, continuous railings conforming to applicable code and design requirements.
 - 3. Chain Closures: Provide welded closed link chain capable of supporting same loads as railing and designed to allow easy removal for access from hatch to roof and roof to hatch.
- F. Fabrication: Fabricate roof hatches weathertight, and free of visual distortions and defects.

PART 3 - EXECUTION

- A. Install roof hatch in accordance with manufacturer's recommendations and instructions for complete, weathertight installation.
- B. Coordinate with installation of roofing system and related flashings.
- C. Apply bituminous paint on metal surfaces of roof hatch to be in contact with cementitious materials and dissimilar metals.

END OF SECTION

SECTION 07 84 00 - FIRESTOPPING

PART 1 - GENERAL

- A. Work Included: Provide firestopping as required to maintain effective barrier against spread of flame, smoke and gases, and to retain integrity of time-rated construction as indicated and at following types of locations.
 - 1. Provide at fire rated system perimeters, and at duct, conduit, piping penetrations through time-rated construction, and as required by applicable codes.
- B. Firestopping: Comply with applicable code requirements for firestopping, including both F Ratings and T Ratings as applicable.
- C. Submittals: Furnish shop drawings, product data, and certificates of compliance with Contract Documents and applicable codes.

PART 2 - PRODUCTS

- A. Manufacturers: 3M/3M Fire Barrier; Specified Technologies, Inc. (STI)/SpecSeal and Pensil Firestopping; Hevi-Duty Nelson/Firestop Products; or Hilti/Hilti Firestop.
- B. General: Choose products and methods meeting applicable codes and Specification requirements for each firestopping application, subject to Architect's acceptance.
- C. Firestopping Materials: Furnish materials for penetrations in time-rated floor, wall, and partition assemblies capable of preventing passage of flame, smoke, and hot gases.
 - 1. Penetration Test: Furnish materials passing ASTM E814 for penetration fire stopping indicating maintenance of time-rated adjacent assemblies.
 - a. Additional Tests: Where required by applicable authorities, provide materials passing ASTM E119 time-temperature fire conditions for fire ratings indicated for assemblies.
 - 2. Flame Spread: ASTM E84 flame spread rating of 25 or less.
- D. Firestopping: Maintain fire rating of assembly in which firestopping is installed, such as floor, partition, or wall, in accordance with ASTM E119 tests.

PART 3 - EXECUTION

- A. Inspection: Examine surfaces and conditions receiving or affecting the work. Do not proceed until unsuitable conditions are corrected.
- B. Installation: Install firestopping in accordance with manufacturer's literature and installation instructions and recommendations.
- C. Field Inspections: Maintain copy of manufacturer's installation instructions and recommendations at each work area.

END OF SECTION

SECTION 07 90 00 - JOINT SEALANTS

PART 1 - GENERAL

- A. Summary: Provide joint sealers, for interior and exterior joints not specified elsewhere with backing rods and accessories as required for complete installation; joint sealers include sealants and calking as indicated.
 - 1. Flashing and sheet metal concealed sealants are in Section 07 60 00, glazing sealants are in Section 08 80 00, and acoustical sealants are in Section 09 21 00.
- B. Installer Qualifications: Firm with minimum five years successful experience on projects of similar type and size, using specified products.
- C. Submittals: Furnish product data and samples of exposed joint sealers in required colors.
- D. Warranty: Repair or replace joint sealers which fail to perform as intended, because of leaking, crumbling, hardening, shrinkage, bleeding, sagging, staining and loss of adhesion; warranty period two years.

PART 2 - PRODUCTS

- A. Single Component Low Modulus Silicone Sealant: ASTM C920 Type S, Class 25, Grade NS; minimum 50% expansion and compaction capability.
 - 1. Manufacturers: GE/Silpruf, Silglaz or GESIL; Dow/790 or 795; Pecora/864.
 - 2. Provide at exterior locations not exposed to traffic.
- B. Multi-Component Polyurethane Sealant: ASTM C920, Type M, Grade P, Class 25, self-leveling; minimum 25% expansion and compaction capability.
 - 1. Manufacturers: Mameco/Vulkem 245; Pecora/NR-200 Urexpan.
 - 2. Provide at traffic bearing locations.
- C. Mildew-Resistant Silicone Rubber Sealant: ASTM C920, Type S, Grade NS, Class 25, compounded with fungicide, specifically for mildew resistance.
- D. Manufacturers: GE/SCS 1702; Dow/786; Pecora/863.
 - 1. Provide at interior joints in wet areas.
- E. Acrylic-Emulsion Sealant: ASTM C834 acrylic or latex-rubber-modified acrylic sealant, permanently flexible, nonstaining and nonbleeding.
 - 1. Manufacturers: Pecora/AC-20 or Sonneborn/Sonolac.
 - 2. Provide at general interior applications.
- F. Air Seals: Provide non-staining and non-bleeding sealers, calks, or foams appropriate to specific applications for filling openings between conditioned and unconditioned spaces.
 - 1. Manufacturers: Dow/Great Stuff; Owens Corning/EnergyComplete Air Sealant; Grace/Polycel One.
 - 2. Provide at penetrations between conditioned and unconditioned spaces not otherwise sealed.
- G. Accessories: Non-staining types recommended by joint sealer manufacturer for joint surfaces to be primed or sealed.
- H. Colors: As indicated or as selected by Architect from manufacturer's full range of colors.

PART 3 - EXECUTION

- A. Preparation: Prepare joint surfaces in accordance with ASTM C1193 and as recommended by joint sealer manufacturer.
- B. Installation: Comply with manufacturer's printed instructions and ASTM C1193, except where more stringent requirements are shown or specified.

END OF SECTION

SECTION 07 95 00 - EXPANSION JOINT COVER ASSEMBLIES

PART 1 - GENERAL

- A. Summary: Provide shop fabricated elastomeric expansion joint cover assemblies, types as indicated, including anchors and accessories as required for complete installation.
- B. Submittals: Submit manufacturer's literature for each joint cover assembly.
- C. Certificates: Submit manufacturer representative's certification indicating exterior joint cover assemblies have been installed in accordance with manufacturer recommendations and instructions.

PART 2 - PRODUCTS

- A. Manufacturers: Balco Inc.; Construction Specialties, Inc. C-S Group; MM Systems, Inc.
 - 1. Provide each type of joint cover assembly as a system from a single manufacturer; provide exterior wall and roof joint cover assemblies from a single manufacturer.
- B. Aluminum: ASTM B221 alloy 6063-T5 for extrusions; ASTM B209, alloy 6061-T6, sheet and plate; floor covers mill finish, others clean anodized coating unless otherwise indicated.
 - 1. Wearing Surfaces: Manufacturer's standard, of type shown on Drawings.
- C. Elastomeric Seals: Manufacturer's standard durometer consistent with joint size and application.
 - 1. Visual Seals: ASTM C864 dense silicone; color as selected by Architect from manufacturer's full range of available colors.
 - 2. Lubricants/Adhesives: Type as recommended by system manufacturer for specific material and application.
- D. Accessories: Manufacturer's standard anchors, fasteners, set screws, spacers, flexible seal and filler materials, adhesive and accessories compatible with material in contact.
- E. General: Furnish basic profile and operating units for expansion joint covers as indicated on Drawings.
 - 1. Expansion and Compression Joint Cover Types: As indicated and as approved by Architect.
 - 2. Shop Assembly: Assemble items in shop to minimize field splicing and assembly of units at Project site.
 - 3. Provide factory fabricated custom fit end closers at exposed ends of joint cover assemblies.
 - 4. Provide separator coat between aluminum and dissimilar materials to prevent electrolysis and to protect aluminum.

PART 3 - EXECUTION

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible.
- B. Manufacturer's Instructions: Comply with manufacturer's instructions and recommendations, including preparation of substrate, applying materials and protection of installed units.

END OF SECTION

SECTION 081 11 10 – HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

- A. Provide full flush steel hollow metal doors and pressed steel frames, including anchors and silencers.
- B. Standards: Steel Door Institute, SDI-100 - Recommended Specifications - Standard Steel Doors and Frames and National Association of Architectural Metal Manufacturers (NAAMM): Hollow Metal Manual.
 - 1. Fire Rated Standards: Furnish materials tested, labeled and inspected by UL, Warnock Hersey, or testing agency acceptable to applicable authorities.
- C. Submittals: Submit product data.

PART 2 - PRODUCTS

- A. Manufacturers: Amweld; Ceco; Curries Div. Assa Abloy; Republic.
- B. Doors: Hollow metal flush steel door, 1-3/4" thick.
 - 1. Typical: Full flush with steel channel or welded edge; close top with flush end closer treatment, bottom optional flush or recessed channel; steel stiffened core, insulated at exterior doors; continuous welded seam.
 - 2. Interior Doors: Minimum 0.042" (18 gage).
 - 3. Exterior Doors: Minimum 0.053" (16 gage).
 - 4. Glazed and Louver Doors: Provide systems as indicated on Drawings.
- C. Frames:
 - 1. Exterior Frames: Welded (pre-assembled) type.
 - 2. Interior Frames: Knockdown (field-assembled) type; provide 3/8" back bend return on frames at gypsum board.
 - 3. Gage: Minimum 0.053" (16 gage) interior frames, 0.067" (14 gage) exterior frames.
 - 4. Door Silencers: Manufacturer's standard resilient type; removable for replacement.
 - 5. Mortar Guard Boxes: Minimum 0.026" (22 gage) mortar guard boxes welded in place; provide where frames may be grouted.
- D. Glazing Stops: Full flush type with glass centered in opening, unsecured side integral with unit, secured side fastened with flush, countersunk Allen type fasteners; minimum 0.053" (16 gage).
- E. Fire Rated Units: In addition to SDI and NAAMM, construct in accordance with requirements for fire rating and NFPA 80; refer to Drawings for fire ratings.
- F. Fabrication: Conform to requirements of SDI or NAAMM.
 - 1. Door Silencers: Place minimum three single bumpers on single door frames; space equally along strike jambs; place two single bumpers on double door frame heads.
- G. Finish: Prime paint; comply with Section 09 90 00.
 - 1. Exterior Exposed Units: Apply minimum A60 non-spangle galvanized coating, ASTM A924 and A653; phosphatize or surface treat after galvanizing, and prior to application of primer.

PART 3 - EXECUTION

- A. Install doors and frames in accordance with SDI-100 and SDI-105 or NAAMM "Hollow Metal Manual" and with manufacturer's recommendations and installation instructions.
 - 1. Install fire rated units in conformance with fire label requirements and NFPA 80.
- B. Install doors and frames plumb and square, and with maximum diagonal distortion of 1/16".

END OF SECTION

SECTION 08 14 00 - WOOD DOORS

PART 1 - GENERAL

- A. Summary: Provide flush wood doors.
 - 1. Glazing for flush wood doors is in Section 08 80 00 – Glazing.
- B. Submittals: Submit manufacturer's literature and door veneer samples.
- C. Warranty: Provide for replacing, rehanging, and refinishing wood doors exhibiting defects in materials or workmanship including warp and delamination; warranty period two years.

PART 2 - PRODUCTS

- A. Manufacturers: Algoma Hardwoods, Inc.; Eggers Industries Architectural Door Division; Marshfield Door Systems, Inc.; VT Industries.
- B. Solid Core Flush Wood Doors: 1-3/4" thick solid wood framed glued block or particleboard core five ply construction.
 - 1. Conform to WDMA I.S.1; Type II Bond, interior; bond stiles and rails to core and sand prior to assembly of face veneers; edges to match face veneer, minimum 1-1/8" thick.
 - 2. Face Veneers: Premium quality White Birch veneers for opaque finish; minimum 1/30" (0.033" thick) before sanding.
- C. Glazing Stops: Wood stops matching door veneers; square shape unless otherwise indicated.
- D. Fabrication: Prefit wood doors; shop prepare doors to receive hardware, refer to Section 08 70 00 for hardware requirements and templates; factory machine doors for mortise hardware.

PART 3 - EXECUTION

- A. Installation: Install wood doors in accordance with manufacturer's recommendations and installation instructions, and reference standards, plumb and square, and with maximum diagonal distortion of 1/16".

END OF SECTION

SECTION 08 31 00 - ACCESS DOORS AND PANELS

PART 1 - GENERAL

- A. Work Included: Provide access doors set in finished surfaces.
 - 1. Provide access doors and panels as required for access to controls and valves behind finished surfaces.
 - 2. Coordinate with various trades for controls and valves which may be concealed.
- B. Submittals: Furnish shop drawings and product data.

PART 2 - PRODUCTS

- A. Manufacturers: Milcor; J.L. Industries; or Karp.
- B. Type: Provide access door assemblies consisting of an integral unit, complete and ready for installation.
 - 1. Non-Fire Rated Units: Flush panel access doors; provide type with frame flange concealed in finished construction.
 - 2. Fire Rated Units: Manufacturer's standard UL rated insulated flush doors with 1" flanged frame and self-closing mechanism.
 - 3. Frames: Fabricate from minimum 16 gage.
 - 4. Doors: Flush panel type, fabricate from minimum 14 gage steel.
 - a. Provide continuous piano type hinge.
 - b. Finish with manufacturer's factory-applied enamel prime coat applied over phosphate coating on steel.
 - 5. Locking Devices: Provide flush, key-operated cylinder lock for each access door; provide two keys per lock and key locks alike, unless otherwise scheduled.
 - 6. Size Variations: Obtain Architect's acceptance of manufacturer's standard size units which may vary slightly from sizes shown or scheduled.
- C. Fabrication: Fabricate units of continuous welded steel construction; grind welds smooth and flush with adjacent surfaces.

PART 3 - EXECUTION

- A. Examination: Examine areas and conditions under which access doors are to be installed.
 - 1. Do not proceed with work until unsatisfactory conditions are corrected; installation signifies acceptance of conditions.
 - 2. Obtain specific locations and sizes for required access doors from trades requiring access to concealed equipment; coordinate installation with work of other trades.
- B. Installation: Comply with manufacturer's recommendations and installation instructions for access doors.
 - 1. Set frames accurately in position and securely attach to supports with face panels plumb or level in relation to adjacent finish surfaces.
 - 2. Adjust hardware and doors after installation for proper operation.
 - 3. Remove and replace doors or frames which are warped, bowed or otherwise damaged.

END OF SECTION

SECTION 08 33 00 - OVERHEAD COILING DOORS

PART 1 - GENERAL

- A. Summary: Provide overhead coiling (roll-up) door systems with curtains, guides, counterbalance, hardware, and accessories as required for complete, operational installation.
- B. Submittals: Submit manufacturer's literature.

PART 2 - PRODUCTS

- A. Manufacturers: R&S Service Doors; The Cookson Co.; Overhead Door Corp.; Wayne Dalton Corp.; Cornell Iron Works.
- B. Design Criteria
 - 1. Exterior Doors: Design and reinforce to withstand loads as required by applicable codes but not less than minimum 20 psf positive and 15 psf negative wind force.
- C. Overhead Coiling Doors: Fabricate doors of continuous length for width of door without splices.
 - 1. Chain Hoist Manually Operated Doors: Provide chain hoist operator with geared reduction unit with maximum 5 lbs. effort to lift door; door to be easily stopped in any position and remain in position until movement is reactivated.
- D. Components:
 - 1. Curtain: Flat-faced interlocking slats, ends of alternate slats fitted with end locks; bottom fitted with angles to provide reinforcement and positive contact with floor.
 - a. Slats: Galvanized steel; ASTM A653, Grade A, with G90 zinc coating, ASTM A924 and A653, phosphate treated before fabrication.
 - 2. Curtain Guides: Formed steel angles of required sizes and configurations.
 - 3. Roller Shaft (Counterbalance): Steel pipe and helical steel spring system capable of producing sufficient torque to assure easy operation of curtain from any position; adjustable spring tension.
 - 4. Housing: Minimum 24 gage steel, internally reinforced to maintain rigidity and form.
 - 5. Weatherstripping (Exterior Doors): Waterproof and rotproof, resilient type; located along jamb edges, bottom of curtain, and within housing.
 - 6. Smoke Gaskets (Fire Rated Doors): Provide gaskets and closures as required to prevent spread of smoke through overhead door system.
 - 7. Metal Finish: Hot dip galvanize minimum G90 and prime paint; do not shop prime surfaces in contact with concrete or requiring field welding; shop prime in one coat; comply with requirements of Section 09 90 00 – Painting and Coating.
 - a. Touch up field welds with zinc-rich primer.
 - b. Other methods of providing protective zinc coating on steel surfaces comparable to G90 hot dip galvanizing will be acceptable.
- E. Hardware: Manufacturer's standard hardware for door types specified.
 - 1. Locks: Cylindrical.
 - a. Keying: Keyed in accordance with Section 08 71 00 – Door Hardware.

PART 3 - EXECUTION

- A. Install overhead coiling doors, complete, in accordance with manufacturer's instructions and recommendations.
- B. Fit, align, lubricate, and adjust complete door assemblies level and plumb. Provide smooth operation.

END OF SECTION

SECTION 08 35 40 - SLIDING ALUMINUM AND GLASS WALLS

PART 1 - GENERAL

- A. Section Includes: Provide sliding aluminum and glass walls with hardware, anchorage, glazing, and accessories as required for complete installation.
- B. Design/Build: Provide special engineering to ensure compliance with applicable codes and Contract Documents.
- C. Submittals: Submit manufacturer's literature and samples of metal finish.
- D. Design/Build Certificates: Submit certification signed by California licensed structural engineer indicating compliance with Contract Documents and code requirements.
- E. Sustainability Requirements: Comply with CALGreen requirements including those relative to energy efficiency.

PART 2 - PRODUCTS

- A. Manufacturers: C.R. Laurence Co., Los Angeles, CA (800.421.6144); NanaWall Systems, Inc. Mill Valley, CA. (800.873.5673).
- B. Performance Criteria Requirements: Conform to ANSI/AAMA 101 for HGD-R20 rating or better. Design to withstand wind loads acting normal to plane of walls as required by California Building Code:
 - 1. Deflection: Maximum L/175, ASTM E330.
- C. Regulatory Requirements for Glazing: Comply with CPSC 16 CFR 1201, applicable code requirements, and pass ANSI Z97.1.
- D. California Title 24 CEC Regulatory Requirements: Comply with California Energy Commission requirements regarding energy performance of walls.
- E. Accessibility Regulatory Requirements: Provide for assuring access for persons with disabilities in accordance with state and federal regulations.
- F. Sliding Aluminum and Glass Walls: System with profiles as indicated on Drawings; provide extruded aluminum security type glass stops of profile to suit frame design.
 - 1. Aluminum Type: As recommended by manufacturer for application indicated, but not less than extruded aluminum, ASTM B221, 6061 or 6063 alloy and T5 or T6 temper.
 - 2. Finish: Clear anodized coating conforming to NAAMM Metal Finishes Manual, Architectural Class 1, 0.7 mil or greater.
- G. Hardware: Barrier-free sliding wall system meeting code requirements for providing access for people with physical disabilities; by system manufacturer.
 - 1. Metal and Finish: Match wall system.
- H. Glass: Preassembled insulated glass units consisting of organically sealed panes of glass enclosing a hermetically sealed dehydrated air space with -20 degree F dew point and with STC ratings indicated.
 - 1. Performance: Certified to ASTM E2190 by Insulating Glass Certification Council.
 - 2. Safety Glass: ASTM C1048, Kind FT, fully tempered select glazing quality glass, safety glazing; nominal thickness 1/4".
 - 3. Low E Coating: High performance low emissivity coating comparable to PPG/SolarBan 60 on No. 2 surface.
 - 4. Total Unit Thickness: 1".
- I. Glazing Accessories: Of type recommended by manufacturer to suit security locations and applications for dry glazing installation.
- J. Miscellaneous Materials: Provide as required for complete finished weathertight installation.
 - 1. Anchoring Devices: Corrosion resistant type capable of supporting walls system and superimposed design loads; design to allow adjustments of system prior to being permanently fastened in place.
- K. Fabrication: Fabricate sliding wall system to allow for clearances and shim spacing around perimeter of assemblies to enable installation; provide for thermal movement.
 - 1. Separate dissimilar materials with bituminous paint or preformed separators which will prevent corrosion.

PART 3 - EXECUTION

- A. Install sliding walls in accordance with manufacturer's recommendations and to meet design requirements indicated, for weathertight installation. Ensure sliding walls are plumb, level and free of warp or twist; maintain dimensional tolerances and alignment with adjacent work.

END OF SECTION

SECTION 08 37 00 - RIGID TRAFFIC DOORS

PART 1 - GENERAL

- A. Summary: Provide full thickness rigid impact type traffic doors, double swinging, with hardware and accessories as required for complete operational door system installation.
- B. Submittals: Furnish manufacturer's literature.

PART 2 - PRODUCTS

- A. Manufacturer: Eliason Corp, Easy Swing Door Division.
- B. System Description: Provide full thickness rigid impact type traffic doors, double swinging, with hardware and accessories.
- C. Type: Provide Eliason/SCP Model 3 full thickness solid core rigid traffic door assemblies, double swinging, locking, complete with hardware and ready for installation.
 - 1. Doors: Solid core, 3 /4" thick doors, with plastic laminate panel full height, both sides.
 - 2. Size: Measure each opening; custom fit doors to openings; coordinate with general construction.
- D. Vision Panels: Provide with clear acrylic glazing.
- E. Hardware: Manufacturer's standard hardware for door system specified; factory installed.
 - 1. Pivot Hinge: Jamb mounted 180 degree opening 1-1/2" rise with cam and needle bearing follower and lower pivot hinge.
 - 2. Cylindrical type dead lock.
 - a. Cylinders: Specified in Section 08 71 00 – Door Hardware.
- F. Kick Plates and Jamb Guards: Impact resistant thermoplastic bumpers, nominal 1 /4" thick, both sides of door, with manufacturer's standard jamb guards.
 - 1. Size and Location: Nominal 18" high, full width, bottom of both sides.

PART 3 - EXECUTION

- A. Comply with manufacturer's recommendations and installation instructions for installation of doors.
- B. Modify door jambs if necessary for proper installation of doors.
- C. After installation adjust traffic doors for proper operation.

END OF SECTION

SECTION 08 41 00 – ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

- A. Section Includes: Provide aluminum framed storefronts and related systems, with stock non-automatic doors, hardware, anchorage, glazing, and accessories as required for complete installation.
 - 1. Automatic entrances are in Section 08 42 30.
- B. General Design Requirements: Comply with recommendations of AAMA Manuals except where more stringent requirements are specified or required by applicable codes.
- C. Design Criteria: Design system to withstand wind loads acting normal to plane of wall as required by applicable code; maximum L/175 deflection, ASTM E330.
 - 1. Water Penetration: No uncontrolled water penetration, ASTM E331, with no water on exposed interior components; static pressure differential of 20% of inward wind load, with minimum 6.24 psf load.
 - 2. Air Leakage: Maximum 0.06 cfm/ft², ASTM E283, at differential static pressure 6.24 psf.
 - 3. Safety Glass: Conform to applicable codes, CPSC 16 CFR 1201, and pass ANSI Z97.1.
- D. Submittals: Submit manufacturer's literature, shop drawings indicating dimensioning, general construction, component connections and locations, anchor methods and locations, hardware locations, and relevant details; and samples of metal, glass, and exposed materials.
- E. Structural Certificates: Provide certification by civil or structural engineer registered in California indicating system complies with Contract Documents and applicable codes.
- F. Special Project Warranty: Provide for correcting failures including wind damage and water penetration to interior surfaces, excessive deflections, and deterioration of finishes, weatherstripping and accessories. Special Warranty Period two years.

PART 2 - PRODUCTS

- A. Manufacturers: Arcadia; Kawneer; Oldcastle.
- B. Aluminum Entrances and Storefronts Systems: Systems with profiles as indicated on Drawings; provide extruded aluminum security type glass stops of profile to suit frame design.
 - 1. Aluminum Type: As recommended by manufacturer for application indicated, but not less than extruded aluminum, ASTM B221, 6061 or 6063 alloy and T5 or T6 temper.
 - 2. Bronze Anodized Finish: Anodized coating conforming with NAAMM Metal Finishes Manual, Architectural Class 1, 0.7 mil or greater; color as directed by Architect.
 - a. Architect reserves right to reject units of color or texture variations which are visually objectionable, but only where variation exceeds range established by manufacturer prior to work.
- B. Doors, Frames, and Hardware: As indicated on Drawings. Match entrance finish.
 - 1. Type: Medium stile with 10" bottom rail unless otherwise indicated.
 - 2. Hardware: Provide manufacturer's complete standard hardware system except as indicated; match entrance system finish, unless otherwise indicated.
- C. Insulated Glass: ASTM E774, Class A, preassembled units consisting of organically sealed panes of glass enclosing a hermetically sealed dehydrated air space with -20 degree F dew point; standard dual seal system; total unit thickness 1".
 - 1. Glass: ASTM C1036, select glazing quality clear float glass, nominal 1/4" thick.
 - 2. Safety Glass: ASTM C1048, Kind FT, fully tempered select glazing quality glass, safety glazing passing ANSI Z97.1; nominal 1/4" thick.
 - 3. Low Emissivity Coating: Provide high performance low e coating on No. 2 surface with not less than 0.6 U Factor and 0.38 SHGC.
- D. Glazing Accessories: Of type recommended by manufacturer to suit security locations and applications for dry glazing installation.
- E. Miscellaneous Materials: Provide as required for complete secure long lasting installation.
 - 1. Flashing: Provide sub-sill flashing minimum 22 gage aluminum of sizes and shapes required to drain water to exterior; match adjacent aluminum member finish.
 - 2. Anchoring Devices: Corrosion resistant type capable of supporting system and superimposed design loads; design to allow adjustments prior to being fastened in place.
- F. Fabrication: Fabricate system to allow for clearances and shim spacing around perimeter of assemblies to enable installation; provide for thermal movement.
 - 1. Accurately fit together joints and corners; match components ensuring continuity of line and design; ensure joints and connections are flush, hairline and weatherproof.

2. Separate dissimilar materials with bituminous paint or preformed separators which will prevent corrosion.
3. Separate metal surfaces at moving joints with plastic inserts or other non-abrasive concealed inserts which permanently prevent "freeze-up" of joint.

PART 3 - EXECUTION

- A. Install entrances and storefronts in accordance with manufacturer's recommendations and to meet design requirements indicated, for weathertight installation.
- B. Ensure assemblies are plumb, level and free of warp or twist; maintain dimensional tolerances and alignment with adjacent work.
 1. Maximum Variation from Plane or Location: 1/8" in 12'-0", with maximum 1/2" variation in total length.
 2. Maximum Offset Between Members: 1/16".
- C. Use sufficient anchorage devices to securely and rigidly fasten assemblies to building.
- D. Install hardware in accordance with manufacturer's recommendations, using proper templates; maximum 5 lbs pressure to open doors.
 1. Coordinate installation of cylinders with Section 08700.
 2. Install sill members and thresholds in bed of compound, joint fillers or gaskets to provide weathertight construction.
- E. Glass Installation: Comply with GANA Glazing Manual and glazing manufacturer instructions.
 1. Do not allow glass to touch metal surfaces.

END OF SECTION

SECTION 08 42 29 - AUTOMATIC ENTRANCES

Specifier Note: This specification document shall serve as a guide specification for typical projects where the Stanley Access Technologies Dura-Glide 3000 Series sliding automatic entrance will be the basis of design. Specification must be reviewed for applicability on a per project basis. Specification is not appropriate for projects where a wind force and/or impact rating are required. The specifier is directed to select appropriate options included herein. Consult with the Stanley Security Solutions SpecCentre, or the local Access Technologies Territory Manager, when options, not specified, are required.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following types of automatic entrances:
 - 1. Exterior and interior, bi-parting, sliding automatic entrances with integral transoms.
- B. Related Sections:
 - 1. Division 7 Sections for caulking to the extent not specified in this section.
 - 2. Division 8 Section "Aluminum-Framed Entrances and Storefronts" for entrances furnished and installed separately in Division 8 Section.
 - 3. Division 8 Section "Door Hardware" for hardware to the extent not specified in this Section.
 - 4. Division 26 Sections for electrical connections provided separately in Division 26 including conduit and wiring for power to, and control of, sliding automatic entrances.

1.3 REFERENCES

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
- B. Underwriters Laboratories (UL):
 - 1. UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.
- C. American National Standards Institute (ANSI) / Builders' Hardware Manufacturers Association (BHMA):
 - 1. ANSI/BHMA A156.10: Standard for Power Operated Pedestrian Doors.
 - 2. ANSI/BHMA A156.5: Standard for Auxiliary Locks and Associated Products
 - 3. ANSI Z97.1: Standard for Safety Glazing Materials Used In Buildings - Safety Performance Specifications And Methods Of Test.
- D. Consumer Product Safety Commission (CPSC):
 - 1. CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials
- E. American Society for Testing and Materials (ASTM):
 - 1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - 2. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- F. American Association of Automatic Door Manufacturers (AAADM):
- G. National Fire Protection Association (NFPA):

1. NFPA 101 – Life Safety Code.
 2. NFPA 70 – National Electric Code.
- H. International Code Council (ICC):
1. IBC: International Building Code
- I. Building Officials and Code Administrators International (BOCA), 1999:
- J. California Department of Forestry and Fire Protection, Office of the State Fire Marshall (CSFM).
- K. International Organization for Standardization (ISO):
1. ISO 9001 - Quality Management Systems
- L. National Association of Architectural Metal Manufacturers (NAAMM):
1. Metal Finishes Manual for Architectural and Metal Products.

Note to Specifier: Retain paragraphs below based on finishes required on the project. Retain paragraph 4. when anodized finish is required.

- M. American Architectural Manufacturers Association (AAMA):
1. **AAMA 606.1 – Integral Color Anodic Finishes for Architectural Aluminum.**
 2. **AAMA 607.1 - Clear Anodic Finishes for Architectural Aluminum.**
 3. **AAMA 2605 – Superior Performing Organic Coatings on Aluminum Extrusions and Panels.**
 4. **AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.**
 5. AAMA 701 Voluntary Specification for Pile Weatherstripping and Replaceable Fenestration Weatherseals.

1.4 DEFINITIONS

- A. Activation Device: Device that, when actuated, sends an electrical signal to the door operator to open the door.
- B. Safety Device: Device that prevents a door from opening or closing, as appropriate.

1.5 PERFORMANCE REQUIREMENTS

- A. General: Provide automatic entrance door assemblies capable of withstanding loads and thermal movements based on testing manufacturer's standard units in assemblies similar to those indicated for this Project.
- B. Thermal Movements: Provide automatic entrances that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- C. Operating Range: Minus 30 deg F (Minus 34 deg C) to 130 deg F (54 deg C).
- D. Opening-Force Requirements for Egress Doors: Not more than 50 lbf (222 N) required to manually set door in motion if power fails, and not more than 15 lbf (67 N) required to open door to minimum required width.
- E. Closing-Force Requirements: Not more than 30 lbf (133 N) required to prevent door from closing.

1.6 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of the Contract and Division 1 Specification Sections.
- B. Shop Drawings: Include plans, elevations, sections, details, hardware mounting heights, and attachments to other work.
- C. Color Samples for selection of factory-applied color finishes.
- D. Closeout Submittals:
 - 1. Owner's Manual.
 - 2. Warranties.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative, with certificate issued by AAADM, who is trained for installation and maintenance of units required for this Project.
- B. Manufacturer Qualifications: A qualified manufacturer with a manufacturing facility certified under ISO 9001.
- C. Manufacturer shall have in place a national service dispatch center providing 24 hours a day, 7 days a week, emergency call back service.
- D. Certifications: Automatic sliding door systems shall be certified by the manufacturer to meet performance design criteria in accordance with the following standards:
 - 1. ANSI/BHMA A156.10.
 - 2. NFPA 101.
 - 3. UL 325 listed.
 - 4. IBC 2009
 - 5. BOCA
- E. Source Limitations: Obtain automatic entrance door assemblies through one source from a single manufacturer.
- F. Product Options: Drawings indicate sizes, profiles, and dimensional requirements of automatic entrance door assemblies and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."
- G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- H. Emergency-Exit Door Requirements: Comply with requirements of authorities having jurisdiction for automatic entrances serving as a required means of egress.

1.8 PROJECT CONDITIONS

- A. Field Measurements: General Contractor shall verify openings to receive automatic entrance door assemblies by field measurements before fabrication and indicate measurements on Shop Drawings.
- B. Mounting Surfaces: General Contractor shall verify all surfaces to be plumb, straight and secure; substrates to be of proper dimension and material.
- C. Other trades: General Contractor shall advise of any inadequate conditions or equipment.

1.9 COORDINATION

- A. Templates: Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing automatic entrances to comply with indicated requirements.
- B. Electrical System Roughing-in: Coordinate layout and installation of automatic entrance door assemblies with connections to power supplies, and remote activation devices.

1.10 WARRANTY

- A. Automatic Entrances shall be free of defects in material and workmanship for a period of one (1) year from the date of substantial completion.
- B. During the warranty period the Owner shall engage a factory-trained technician to perform service and affect repairs. A safety inspection shall be performed after each adjustment or repair and a completed inspection form shall be submitted to the Owner.

During the warranty period all warranty work, including but not limited to emergency service, shall be performed during normal working hours.

PART 2 - PRODUCTS**1.11 AUTOMATIC ENTRANCES**

- A. Manufacturer: Stanley Access Technologies; Dura-Glide™ 3000 Series sliding automatic entrances.
 - 1. Contact: Stanley Access Technologies, 215 Poplar Avenue, Manteca CA 95336; Attn: Dallas Fink; Phone: 510-750-7870; Fax: 209-249-5285; Email: dallas.fink@sbdinc.com.
- B. Substitutions: See Division 1, Section 01 25 00 [01250] Substitution Procedures.

1.12 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 - 1. Headers, stiles, rails, and frames: 6063-T6.
 - 2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
 - 3. Sheet and Plate: ASTM B 209.
- B. Sealants and Joint Fillers: Performed under Division 7 Section "Joint Sealants".

1.13 AUTOMATIC ENTRANCE DOOR ASSEMBLIES

- A. General: Provide manufacturer's standard automatic entrance door assemblies including doors, sidelights, framing, headers, carrier assemblies, roller tracks, door operators, activation and safety devices, and accessories required for a complete installation.
- B. Sliding Automatic Entrances:
 - 1. Configuration: Two sliding leaves and two full sidelights; bi-parting.
 - 2. Traffic Pattern: Two-way.
 - 3. Emergency Breakaway Capability: Sliding leaves and sidelights.
 - 4. Mounting: Between jambs.

1.14 COMPONENTS

- A. Framing and Transom Members: Manufacturer's standard extruded aluminum reinforced as required to support imposed loads.

1. Nominal Size: 1 3/4 inch by 4 1/2 inch (45 by 115 mm).
 2. Concealed Fastening: Framing shall incorporate a concealed fastening pocket, and continuous flush insert cover, extending full length of each framing member.
 3. Transoms shall be integral to sliding automatic entrance framing system and shall be flush glazed. Transoms shall include two (2) vertical muntins aligned with panel overlap.
- B. Stile and Rail Doors and Sidelights: Manufacturer's standard 1 3/4 inch (45 mm) thick glazed doors with extruded-aluminum tubular stile and rail members. Incorporate concealed tie-rods that span full length of top and bottom rails or mechanically fasten corners with reinforcing brackets that are welded.
1. Glazing Stops and Gaskets: Snap-on, extruded-security aluminum stops and preformed gaskets.
 2. Stile Design: Narrow stile; 2 inch (51 mm) nominal width.
 3. Bottom Rail Design: Minimum 10 inch (254 mm) nominal height.
 4. Muntin Bars: None.

Specifier Note: Choose glazing from options indicated.

- C. Glazing: Provide glazing for sliding automatic entrances as follows:
1. Provide safety glass complying with ANSI Z97.1 and CPSC 16 CFR 1201 for Category II materials.
 2. **[Glass: 1/4 inch (6 mm) clear, fully tempered, in all panels.]**
 3. **[Glass: 5/8 inch (16 mm) hermetically sealed insulated glazing units, clear, with fully tempered glass in all panels.]**
- D. Headers: Fabricated from extruded aluminum and extending full width of automatic entrance door units to conceal door operators, carrier assemblies, and roller tracks. Provide hinged or removable access panels for service and adjustment of door operators and controls. Secure panels to prevent unauthorized access.
1. Mounting: Concealed, with one side of header flush with framing.
 2. Capacity: Capable of supporting up to 220 lb (100 kg) per panel, up to four panels, over spans up to 14 feet (4.3 m) without intermediate supports.
- E. Carrier Assemblies and Overhead Roller Tracks: Manufacturer's standard carrier assembly that allows vertical adjustment of at least 1/8 inch (3 mm); consisting of urethane with precision steel lubricated ball-bearing wheels, operating on a continuous roller track. Support panels from carrier assembly by load wheels and anti-riser wheels with factory adjusted cantilever and pivot assembly. Minimum two ball-bearing load wheels and two anti-rise rollers for each active leaf. Minimum load wheel diameter shall be 2 1/2 inch (64 mm); minimum anti-rise roller diameter shall be 2 inch (51 mm).
- F. Thresholds: Manufacturer's standard thresholds as indicated below:
1. Continuous standard tapered extrusion double bevel.
 2. All thresholds to conform to details and requirements for code compliance.
- G. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories compatible with adjacent materials.
- H. Signage: Provide signage in accordance with ANSI/BHMA A156.10.
- 1.15 DOOR OPERATORS
- A. General: Provide door operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for long-term, operation under normal traffic load for type of occupancy indicated.
- B. Electromechanical Operators: Self-contained overhead unit powered by a minimum of 1/4 horsepower, permanent-magnet DC motor with gear reduction drive, microprocessor controller; and encoder.
1. Operation: Power opening and power closing.

2. Features:
 - a. Adjustable opening and closing speeds.
 - b. Adjustable back-check and latching.
 - c. Adjustable braking.
 - d. Adjustable hold-open time between 0 and 30 seconds.
 - e. Obstruction recycle.
 - f. On/Off switch to control electric power to operator.
 - g. Energy conservation switch that reduces door-opening width.
 - h. Closed loop speed control with active braking and acceleration.
 - i. Variable obstruction recycle time delay.
 - j. Self adjusting stop position.
 - k. Self adjusting closing compression force.
 - l. Optional Switch to open/Switch to close operation.
3. Mounting: Concealed.
4. Drive System: Synchronous belt type.

C. Electrical service to door operators shall be provided under Division 16 Electrical. Minimum service to be 120 VAC, 5 amps.

1.16 ELECTRICAL CONTROLS

- A. Electrical Control System: Electrical control system shall include a microprocessor controller and position encoder. The encoder shall monitor revolutions of the operator shaft and send signals to microprocessor controller to define door position and speed. Systems utilizing external magnets and magnetic switches are not acceptable.
- B. Life Cycle Data Counter: The electrical control system shall incorporate a non-re-settable counter to track door operation cycles.
- C. Controller Protection: The microprocessor controller shall incorporate the following features to ensure trouble free operation:
 1. Automatic Reset Upon Power Up.
 2. Main Fuse Protection.
 3. Electronic Surge Protection.
 4. Internal Power Supply Protection.
 5. Resettable sensor supply fuse protection.
 6. Motor Protection, over-current protection.
- D. Soft Start/Stop: A "soft-start" "soft-stop" motor driving circuit shall be provided for smooth normal opening and recycling.
- E. Obstruction Recycle: Provide system to recycle the sliding panels when an obstruction is encountered during the closing cycle. If an obstruction is detected, the system shall search for that object on the next closing cycle by reducing door closing speed prior to the previously encountered obstruction location, and will continue to close in check speed until doors are fully closed, at which time the doors will reset to normal speed. If obstruction is encountered again, the door will come to a full stop. The doors shall remain stopped until obstruction is removed and operate signal is given, resetting the door to normal operation.
- F. Programmable Controller: Microprocessor controller shall be programmable and shall be designed for connection to a local configuration tool. Local configuration tool shall be software driven and shall be utilized via Palm® handheld interface. The following parameters may be adjusted via the configuration tool.
 1. Operating speeds and forces as required to meet ANSI/BHMA A156.10.
 2. Adjustable and variable features as specified in 2.5, B., 2.
 3. Reduced opening position.
 4. Fail Safe/Secure control.
 5. Firmware update.
 6. Trouble Shooting
 - a. I/O Status.

- b. Electrical component monitoring including parameter summary.
7. Software for local configuration tool shall be available as a free download from the sliding automatic entrance manufacturer's internet site.

1.17 ACTIVATION AND SAFETY DEVICES

- A. Push Plates: Provide 4 1/2 inch (114 mm) square push plates with UL recognized SPDT switch to enable and disable motion sensors. Face plates and mounting studs shall be stainless steel. Face plates shall be engraved with the international symbol for accessibility and "Push To Open". Push plates shall be surface mounted in formed ABS plastic boxes and hardwired to door operator controls.
 1. Ratchet Relay: Provide microprocessor controlled module as required for ratcheting of motion activation system on sliding automatic entrances. Module shall comply with the following:
 - a. Inputs: 4 Dry Contacts
 - b. Outputs: 3 Dry Contacts, 1 Wet Contact @ 1 A
 - c. Unit shall be suitable for mounting in sliding automatic entrance headers.
 - d. Ratchet relay shall be equal to or better than BEA Br3.
 2. Annunciating Lights: Provide jamb style, 1 1/2 inch by 4 1/2 inch (38 mm by 114 mm), LED annunciating lights as follows:
 - a. Red/Green, 1/2 inch (13 mm) round light.
 - b. Operating Voltage: 24 VDC
 - c. Annunciating Lights shall be equal to or better than Securitron ZLP-1.
 3. Include power supplies and accessories as required for a complete working system.
 4. Provide three (3) push plates per entrances; placed as directed.
- B. Motion Sensors: Motion sensors shall be mounted on each side of door header to detect pedestrians in the activating zone, and to provide a signal to open doors in accordance with ANSI/BHMA A156.10. Units shall be programmable for bi-directional or uni-directional operation and shall incorporate K-band microwave frequency to detect all motion in both directions.
- C. Presence Sensors: Presence sensors shall be provided to sense people or objects in the threshold safety zone in accordance with ANSI/BHMA A156.10. Units shall be self-contained, fully adjustable, and shall function accordingly with motion sensors provided. The sensor shall be enabled simultaneously with the door-opening signal and shall emit an elliptical shaped infrared presence zone, centered on the doorway threshold line. Presence sensors shall be capable of selectively retuning to adjust for objects which may enter the safety zone; tuning out, or disregarding, the presence of small nuisance objects and not tuning out large objects regardless of the time the object is present in the safety zone. The door shall close only after all sensors detect a clear surveillance field.
- D. Photoelectric Beams: In addition to the threshold sensor include a minimum of two (2) doorway holding beams. Photoelectric beams shall be pulsed infrared type, including sender receiver assemblies for recessed mounting.

1.18 HARDWARE

- A. General: Provide units in sizes and types recommended by automatic entrance door and hardware manufacturers for entrances and uses indicated.
- B. Emergency Breakaway Feature: Provide release hardware that allows panel(s) to swing out in direction of egress to full 90 degrees from any position in sliding mode. Maximum force to open panel shall be 50 lbf (222 N) according to ANSI/BHMA A156.10. Interrupt powered operation of panel operator while in breakaway mode.
 1. Emergency breakaway feature shall include at least one adjustable detent device mounted in the top of each breakaway panel to control panel breakaway force.

2. Limit Arms: Limit arms shall be provided to control swing of non-sliding panels on break-out; swing shall not exceed 90 degrees.
- C. Deadlocks: Manufacturer's standard deadbolt operated by exterior cylinder and interior thumb turn; with minimum 1 inch (25 mm) long throw bolt; ANSI/BHMA A156.5, Grade 1.
 1. Cylinders: Provide Schlage lock cylinders.
 2. Hook Latch: Laminated-steel hook, mortise type, BHMA A156.5, Grade 1.
 3. Two-Point Locking: Provide locking system that incorporates a device in the stile of active door leaves that automatically extends a flush bolt into overhead carrier assembly.
- D. Control Switch: Provide manufacturer's standard header mounted rocker switches and door position switch to allow for full control of the automatic entrance door. Controls to include, but are not limited to:
 1. One-way traffic
 2. Reduced Opening
 3. Open/Closed/Automatic
- E. Power Switch: Sliding automatic entrances shall be equipped with a two position On/Off rocker switch to control power to the door.
- F. Sliding Weather Stripping: Manufacturer's standard replaceable components complying with AAMA 701; made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.
- G. Weather Sweeps: Manufacturer's standard adjustable nylon brush sweep mounted to underside of door bottom.

1.19 FABRICATION

- A. General: Factory fabricates automatic entrance door assembly components to designs, sizes, and thickness indicated and to comply with indicated standards.
 1. Form aluminum shapes before finishing.
 2. Use concealed fasteners to greatest extent possible.
 - a. Where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration, use self-locking devices.
 - b. Reinforce members as required to receive fastener threads.
- B. Framing: Provide automatic entrances as prefabricated assemblies.
 1. Fabricate tubular and channel frame assemblies with manufacturer's standard mechanical or welded joints. Provide sub-frames and reinforcement as required for a complete system to support required loads.
 2. Perform fabrication operations in manner that prevents damage to exposed finish surfaces.
 3. Form profiles that are sharp, straight, and free of defects or deformations.
 4. Prepare components to receive concealed fasteners and anchor and connection devices.
 5. Fabricate components with accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion.
- C. Doors: Factory fabricated and assembled in profiles indicated. Reinforce as required to support imposed loads and for installing hardware.
- D. Door Operators: Factory fabricated and installed in headers, including adjusting and testing.
- E. Glazing: Fabricate framing with minimum glazing edge clearances for thickness and type of glazing indicated.
- F. Hardware: Factory install hardware to the greatest extent possible; remove only as required for final finishing operation and for delivery to and installation at Project site.

1.20 ALUMINUM FINISHES

- A. General: Comply with NAAMM Metal Finishes Manual for Architectural and Metal Products for recommendations for applying and designing finishes. Finish designations prefixed by AA comply with system established by Aluminum Association for designing finishes.

Note to Specifier: Retain appropriate paragraphs below based on finish requirements for project. Coordinate with selections in References Section.

- B. **Class I, Clear Anodic Finish: AA-M12C22A41 Mechanical Finish: as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.70 mils minimum complying with AAMA 611-98 and the following:**
1. **AAMA 607.1**
 2. **Applicator must be fully compliant with all applicable environmental regulations and permits, including wastewater and heavy metal discharge.**
- C. **Class II, Clear Anodic Finish: AA-M12C22A31 Mechanical Finish: as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.40 mils minimum complying with AAMA 611-98, and the following:**
1. **AAMA 607.1**
 2. **Applicator must be fully compliant with all applicable environmental regulations and permits, including wastewater and heavy metal discharge.**
- D. **Class I, Color Anodic Finish: AA-M12C22A42/A44 Mechanical Finish: as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.70 mils minimum complying with AAMA 611-98, and the following:**
1. **Color: [Champagne] [Light Bronze] [Medium Bronze] [Dark Bronze] [Extra Dark Bronze] [Black].**
 2. **AAMA 606.1**
 3. **Applicator must be fully compliant with all applicable environmental regulations and permits, including wastewater and heavy metal discharge.**

Note to Specifier: Retain appropriate paragraph below when painted finish is required. Coordinate system requirements (2-Coat, 3-Coat) with project requirements. Consult with SAT Engineering for alternative painted finishes.

- E. **Superior-Performance Organic Finish: AA-C12C40R1x Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating.**
1. **[Fluoropolymer Two-Coat System: Manufacturer's standard two-coat, thermocured system, non-mica, non-metallic, non-bright white, consisting of inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight.]**
 2. **[Fluoropolymer Three-Coat System: Manufacturer's standard three-coat, thermocured system; including but not limited to mica, metallic, and bright white; consisting of inhibitive primer and fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight.]**
 3. **Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions.**
 4. **Minimum dry film thickness shall be 1.2 mils.**
 5. **Color and Gloss: As selected by Architect from manufacturer's standard colors and gloss for paint system specified.**

PART 3 - EXECUTION

INSPECTION

Examine conditions for compliance with requirements for installation tolerances, header support, and other conditions affecting performance of automatic entrances. Proceed with installation only after unsatisfactory conditions have been corrected.

INSTALLATION

General: Do not install damaged components. Fit frame joints to produce joints free of burrs and distortion. Rigidly secure non-movement joints.

Entrances: Install automatic entrances plumb and true in alignment with established lines and grades without warp or rack of framing members and doors. Anchor securely in place.

Install surface-mounted hardware using concealed fasteners to greatest extent possible.

Set headers, carrier assemblies, tracks, operating brackets, and guides level and true to location with anchorage for permanent support.

Door Operators: Connect door operators to electrical power distribution system as specified in Division 16 Sections.

Glazing: Glaze sliding automatic entrance door panels in accordance with, the Glass Association of North America (GANA) Glazing Manual, published recommendations of glass product manufacturer, and sliding automatic entrance manufacturer's instructions.

Sealants: Comply with requirements specified in Division 7 Section "Joint Sealants" to provide weather tight installation.

FIELD QUALITY CONTROL

Testing Services: Factory Trained Installer shall test and inspect each automatic entrance door to determine compliance of installed systems with applicable ANSI standards.

ADJUSTING

Adjust door operators, controls, and hardware for smooth and safe operation, for weather-tight closure, and complying with requirements in ANSI/BHMA A156.10.

CLEANING AND PROTECTION

Clean glass and aluminum surfaces promptly after installation. Remove excess glazing and sealant compounds, dirt, and other substances. Repair damaged finish to match original finish. Comply with requirements in Division 8 Section "Glazing", for cleaning and maintaining glass.

END OF SECTION

SECTION 08 42 30 - AUTOMATIC ENTRANCES

PART 1 - GENERAL

- A. Summary: Provide automatic sliding entrance systems including doors, frames, related glass and glazing, required anchors, shims, attachments and accessories as required for complete operational installation.
 - 1. Provide special close override feature to allow preventing doors from opening when pet or pets get loose in store.
- B. Submittals: Furnish manufacturer's literature, shop drawings, and samples.
- C. Installer Qualifications: Manufacturer or firm with minimum five years successful experience in the installation of automatic entrances similar to the type required and approved by manufacturer.

PART 2 - PRODUCTS

- A. Manufacturers: Stanley Access Technologies/Dura-Glide 3000.
- B. Regulatory Requirements: Design system to comply with applicable codes and regulations.
 - 1. Emergency Exit Doors: Provide systems complying with requirements of applicable authorities for use as emergency exits.
 - 2. Accessibility: Comply with requirements of California Building Code and Americans with Disabilities Act (ADA) Standards to ensure access to persons with disabilities.
- C. Design Criteria: Design system to comply with applicable code requirements.
 - 1. Deflection: Maximum L/175, ASTM E330.
- D. Performance Criteria: Door speed to be 2.0 ft. per sec. opening; 1.0 ft. per sec. closing unless otherwise required by applicable codes or approved by Architect.
 - 1. Operators: Fully adjustable opening, closing and checking speeds.
- E. Automatic Entrance Systems: Complete automatic entrance system including electrical-mechanical door operator, motion detection operators, doors, frames, glazing, hardware and attachment system.
 - 1. Detector: Infra-red or micro-wave motion detecting control system standard with manufacturer for specified system; no mats or posts permitted.
 - 2. Special Close Override: Provide special close override feature to allow preventing doors from opening when pet or pets get loose in store; locate activation switches as indicated, as directed by Architect and Owner where not otherwise indicated.
- F. Aluminum: Alloy and temper as required for commercial quality system; main sheets and extrusions minimum 0.60" wall thickness.
 - 1. Aluminum Type: As recommended by manufacturer for application indicated, but not less than extruded aluminum, ASTM B221, 6061 or 6063 alloy and T5 or T6 temper.
 - 2. Finish, Bronze Anodized: Bronze anodized coating conforming with NAAMM Metal Finishes Manual, Architectural Class I, 0.7 mil or greater; match entrances and storefronts.
 - a. Architect reserves right to reject units of color or texture variations which are visually objectionable, but only where variation exceeds range established by manufacturer prior to work.
- G. Glass: ASTM C1048, Kind FT, select glazing quality, clear, fully tempered float glass; nominal 1/4" thick.
 - 1. Glazing Gaskets: ASTM C509 or C864, neoprene or EDPM glazing gaskets.
- H. Hardware: Provide manufacturer's standard heavy-duty hardware as required for operation of each door.
 - 1. Type: Capable of operating without failure of any component, for not less than 300,000 open and close cycles, with normal maintenance as defined in manufacturer's standard operating manual.
 - 2. Cylinders: Provided under Section 08 71 00 – Door Hardware; design locking system to accept cylinders provided.
 - 3. Thresholds: Complete with anchors and jamb clips, coordinated to door operation; maximum height 1/2", maximum single vertical lift 1/4".
- I. Weather-Stripping: Manufacturer's standard replaceable weather-stripping.
 - 1. Compression Type: ASTM D2000 molded neoprene or ASTM D2287, PVC gaskets.
 - 2. Sliding Type: Wool, polypropylene, or nylon woven pile, with nylon fabric and aluminum strip backing.

- J. Sealants and Gaskets: As recommended by manufacturer to remain permanently elastic, non-shrinking, and non-migrating; provide throughout fabrication, assembly and installation.
- K. Fasteners: Aluminum, non-magnetic stainless steel, or other non-corrosive metal compatible with items being fastened.
 - 1. Do not use exposed fasteners except where unavoidable for assembly or for application of hardware.
 - 2. Where approved, exposed fasteners shall be Phillips flat-head screws or allen screws with finish matching item fastened.
 - 3. Provide concealed fasteners for glazing stops.
- L. Steel Reinforcement and Brackets: Manufacturer's standard with minimum 2.0 oz. hot-dip zinc coating, ASTM A123, applied after fabrication.
- M. Bituminous Coating: Cold-applied mastic, SSPC Paint 12, compounded for 30 mil thickness per coat.
- N. Fabrication: Provide each continuous unit of framework, doors, sidelights, transom panels, hardware and accessory items as a packaged entrance unit.
 - 1. Complete cutting, fitting, forming, drilling and grinding of metal work prior to cleaning and finishing.
 - 2. Conceal fasteners unless otherwise approved by Architect.
 - 3. Separate dissimilar metals with bituminous paint or preformed separators which will prevent corrosion.
 - 4. Hardware: Install hardware at fabrication plant; remove only as required for final finishing and for delivery and installation.
 - 5. Provide emergency breakaway swing feature with self-closing feature so panels close automatically when swung opened, and doors remain operational.
 - 6. Safety release clutch for obstructed closing and with checking for both opening and closing cycles.
 - 7. Interlocks: Provide electrical interlocks that prevent operation of doors when locked or latched.

PART 3 - EXECUTION

- A. Examine areas and conditions under which automatic doors are to be installed.
- B. Install automatic entrances in accordance with manufacturer's recommendations and installation instructions and to meet regulatory requirements, design criteria, and performance criteria, in configurations indicated.
 - 1. Separate aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- C. Set units plumb, level and true to line, without warp or rack of frames or doors; anchor securely in place.
 - 1. Maximum Offset between Members: 1/16".
- D. Set sill members and thresholds in a bed of compound, or with joint fillers or gaskets to provide weather-tight construction.
- E. Install complete door operator system including controls, control wiring and power units.
- F. Set tracks, header assemblies, operating brackets, rails and guides level and true to location, with adequate anchorage for permanent support.
- G. Glass Installation: Factory or field install glass and glazing; comply with glass manufacturer recommendations and GANA Glazing Manual; do not allow glass to touch metal surfaces.

END OF SECTION

SECTION 08 62 00 - UNIT SKYLIGHTS

PART 1 - GENERAL

- A. Summary: Provide manufactured acrylic glazed unit skylights (plastic skylights), with flashing and accessories as required for complete, weathertight installation.
 - 1. Provide outside mounted fall protection screens as approved by Architect.
- B. Design Requirements: Comply with applicable codes and requirements of AAMA 1600, Voluntary Specifications for Skylights, except where more stringent requirements are specified.
 - 1. Performance: Class 30, 90 psf positive and 45 psf negative pressure; AAMA 1605.1.
- C. Design Load: Fabricate and install the skylights capable of withstanding applicable code required loads acting on skylight without failure, leaks, or permanent distortion.
- D. Performance Requirements: Fabricate and install components capable of withstanding thermal expansion and contraction movements for ambient temperatures from 20-110 degrees F. without failure, leaks, or noise.
- E. Submittals: Submit manufacturer's literature and metal finish samples.
- F. Special Warranty: Repair or replace skylights which leak or fail to comply with reference standard requirements. Special Warranty period two years.

PART 2 - PRODUCTS

- A. Manufacturers: Bristolite Daylighting Systems; Naturalite Division, EPI.; Wasco Products.
- B. Skylights: Acrylic glazed unit skylight; aluminum curb mounted type unless otherwise indicated.
 - 1. Basis of Design: Bristolite/Coolite Solar Heat Blocker Model AL.
 - 2. Dome: Two-piece, thermo-formed, outside dome white, inside dome clear, cast-acrylic sheet in thickness to comply with loading and combustibility requirements.
 - 3. Frame Finish: Bronze anodized.
- C. Fasteners: Aluminum, cadmium-plated steel, or austenitic stainless steel. Provide anodic corrosion isolation where required, and provide neoprene washer or gasket where fastener penetration is subject to water penetration.
- D. Corrosion Isolation: Bitumastic paint of alkali-resistant type with 15-mil dry-film thickness.
- E. Fabrication: Fabricate skylights to comply with the specified design load and thermal-movement requirements. Fabricate skylights with condensation channel, and make provision to drain condensation and water infiltration to exterior.
 - 1. Fabricate with integral flashing for mounting on wood curb, unless otherwise indicated.
 - 2. Fall Protection Screens: Provide screens made specifically to prevent persons from falling through skylight from roof surface; type as approved by Architect.

PART 3 - EXECUTION

- A. Installation: Install skylights in accordance with manufacturer's recommendations and installation instructions. Set units plumb and true to line without warp or rack.
 - 1. Provide heavy coat of bituminous paint on aluminum surfaces in contact with dissimilar materials.
- B. Clean aluminum and glazed surfaces in accordance with manufacturer's instructions. Leave plastic in scratch-free condition, inside and out, with labels removed.

END OF SECTION

SECTION 08 70 00 - HARDWARE

PART 1 - GENERAL

- A. Work Included: Provide hardware for hollow metal doors and for wood doors.
 - 1. Aluminum entry door hardware is in Section 08 41 00.
- B. Access for Persons with Disabilities: Comply with California Building Code and Americans with Disabilities Act (ADA) Standards.
- C. Submittals: Furnish shop drawings, product data including keying schedule, and samples of each required style and finish.
 - 1. Supply templates to door and frame manufacturers for proper and accurate sizing and locations of cut-outs for hardware.

PART 2 - PRODUCTS

- A. General: Provide complete hardware with accessories as required for doors and applications indicated and not provided under other sections.
 - 1. Fire Rated Doors: Comply with requirements of NFPA 80 and applicable codes for fire rated door hardware; provide hardware bearing Underwriters Laboratory (UL) labels.
- B. Hinges and Butts: Hager, McKinney, or Stanley; full mortise butt hinges unless otherwise indicated, ANSI A156.1; provide ball bearing hinges at doors with closers; provide button tip hinges; provide nonremovable pins at exterior doors swinging out.
- C. Locking Devices: Schlage, Sargent, or Yale; metal matching specified finish; interior parts of steel and zinc-dichromate plating, to resist rusting and corrosion; do not supply plastic, die-cast or aluminum mechanisms; solid lever with rose as selected by Architect.
 - 1. Mortise Locksets (Exterior Doors): ANSI A156.13, Series 1000, Grade 1, Mortise Type with 6 pin tumbler cylinders.
 - 2. Cylindrical Privacy Locksets (Storage and Bathrooms): ANSI A156.2, Series 4000, Grade 1, Bored Type (cylindrical).
- D. Cylinders, Keys, and Keying: Hardware manufacturers shall provide for grand master, master key alike or key different keying as directed by Owner.
 - 1. Key Control System: Provide complete key control system with identification and storage capacity suitable for Project.
- E. Closers: LCN, Dorma, or Norton/Yale; ANSI A156.4, furnish products of one manufacturer; full rack and pinion type with steel spring and non-freezing hydraulic fluid.
 - 1. Sizes: Adjustable to comply with applicable code requirements.
 - 2. Design: ANSI Modern Type with Cover, unless otherwise indicated.
- F. Thresholds, Stops, Trim, and Miscellaneous Hardware: Provide as indicated, as specified, as included in Hardware Schedule, and as required for complete installation.
 - 1. Weatherstripping: Provide continuous weatherstripping at top and sides of exterior doors.
 - 2. Gaskets: Provide continuous fire rated gaskets at top and sides of fire rated doors.
 - 3. Viewer: Provide viewers at rear entry doors.
- G. Through Bolts: Through bolts and grommet nuts shall be avoided on door faces in highly visible areas, unless no alternative is possible, as directed and approved, and shall not be used for solid wood core doors.
- H. Finish: BHMA 626 (US26D), satin chromium plated, unless otherwise indicated.
 - 1. Thresholds: BHMA 628 (US28), satin aluminum, clear anodized.
 - 2. Other Items: Provide manufacturer's standard finishes to match similar hardware types on same door, and maintain acceptable finish considering anticipated use.

PART 3 - EXECUTION

- A. Install hardware in accordance with manufacturer's recommendations and installation instructions; fit hardware prior to painting, then remove for painting of doors and frames before final installation of hardware; coordinate with door installation.
- B. Heights to comply with applicable codes and BHMA recommendations.

END OF SECTION

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

- A. Work Included: Provide glass and glazing not provided elsewhere, including accessories as required for complete installation.
 - 1. Glazing for sliding aluminum and glass walls is in Section 08 35 40; glazing for entrances and storefronts is in Section 08 41 00; glazing for automatic entrances is in Section 08 42 30; glazing for unit skylights is in Section 08 62 00.
- B. References: Glass Assoc. of North America (GANA), Glazing Manual.
- C. Submittals: Furnish product data and exposed glazing materials.

PART 2 - PRODUCTS

- A. Tempered Glass: Select glazing quality, clear float glass, fully tempered, ASTM C1048, Kind FT; nominal thickness 1/4"; safety glass.
 - 1. Safety Glass: Conform to applicable codes, CPSC 16 CFR 1201, and pass ANSI Z97.1.
 - 2. Location: Provide at non-fire rated doors and windows.
- B. Clear Fire Rated, Impact Resistant Glass: Glazing quality, clear fire rated glass, polished both surfaces; nominal thickness 1/4"; UL listed clear fire rated glass; suitable for applications and fire ratings indicated on Drawings.
 - 1. Manufacturers: Technical Glass Products/Pilkington Pyrodur and Pyrostop; SAFTI First/SuperLite 20, SuperLite I XL, and SuperLite I XL IGU
 - 2. Glazing Materials: Type approved for use in applications indicated for required fire ratings; refer to fire label requirements.
 - 3. Location: Provide at fire rated openings indicated to receive clear fire rated glass.
- C. Glazing Sealant: ASTM C920, Type S, Grade NS, elastomeric one-component silicone glazing sealants as recommended by sealant manufacturer for application involved.
 - 1. Manufacturers: Dow; GE; or Pecora.
 - 2. Color: As selected by Architect from manufacturer's full range of available colors.
- D. Setting Blocks: 70-90 durometer hardness; 4" long by 3/8" thick by 1/4" high setting blocks.
- E. Spacer Shims: Silicone compatible, 50 durometer; 3" long by 3/32" thick by 1/4" high.

PART 3 - EXECUTION

- A. Preparation: Clean glazing channels and framing members to receive glass immediately before glazing; remove coatings not firmly bonded to substrate.
- B. Installation: Comply with GANA Glazing Manual and Sealant Manual and glazing manufacturer instructions. Do not allow glass to touch metal or wood surfaces.
 - 1. Comply with NFPA 80 for glass in fire rated openings.

END OF SECTION

SECTION 08 87 00 - GLAZING SURFACE FILM

PART 1 - GENERAL

- A. Summary: Provide glazing film with accessories, if necessary, as required for complete installation.
 - 1. Provide for existing glass as indicated on Drawings.
- B. Submittals: Furnish manufacturer's literature and samples.

PART 2 - PRODUCTS

- A. Manufacturers: Vista Window Film; 3M Specified Construction Products Department/ 3M Window Films; Huper Optik/Window Films.
- B. Glazing Film: High performance polyester film designed specifically for laminating to glass and providing characteristics noted for Project.
 - 1. Type: Provide low emissivity coating film and blackout film as indicated; match Architect approved samples.
 - 2. Low Emissivity Coating Film: Match Vista Window Film/SpectraSelect VS61 unless otherwise indicated.

PART 3 - EXECUTION

- A. Preparation: Clean glass to receive glazing film immediately before applying glazing film; remove coatings not firmly bonded to substrate.
- B. Installation: Comply with glazing film manufacturer recommendations and application instructions free of spaces between film sheets, overlaps, folds, ripples, other irregularities.
 - 1. Apply to surface directed by glazing film manufacturer.
 - a. Exterior Windows: Apply to interior surface unless otherwise directed by manufacturer.
 - b. Interior Windows: Apply to most secured side of interior windows unless otherwise directed by manufacturer.
 - 2. Use single sheets of film where sizes are available; use minimum number of sheets possible for window configurations; orient sheets to be consistent with window size and shape and with adjacent windows as approved by Architect.
 - 3. Do not allow glazing film to lap adjacent non-glass surfaces.

END OF SECTION

SECTION 08 91 00 - LOUVERS

PART 1 - GENERAL

- A. Summary: Provide formed metal louvers and frames, with screens, attachment hardware, and accessories as required for complete finished installation.
- B. Submittals: Furnish manufacturer's literature for each type of louver and shop drawings.
- C. Certificates: Where performance requirements are included, provide AMCA Certified Rating Seal indicating louvers comply with requirements.

PART 2 - PRODUCTS

- A. Manufacturers: The Airlite Corporation; Construction Specialties, Inc. (CSI); Ruskin Co.
- B. Performance Criteria: Where indicated, comply with specific performance requirements; unit performance ratings determined in compliance with Air Movement and Control Association (AMCA) Standard 500.
 - 1. Free Area: Minimum 45% based on 48" by 48" louver.
 - 2. Static Pressure Loss: Maximum 0.15" of water gage at airflow of 1000 fpm free air velocity.
 - 3. Water Penetration: Maximum 0.05 oz/ft² of free area at intake airflow of 1000 fpm free area velocity.
- C. Aluminum Sheet: ASTM B209, manufacturer's standard alloy; minimum 0.08" thick.
- D. Steel Sheet: Minimum 16 gage steel, ASTM A924 and A653 with G90 galvanized coating, mill phosphatized.
- E. Louvers: Manufacturer's standard fabrication for types specified and configurations indicated on Drawings.
 - 1. Type: Sheet metal louvers formed of shapes as indicated; Contractor option aluminum sheet or galvanized steel sheet unless otherwise indicated.
- F. Bird Screen for Exterior Louvers: Minimum 0.063" diameter wire, 1/2" interwoven square mesh, stainless steel wire with frame to match louver.
- G. Fabricate louvers to maximum extent possible and disassemble as necessary for shipping and handling limitations; clearly mark units for reassembly and installation.
 - 2. Fabricate frames, including integral sills, to suit adjacent construction with tolerances for installation.
 - 3. Fabricate sill extension, flashings, wall anchors, structural supplementary sub-framing, and accessories as required for complete system; use same materials as provided for louvers.
- H. Join frame members and louver blades by welding; maintain equal blade spacing, including separation between blades and frame head and sill; maintain uniform appearance.
- I. Shop Primed Louvers: Manufacturer's standard thermosetting prime coating compatible with paints specified in Section 09 90 00 - Painting and Coating.

PART 3 - EXECUTION

- A. Install louvers in accordance with manufacturer recommendations and installation instruction, properly aligned and level. Secure louver rigid with concealed fasteners of non-corrosive metals to suit materials being encountered and to resist anticipated loads.
- B. Coordinate installation method with application of adjacent backing and structural elements, and mechanical work.

END OF SECTION

SECTION 09 21 00 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

- A. Summary: Provide gypsum board assemblies including gypsum board, joint treatment, acoustical accessories, and general accessories as required for complete installation.
 - 1. Provide light gage metal framing and suspension systems.
 - 2. Cementitious backer units for tile are in Section 09 30 00.
- B. Standards: Perform gypsum board systems work in accordance with recommendations of ASTM C754 and ASTM C840 unless otherwise specified.
 - 1. Deflection: Provide for maximum L/240 typical, L/360 where plaster or tile are indicated.
 - 2. Seismic Requirements: Comply with code requirements for seismic bracing.
- C. Fire-Rated Assemblies: Listed by UL, Gypsum Association (GA) File No's in GA-600 Fire Resistance Design Manual, or other listing approved by applicable authorities.
- D. Systems Responsibility: Provide products manufactured by or recommended by manufacturer of gypsum board to maintain single-source responsibility for system.
- E. Openings: Obtain dimensions and locations from other trades and provide openings and enclosures for accessories, specialties, equipment, and ductwork.
- F. Submittals: Submit product data.

PART 2 - PRODUCTS

- A. Manufacturers: USG Corp.; Georgia-Pacific; National Gypsum.
- B. Materials: Comply with ASTM C754, ASTM C840, and applicable code requirements.
- C. Framing Materials: Comply with ASTM C754; where not otherwise indicated, provide gages as recommended by manufacturer for spans and loads indicated and as required by codes.
 - 1. Studs: ASTM C645, screw-type Cee-shaped.
 - 2. Furring Members: ASTM C645, screw-type, hat-shaped; provide resilient channels where indicated and where required to provide required sound transmission classifications.
 - 3. Hangers: ASTM A641, Class 1 wire, not less than sizes in Table No. 5 of ASTM C754 and as required by applicable codes; hanger rods, flat hangers, and angle-type hangers as required.
 - 4. Fasteners and Anchorages: As recommended by gypsum board system manufacturer.
 - 5. Suspension System: ASTM C645, suspension system composed of main beams and cross furring members interlocking to form supporting network; recommended by gypsum board system manufacturer.
- D. Gypsum Board: ASTM C36, Type X fire rated; comply with ASTM C840; maximum permissible lengths; ends square cut, tapered edges on boards to be finished.
 - 1. Mold Resistant Gypsum Board: USG/Sheetrock Mold Tough Firecode Core; Georgia-Pacific/ToughRock Mold-Guard Fireguard X; National Gypsum/Gold Bond XP Fire-Shield. Provide at high humidity areas such as bathrooms.
 - 2. Cementitious Backer Units for Fiberglass Wall Panels: USG/Durock, National Gypsum/PermaBase, Custom Building Products/Wonderboard; ANSI A118.9; approximately 1/2" thick; UL fire rated.
 - a. Georgia Pacific/DenShield Type X is acceptable.
 - 3. Gypsum Sheathing: Georgia Pacific/DensGlass Gold, fire rated.
- E. Gypsum Board Accessories: Comply with ASTM C840.
 - 1. Surface Texture Coat: Texture finish as directed by Architect.
- F. Acoustical Accessories: ASTM C665, Type I unfaced acoustical insulation, ASTM C919 acoustical sealant; and outlet, switch, and telephone box acoustical pads.

PART 3 - EXECUTION

- A. Resilient Channels: Install members true to lines and levels to provide surface flatness with maximum variation of 1/8" in 10'-0"; comply with manufacturer's recommendations.
- B. Gypsum Board Installation: Install in accordance with ASTM C840 and manufacturer's recommendations; use screws when fastening gypsum board; comply with Gypsum Association "Levels of Gypsum Board Finish"; provide fire rated systems where indicated.
 - 1. GA Level 4, three coat finishing and sanding is required for surfaces indicated to be painted; provide flush, smooth joints and surfaces ready for applied paint finishes.
- C. Acoustical Accessories Installation. Comply with manufacturer recommendations as required to achieve STC ratings indicated.

END OF SECTION

09260 - 1

Gypsum Board Assemblies

SECTION 09 24 00 – PORTLAND CEMENT PLASTERING

PART 1 - GENERAL

- A. Summary:
 - 1. Provide three coat Portland cement plaster (stucco) with metal lath and accessories as required for complete finished system.
 - a. Provide metal suspension system for suspended Portland cement plaster.
 - 2. Provide two coat Portland cement plaster base (scratch and brown coats) with metal lath and accessories as required for application of surface bonded masonry veneer in Section 04 21 15.
- B. Submittals: Furnish shop drawings indicating joints, product data, and samples.
- C. Mock-Up: Provide not less than 100 sf mock-up including typical joints.
- D. Site Conditions: Take precautionary measures to ensure plaster is not subjected to excessive sun and wind, excessive evaporation, premature dehydration, or cracking.
- E. Cold-Weather: Do not apply plaster unless ambient temperature of 50 degrees F has been and continues to be maintained for minimum 48 hours prior to application and until plaster is cured.

PART 2 - PRODUCTS

- A. Lathing and Accessories: Comply with requirements of ASTM C1063 and applicable codes.
- B. Exterior Components: Zinc where not fully concealed in plaster, otherwise hot-dip galvanized; ASTM A924 and A653 minimum G90 for 18 gage and lighter formed metal products, ASTM A123 galvanized after fabrication for 16 gage and heavier products.
- C. Suspension System: Size and type to suit application and to rigidly secure system in place, with maximum deflection of L/360.
- D. Lath: Expanded diamond mesh; minimum 2.5 lbs per square yard at vertical applications, 3.4 lbs per square yard ribbed lath at horizontal applications; where over solid substrate, provide to hold lath approximately 1/4" from supporting base.
- E. Inside Corner Mesh: Minimum 26 gage steel; perforated or expanded flanges or clips shaped to permit complete embedding in plaster; minimum 2" by 2" size.
- F. Accessories: Provide as indicated, as recommended by referenced standards and as required for complete installation.
 - 1. Casing Beads and Base Screeds: Minimum 26 gage, square edges at casing beads, drip type base screeds; provide with expanded flanges.
 - 2. Expansion Joints: Two piece slip type joints; commonly referred to as No. 40.
 - 3. Control Joints: One piece metal joint designed to interlock with plaster similar to Keene/XJ15-3.
 - 4. Aluminum Vent Strips and Channel Screeds: Extruded 6063 alloy, T5 or T6 temper aluminum, minimum 0.05" thick; with manufacturer's standard baked-on finish.
- G. Anchorages: Tie wire, screws and metal supports of types and sizes to suit application.
- H. Portland Cement Plaster: Provide either neat or ready-mixed (where applicable) materials, at Contractor's option, complying with ASTM C926.
- I. Basecoat Materials:
 - 1. Cement: Normal Type 1 or 1A Portland cement, ASTM C150.
 - 2. Hydrated Lime: Special finishing hydrated lime, Type S, ASTM C206.
 - 3. Aggregate: Natural sand, conforming to ASTM C897 or C144.
- J. Brown Coat Water Acrylic Admix: Acrylic latex admix specifically manufactured for use in Portland Cement Plaster (Stucco) applications and which will not detrimentally affect finish.
- K. Finishing Materials: Same as basecoat with acrylic admix, factory premix finish is acceptable.
- L. Water: Clean, fresh and free from injurious amounts of oil, acid, alkali, organic matter or other deleterious substances.
- M. Plaster Mix: Provide plaster mixes in accordance with ASTM C926 as appropriate to the substrate indicated and the approved samples; mix materials dry, to uniform color and consistency, before adding water; do not retemper mixes after set begins.

PART 3 - EXECUTION

- A. Preparation: Prior to application ensure mechanical and electrical services behind surfaces to receive cement plaster have been tested and approved.

- B. Installation: Erect furring and lath in accordance with ASTM C1063 and Plaster and Lathing Systems Manual recommendations; true to lines and levels and to provide surface flatness with maximum variation of 1/8" in 10'-0" in any direction.
- C. Fixture Support Framing: Install supplementary framing, blocking and bracing where work is indicated to support fixtures, equipment, services and similar work requiring attachment and support.
- D. Install expansion and control joints so plaster areas do not exceed 120 ft², and with area sides having a maximum one to two ratio, unless otherwise approved by Architect.
- E. Suspension System: Install to heights indicated on Drawings.
- F. Metal Lathing: Apply lath taut, with long dimension perpendicular to supports; secure end laps with tie wire where they occur between supports; lap sides minimum 1-1/2".
- G. Installation of Metal Accessories: Fasten in place true to line and in correct relation to adjacent materials and as required to prevent dislodging and misalignment by subsequent operations.
- H. Three Coat Portland Cement Plaster: Conform to ASTM C926 and Plaster and Lathing Manual recommendations; apply cement plaster using three coat system totaling 7/8", with 3/8" scratch coat, 3/8" brown coat, and nominal 1/8" finish coat.
 - 1. Allow each coat to slowly dry for minimum period of 48 hours; moist cure first base coat (scratch coat) during 48 hour period; allow base coats to cure for minimum 7 days prior to application of finish coat.
 - 2. Evenly dampen base coat, to ensure uniform suction, and apply finish coat; apply thickness sufficient to secure required texture but in no case less than 1/8".
 - 3. Finish: Provide surfaces with finish to match approved sample panel.
- I. Two Coat Portland Cement Plaster Base for Veneer: Conform to ASTM C926 and Plaster and Lathing Manual recommendations; apply cement plaster base using two coat system totaling 3/4", with 3/8" scratch coat and 3/8" brown coat.
 - 1. Allow each coat to slowly dry for minimum period of 48 hours; moist cure first base coat (scratch coat) during 48 hour period; allow base coats to cure for minimum 7 days prior to application of finish.

END OF SECTION

SECTION 09 30 00 - TILING

PART 1 - GENERAL

- A. Summary: Provide tile installations with accessories, including cementitious backer units for tile, as required for complete installation.
 - 1. Surfaced bonded cultured stone veneer is in Section 04 21 15.
 - 2. Cementitious backer units for fiberglass wall panels is in Section 09 21 00.
- B. Standards: ANSI A108 series installation standards and Tile Council of America Handbook for Ceramic Tile Installation.
- C. Submittals: Submit product data and samples of each type of tile and grout.

PART 2 - PRODUCTS

- A. Tile: Provide tile types indicated. Comply with ANSI A137.1 Specifications for Ceramic Tile for types and grades of tiles; furnish tile complying with Standard Grade requirements unless otherwise indicated.
 - 1. Manufacturers: American Olean; Dal-Tile; manufacturers listed on Finish Schedule.
 - 2. Colors, Styles and Patterns: As indicated on Finish Schedule and conforming to Architect approved samples.
 - 3. Floor Tile: Provide non-slip units with minimum wet and dry value of 0.60 coefficient of friction when tested in accordance with ASTM C1028.
- B. Latex Thin Set: Thinset bond coat, latex-cementitious mortar conforming to ANSI A118.4.
- C. Grout: ANSI A118.7, latex-cementitious type, uniform in color, resistant to shrinkage; color to match tile unless otherwise indicated or directed by Architect.
- D. Waterproof Membrane: Laticrete, Bostik, Mer-Kote; manufacturer's standard liquid rubber polymer designed specifically for application under tile in non-immersed applications.
- E. Cementitious Backer Units: USG/Durock, National Gypsum/PermaBase, Custom Building Products/Wonderboard; ANSI A118.9; approximately 1/2" thick; UL fire rated as required to maintain integrity of fire rated assemblies.
 - 1. Georgia Pacific/DenShield Type X is acceptable.
- F. Cleaning and Sealing Materials: As recommended by tile and grout manufacturers, such as Sealers Choice Gold – penetrating sealer, Bostic Construction Products/Hydroment CeramaSeal.
 - 1. Acid Wash for Floor Tile Slip Resistance: SlipTech Treatment as indicated.

PART 3 - EXECUTION

- A. Preparation: Do not commence work until surface conditions are within tolerances required for proper installation; apply latex leveling material where necessary to meet required tolerances.
- B. Waterproof Membrane: Install waterproof membrane at tile areas located above grade, in accordance with manufacturer's recommendations; extend membrane minimum 6" up walls.
- C. Cementitious Backer Units: Install units in accordance with ANSI A108.11, manufacturer's recommendations, and as required to provide fire ratings indicated on Drawings.
- D. Tile: Install tile in accordance with referenced ANSI Standards and TCA recommendations for type of substrate and indicated setting method; latex-cement thin set and bond coats required.
 - 1. Thin set tile requires latex-cement mortar and grout.
 - 2. Place tile in patterns indicated or as directed by Architect; carefully plan tile layouts, ensure pattern is uninterrupted from one surface to the next and through doorways.
 - 3. Seal tile and grout surfaces where recommended by manufacturer for materials and applications involved; comply with manufacturer's recommendations.
 - 4. Acid wash were indicated; comply with manufacture recommendations and application instructions.

END OF SECTION

SECTION 09 51 00 - ACOUSTICAL CEILINGS

PART 1 - GENERAL

- A. Summary: Provide acoustical ceiling system with exposed suspended metal grid system, trim, and accessories as required for complete finished installation.
- B. Coordination: Coordinate installation of acoustical ceiling systems with items installed above ceilings to ensure work above ceilings is complete, space is sufficient for items in ceiling while allowing required ceiling heights, and building is enclosed.
- C. Submittal: Furnish manufacturers' literature and samples.
- D. Installer Qualifications: Firm with minimum five years successful experience in projects of similar type and scope; acceptable to manufacturer of integrated acoustical ceiling system.

PART 2 - PRODUCTS

- A. Manufacturers: Armstrong World Industries, Inc.; CertainTeed; Chicago Metallic Corp.; USG Corporation.
- B. Seismic Design Requirements: Comply with California Building Code requirements for seismic bracing of ceiling suspension system, and with ASTM E580.
- C. Fire Performance Characteristics: Provide products listed by Underwriters Laboratories (UL) or other independent testing laboratory acceptable to applicable authorities.
 - 1. Flame Spread/Smoke Density: Provide products meeting code requirements for maximum 25 flame spread and maximum 450 smoke density.
- D. Suspension Systems: Comply with ASTM C635, as applicable to type of suspension system required for type of ceiling units indicated.
 - 1. 1" Exposed Grid System: Standard 1" nominal face width, direct hung, aluminum or steel "T" exposed grid system.
 - 2. Structural Class: Minimum intermediate-duty system.
 - 3. Edge Molding: Manufacturer's standard angle molding for edges and penetrations of ceiling, with single flange of molding exposed.
 - 4. Finish of Exposed Items: Manufacturer's standard white baked enamel.
 - 5. Maximum Allowable Deflection: L/360.
- E. Wet Area Acoustical Panels: Match Armstrong/Ceramaguard Fine Fissured square lay-in.
 - 1. Size: 2'-0" by 4'-0", except where otherwise indicated on Drawings.
 - 2. Grid System: Match Armstrong/Prelude Plus XL, Aluminum.
- F. Area Acoustical Panels: Match Armstrong/Fine Fissured Second Look scored tegular lay-in.
 - 1. Size: 2'-0" by 4'-0", except where otherwise indicated on Drawings.
 - 2. Grid System: Match Armstrong/Prelude XL.

PART 3 - EXECUTION

- A. Preparation: Furnish layouts for inserts, clips and other supports required to be installed by other trades for support of acoustical ceilings.
 - 1. Measure ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling; do not use less than half width units at borders.
- B. Installation: Install acoustical ceiling systems in accordance with manufacturer's recommendations and ASTM C636. True to lines and levels and free from warped, soiled or damaged grid or acoustical units.
 - 1. Hang system independently of walls, columns, ducts, pipes and conduit. Where suspension system members are spliced, avoid visible displacement of the longitudinal axis or face plane of adjacent members.
 - 2. Install edge moldings at intersection of ceiling and vertical surfaces, using maximum lengths, straight, true to line and level; miter corners.
- C. Install hold-down clips where required by applicable codes and where ceiling is within 20'-0" of an exterior door.

END OF SECTION



SLIP TECH



SECTION 09610 SLIP-RESISTANT FLOOR TREATMENT

Slip Tech is the industry leader in non-slip technology. Our unique process creates a coefficient of friction complying with ADA (Americans with Disabilities Act) guidelines. Slip Tech can be applied to concrete, ceramic or quarry tile, marble and granite, terrazzo, and similar flooring and paving materials, as well as porcelain bath tubs and showers in new or existing construction.

Review Slip Tech product literature, then edit guide specification to meet project requirements. This document is available in word processing format from Slip Tech and at the Slip Tech website. For product literature or technical assistance, contact Slip Tech at 800-667-5470 or visit our website at www.sliptech.com.

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Slip-resistant treatment for [floors,] [pavement,] [bath tubs,] [showers,] [and] [_____].
- B. Related Sections:
 1. Section [02700 - Pavement,] [03300 - Cast-in-Place Concrete,] [09300 - Tile,] [09400 - Terrazzo,] [15400 - Plumbing Fixtures,] [and] [_____]: Surfaces to receive slip-resistant treatment; coordinate submittal of materials for samples application of treatment.

Retain below if other types of slip-resistant treatments are also required.

2. Section [09670 - Fluid-Applied Flooring] [_____]: Slip-Resistant Coatings.

1.02 REFERENCES

- A. ASTM C1028 - Evaluating the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull Method.

1.03 SYSTEM DESCRIPTION

According to ADA Accessibility Guidelines, "A static coefficient of friction of 0.6 is recommended for accessible routes and 0.8 for ramps." Specify other requirements if applicable.

- A. Static Coefficient of Friction, ASTM C1028, Wet and Dry:
 1. Level Surfaces: [0.6] [_____] minimum.
 2. Sloped Surfaces with [1:24] [_____] or Greater Rise: [0.8] [_____] minimum.

1.04 SUBMITTALS

- A. Submittals shall be in accordance with Section [01300] [_____].
- B. Product Data: Submit manufacturer's product data sheet and maintenance instructions.

Retain the following in new construction. Etching may effect appearance or gloss of treated surface.

- C. Samples: On samples of flooring materials specified in other sections, apply slip-resistant treatment to half the surface to demonstrate general performance and appearance of proposed treatment. Submit [two] [_____] treated samples.
- D. Applicator Qualifications: Submit letter from Manufacturer stating approval of Applicator.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer shall have not less than ten years experience producing slip-resistant treatments
- B. Applicator Qualifications: Application shall be performed by Manufacturer or firm approved by Manufacturer.

The following is not generally required but may be retained on large project, existing projects where samples can not be treated off-site, or if justified by special conditions.

- C. [Field Samples] [Mock-ups]: Treat [100 sq.ft. (9 m sq)] [_____] and notify [Architect] [_____] to allow for [observation] [testing] before proceeding with application.

1.06 DELIVERY, STORAGE & HANDLING

- A. Comply with Manufacturer's instructions and Section [01600] [_____].

1.07 PROJECT CONDITIONS

- A. Environmental Requirements: Provide ventilation of enclosed areas. Guard against overspray during windy conditions.

1.08 WARRANTY

- A. Special Warranty: Provide Manufacturer's five year prorated limited warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer: **Slip Tech, Inc.**, phone 800-667-5470 or visit website at www.sliptech.com.
- B. Substitutions: Comply with [Instructions to Bidders] [Section 01600] [] for substitution request procedures. Submit evidence documenting manufacturer's qualifications and ability of proposed products to produce specified results.

2.02 MATERIALS

- A. Etching Solution:
 1. **Slip Tech Non Slip DS** containing not less than 20 percent hydrofluoric acid.
 2. Materials shall be capable of microscopically etching treated surface; coatings are not acceptable.
 3. Dilute and mix in accordance with manufacturer's instructions for type of flooring and conditions of treatment.
- B. Water: Clean and potable.
- C. Accessories: Provide as required for Project conditions:
 1. Floor stripping and cleaning agents.
 2. Masking materials.

2.03 EQUIPMENT

- A. Provide spray equipment and, if treated surfaces lack adequate drainage, provide water extraction equipment.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine floor for existing damage or other conditions detrimental to application of treatment. Do not proceed until conditions have been corrected.

3.02 PREPARATION

- A. Protection: Mask or protect adjacent construction which is not to be treated or which may be damaged by treatment.
- B. Surface Preparation: Strip existing waxes and sealers and degrease floors if required. Surfaces shall be "squeaky" clean and thoroughly rinsed.

3.03 APPLICATION

- A. Spray apply in accordance with Manufacturer's instructions to obtain specified slip-resistance.

- B. Thoroughly rinse chemicals from surface after treatment with water. Drain or extract chemicals and water and allow treated surfaces to dry.
- C. Remove masking and protection from adjacent construction.

3.04 FIELD QUALITY CONTROL

Since the slip-resistance of treated surfaces can generally be observed by walking on treated surface, site tests are not typically required. The following can be retained, however, if Project has special conditions or critical requirements.

- A. Site Tests: Test treated surfaces in accordance with ASTM C1028. Conduct one test for every [5,000 sq. ft. (465 m sq)] [] treated. Comply with requirements of Section [01400] [].

3.05 CLEANING AND PROTECTION

Penetrating sealers can be used in kitchens and other areas where floor must be sealed, contact Slip Tech for more information.

- A. Do not apply waxes or polishes to floor after application of slip-resistant treatment without written approval of slip-resistant treatment manufacturer.
- B. Protect treated surfaces against construction traffic.
- C. Provide final cleaning as specified in other sections of Specification.

3.06 SCHEDULE

Included schedule of surfaces to be treated if not clearly shown on Drawings.

- A. Treat [stone] [tile] [] [flooring] [and] [paving] at [exterior locations,] [vestibules,] [lobby,] [and] [].

END OF SECTION

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SECTION 09657 - RESILIENT BASE

PART 1 - GENERAL

- A. Summary: Provide resilient base, including base for carpeted areas, and accessories as required for complete installation.
- B. Performance Requirements: Provide materials tested under ASTM E648, Flooring Radiant Panel Test, with results of 0.45 watts/square cm or higher.
- C. Submittals: Furnish product data and samples.

PART 2 - PRODUCTS

- A. Manufacturers: Burke Flooring Products.
- B. Resilient Base: ASTM F1861, Type TP, Group 1 rubber base with premolded end stops and external corners.
 - 1. Type: Match Burke/Profiles Rubber Wall Base as indicated, as selected by Architect from manufacturer's full range of types where not otherwise indicated.
 - 2. Heights: As indicated, as selected where not indicated.
 - 3. Colors: As indicated, as selected where not indicated.
- C. Primers and Adhesives: Water-resistant nontoxic types recommended by base manufacturer for specified material and application.

PART 3 - EXECUTION

- A. Installation: Comply with manufacturer recommendations and installation instructions; apply to walls, columns, pilasters, casework, and other permanent fixtures in rooms and areas where base is required.
 - 1. Fit base joints tight and vertical; maintain minimum measurement of 18" between joints.
- B. Miter internal corners; use premolded sections for external corners and exposed ends.
- C. Install base on solid backing, adhere tightly to wall and floor surfaces; fill voids along top edge of base with manufacturer's recommended adhesive filler.
- D. Scribe and fit to door frames and other obstructions.
- E. Install straight and level to variation of plus or minus 1/8" over 10'-0".

END OF SECTION

SECTION 09 77 30 - FIBERGLASS WALL PANELS

PART 1 - GENERAL

- A. Summary: Provide glass fiber reinforced polyester resin fabricated wall panels for use in wet areas with trim pieces and accessories as required for complete installation.
- B. Submittals: Furnish manufacturer's literature and samples.

PART 2 - PRODUCTS

- A. Manufacturers: Crane Composites/Glasbord; Nudo Products, Inc./Fiber-Lite Panels.
- B. Regulatory Requirements: Provide system acceptable by applicable authorities for use on walls in wet areas.
- C. Panels: Fiberglass reinforced plastic (FRP) panel system acceptable for use as toilet room wall panels, adjacent to water closets and to urinals; ASTM D5319.
 - 1. Thickness: 0.090" nominal thickness.
 - 2. Fire-Rating: Class I (UL Class A), maximum 25 flame spread, 450 smoke generation, ASTM E84.
 - 3. Surface: As selected by Architect from manufacturer's full range of surface textures.
 - 4. Color: As selected by Architect from manufacturer's full range of colors.
- D. Trim Pieces: Manufacturer's standard matching moldings and trim pieces as required for complete, finished installation, and as required for joints, corners and panel edges; suitable for applications indicated.
- E. Adhesive: Manufacturer's standard nontoxic, waterproof adhesive suitable for substrates indicated.
- F. Primer: Provide non-staining nontoxic release coat primer as recommended by wall panel manufacturer where panels are applied to gypsum board.
 - 1. Primer: Type designed to allow removal of wall paneling from gypsum board without damaging paper facing of board, and without premature separation of wall paneling from wall.
- G. Mechanical Fasteners: Concealed type only; types as recommended by system manufacturer.

PART 3 - EXECUTION

- A. Preparation: Ensure surfaces to receive wall paneling are clean, true and free of irregularities, do not commence with work until surfaces are satisfactory.
 - 1. Ensure wall surface flatness tolerance does not vary more than 1/8" in 10'-0", nor vary at a rate greater than 1/16" per running foot.
- B. Installation: Handle and install wall panels in accordance with manufacturer's recommendations and installation instructions.
 - 1. Cope and miter trim pieces.
 - 2. Securely adhere panels to wall surfaces; use blind nailing methods as required to support panels until adhesive dries; exposed mechanical fasteners shall not be acceptable.
 - a. Install panels in maximum size increments available.
 - 3. Remove excess adhesive from edges; wipe seam clean with dry cloth towel.
 - 4. Install wall paneling before installation of plumbing, bases, hardware, and similar accessories.

END OF SECTION

SECTION 09 90 00 – PAINTING AND COATING

PART 1 - GENERAL

- A. Summary: Provide paints and coatings of exposed items and surfaces.
- B. Surfaces not to be Painted: Prefinished items; concealed and inaccessible areas, code-required labels.
- C. Submittals: Furnish product data and samples.
- D. Field Samples: Duplicate painted finishes of approved samples on actual wall surfaces and components for approval prior to commencing work.
- E. Delivery: Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label.

PART 2 - PRODUCTS

- A. Manufacturer: Benjamin Moore; Sherwin-Williams; PPG/Glidden Professional; Dunn-Edwards.
- B. Material Quality: Provide top line quality commercial grade (professional painter) paints; materials not bearing manufacturer's identification as a best-grade product are not acceptable.
 - 1. Primers: Provide premium grade primers recommended by paint manufacturer for substrates indicated and for finish systems specified.
 - 2. Undercoats and Barrier Coats: Provide undercoat paints produced by same manufacturer as finish coats; use only thinners approved by paint manufacturer, and use only within recommended limits; provide barrier coats where factory primer is not compatible.
 - 3. Finish Coats: Provide finish coats capable of being washed with mild detergent without loss of color, sheen, or pigments.
 - 4. Finish Coat Coordination: Provide finish coats which are compatible with prime paints, undercoats, and barrier coats used.
- C. Colors and Finishes: Prior to commencement of painting work, Architect will furnish color chips for surfaces to be painted.
- D. Volatile Organic Compounds: Provide materials with minimal volatile organic compound (VOC) emissions; comply with applicable regulations.

PART 3 - EXECUTION

- A. Preparation: Perform preparation and cleaning procedures in accordance with paint manufacturer instructions and as specified for substrate condition.
 - 1. Remove hardware, accessories, and items in place and not to be painted, or provide protection prior to surface preparation and painting; after painting reinstall removed items.
- B. Application: Apply paint in accordance with manufacturer's directions; use applicators and techniques best suited for substrate and type of material being applied.
 - 1. Apply additional coats when stains or blemishes show through final coat, until paint is a uniform finish, color and appearance.
 - 2. Finish doors on tops, bottoms and side edges same as faces.
- C. Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spread rate to establish a total dry film thickness as recommended by coating manufacturer.
- D. Prime Coats: Apply to items not previously primed; recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat.
- E. Finish Coats: Provide even texture; leave no laps, irregularity in texture, skid marks, or other surface imperfections.
- F. Exterior Work: Provide following paint systems.
 - 1. Plaster (Stucco): Two coats heavy body waterproof elastomeric acrylic coating; flat.
 - 2. Metal: Primer and two coats 100% acrylic enamel; semigloss.
 - 3. Concrete Masonry: Surface filler, two coats heavy body waterproof acrylic emulsion; flat.
 - 4. Natural Finish Wood: Two coats exterior clear wood sealer and preservative; flat.
- G. Interior Work: Provide following paint systems.
 - 1. Gypsum Board Systems: Universal primer and two coats interior latex or acrylic latex; eggshell (satin) sheen at walls, flat sheen at ceilings, semigloss sheen at toilet rooms.
 - 2. Metal: Primer and two coats 100% acrylic enamel; semigloss.
 - 3. Opaque Finished Wood: Primer and two coats 100% acrylic enamel; semigloss.

END OF SECTION

SECTION 10 12 00 – ENCLOSED BULLETIN BOARDS

PART 1 - GENERAL

- A. Section Includes: Provide stock manufactured wall mounted bulletin boards with accessories as required for complete finished installation.
- B. Submittals: Furnish manufacturer's product data and shop drawings, including large-scale sections of typical members, anchorages, components, and finishes; and samples of exposed materials.

PART 2 - PRODUCTS

- A. Manufacturers: Displays4Sale Div. Access Display Group; Nelson-Harkins Industries; Poblocki Sign Company; Tablet & Ticket Co.
- B. Enclosed Bulletin Boards: Aluminum framed glass bulletin board cases with glass front (doors), tackboard cork bulletin board.
 - 1. Sizes: As indicated on Drawings.
 - 2. Colors: As selected from manufacturer's standard colors and conforming to approved samples.
- C. Aluminum: Heavy extruded sections of 6063-T5 alloy, natural anodized satin finish, AA-M31A31 or manufacturer's standard comparable finish.
- D. Tackboard: Plastic impregnated cork, 1/4" thick, integrally colored throughout, washable vinyl finish, burlap backing.
- E. Glazing: ASTM C1048, Kind FT, fully tempered select glazing quality clear float safety glass, nominal 1/4" thick for display case, 3/8" thick for shelves.
- F. Fabricate frames and trim with reinforced corners, mitered to hairline fit, with no exposed fasteners.
- G. Doors: Provide doors configuration as indicated; furnish each door with manufacturer's standard lock, locks keyed alike, 2 keys per lock.
 - 1. Hinged Doors: Construct door of same material and finish as surrounding frame, with mitered, reinforced corners and concealed fasteners.
 - a. Swing doors with concealed pivot hinges or continuous piano hinges; set glazing into frame with vinyl glazing channels.
- H. Exterior Units: Provide manufacturer's standard construction for exterior units, including weatherstripping and venting provisions for condensation control.

PART 3 - EXECUTION

- A. Securely attach enclosed bulletin boards to supporting structure with concealed fasteners, in accordance with manufacturer's recommendations and installation instructions.
- B. Install units plumb, level, true to line, and in correct relation to adjacent materials.

END OF SECTION

SECTION 10 14 00 - SIGNAGE

PART 1 - GENERAL

- A. Summary: Provide general signage as indicated and not provided under other sections, complete with attachment devices and accessories as required for complete installation.
 - 1. Install Owner furnished signage.
- B. Access for Persons with Disabilities: Provide signs for assuring access for persons with disabilities in accordance with California Building Code and ADA Standards regulations.
- C. Submittals: Furnish product data, shop drawings, and furnish samples where requested.

PART 2 - PRODUCTS

- A. Manufacturers: ASI Modulex Sign Systems; Mohawk Sign Systems; Vomar.
- B. Toilet Room Door Signs: Laminated colored plastic, core color contrasting to exterior face color or solid plastic with inset symbols; 0.25" thick; comply with California Building Code Requirements; colors and symbols as selected by Architect.
- C. Toilet Room Wall Signs: Provide plastic based signs with minimum metal framing and concealed mounting, conform with applicable code requirements for signs for permanent rooms including raised and Braille characters, pictorial symbols, finish, and contrasts.
- D. Entry Decals: Provide minimum 6" square decals with international handicapped symbol white on blue background with white border, applied to glass at accessible entry doors.
- E. Tactile Exit Door Signs: Composite metal framed laminated colored plastic core color contrasting to exterior face color and texture; total thickness 0.125"; provide Braille conforming with applicable codes.
- F. Egress Route Signs: Provide plastic egress route signs where required by applicable authorities and in accordance with applicable codes and regulations.

PART 3 - EXECUTION

- A. General: Install signs in accordance with manufacturer recommendations and installation instructions, free from distortions and defects.
- B. Toilet Room Door Signs: Install signs on doors after doors are painted and finished; mount centered 58" to 60" above finished floor; centered on door.
- C. Toilet Room Wall Signs: Install signs on walls after surfaces on which they are to be mounted are painted and finished; mount 48" to 60" above finished floor on strike side of door to allow person to approach within 3" of signs without being within door swing.
- D. Entry Signs: Install in locations as approved by Architect.
- E. Exit Door Signs: Install signs after walls are finished, centered at 60" above finished floor on strike side of door as required.
- F. Egress Route Signs: Install signs at locations as required by applicable authorities.

END OF SECTION

SECTION 10 22 30 - FOLDING PARTITIONS

PART 1 - GENERAL

- A. Summary: Provide folding partitions, manually operated, top supported, with seals, including hardware and accessories as required for complete system.
- B. Submittals: Furnish materials description, operation and maintenance instructions.
- C. Qualification of Installers: Minimum five years successful experience in installing folding partitions on comparable projects; acceptable to manufacturer of folding partition.

PART 2 - PRODUCTS

- A. Manufacturers: Dynamic Closures/Prestige 7" Side Folding Closure with Polycarbonate fillers.
- B. Folding Partition System: Manufacturer's standard aluminum and polycarbonate construction for specified system; manually operated, with tracks, hardware including lockset, and accessories.
 - 1. Finish: Clear anodized.

PART 3 - EXECUTION

- A. Install folding partition system in accordance with manufacturer's recommendations.
 - 1. Lubricate bearings and sliding parts; adjust to ensure smooth, easy operation.
 - 2. Damaged, or deformed partitions are not acceptable.
- B. Upon completion of installation, test operation of partition in presence of Architect's representative.

END OF SECTION

SECTION 10 26 10 - STAINLESS STEEL CORNER GUARDS

PART 1 - GENERAL

- A. Summary: Provide surface mounted stainless steel corner guards, including mounting adhesive and accessories as required for complete finished installation.
- B. Submittals: Furnish manufacturer's product literature.

PART 2 - PRODUCTS

- A. Manufacturers: Babcock-Davis, Inc.; In-Pro Corporation.
- B. System Description: Provide surface mounted stainless steel corner guards, including mounting adhesive and accessories.
- C. Corner Guard: ASTM A666, Type 304 stainless steel with satin finish; not less than 18 gage.
 - 1. Size: 3-1/2" by 3-1/2" by 48" high.
- D. Attachment: Manufacturer's recommended adhesive for type of wall.

PART 3 - EXECUTION

- A. Install stainless steel corner guards in accordance with manufacturer's recommendations and installation instructions, straight and true to line.

END OF SECTION

SECTION 10 28 10 - TOILET ACCESSORIES

PART 1 - GENERAL

- A. Summary: Provide toilet accessories, including mirrors, with attachment hardware and rough-in frames as required for complete, operational installation.
- B. Standards: Comply with California Building Code and Americans with Disabilities Act (ADA) Standards.
- C. Submittals: Submit product data.

PART 2 - PRODUCTS

- A. Manufacturers: Bobrick; Bradley; American Specialties, Inc (ASI).
- B. Accessories: Refer to Drawings for toilet accessories schedule.
- C. Materials: Stainless steel, ASTM A666, commercial grade, Type 304, Number 4 satin finish, satin chrome acceptable where stainless steel is not available for accessory item scheduled; gages as standard with manufacturer of specified items.
 - 1. Mirror Glass: ASTM C1036, q1 mirror select clear float glass with full silver coating, copper coating and organic coating; minimum 1/4" thick.
 - 2. Fasteners, Screws, and Bolts: Hot dip galvanized; as recommended by accessory manufacturer for component and substrate.
 - 3. Concealed Surfaces: Pretreat and clean, spray apply one coat primer and baked enamel finish.
- D. Fabrication: Weld and grind smooth joints of fabricated components; form exposed surfaces from one sheet of stock, free of joints.
 - 1. Fabricate units with tight seams and joints, exposed edges rolled; hang doors and access panels with continuous piano hinges; provide concealed anchorage where possible.
 - 2. Provide steel anchor plates and anchor components for installation.
 - 3. Form surfaces flat without distortion; maintain flat surfaces without scratches and without dents; finish exposed edges eased, free of sharp edges where potential exists for physical contact.
 - 4. Hot dip galvanize ferrous metal anchors and fastening devices.
 - 5. Shop assemble components; package complete with anchors and fittings.

PART 3 - EXECUTION

- A. Installation: Install accessories in accordance with manufacturer's printed instructions using fasteners appropriate to substrate.

END OF SECTION

SECTION 10 80 00 - TREILLAGE

PART 1 - GENERAL

- A. Summary: Provide treillage (3D trellis system) consisting of framing and accessories as required for complete treillage installation as indicated.
- B. Performance Requirements: Design treillage to support anticipated loads.
- C. Submittals: Submit product literature for treillage and accessories.
 - 1. Indicate profiles, sizes, connections, and anchorage.
- D. Fabricator: Firm with minimum five years successful experience fabricating treillage similar to that required for Project.

PART 2 - PRODUCTS

- A. Manufacturers" Tournesol Siteworks, LLC (800.542.2282)/VertiGreen 3D Trellis System.
- B. Tournesol Siteworks/VertiGreen 3D Trellis System as indicated in width and with configuration indicated; steel channel trim fabricated from 20 gage steel, ASTM A879.
- C. Clips and Straps: Manufacturer's standard clips and straps suitable for mounting conditions; ASTM A879 galvanized steel with appropriate fasteners.
- D. Mounting: Provide wall or post mounting as indicated.
- E. Fasteners: Galvanized steel or comparable corrosion resistant metal as recommended by systems manufacturer and capable of supporting not less than 550 lbs. each.
- F. Welding Materials: AWS D1.1, type required for materials being welded.
- G. Factory Finish: Systems manufacturer's standard finish; as selected by Architect where more than one finish or color is available.
- H. Fabrication: Design and fabricate to withstand anticipated loads including loads from plants.
 - 1. Configurations: As indicated, welded construction unless otherwise indicated.
 - 2. Fittings: Provide fittings and accessories as required for complete installation.
 - 3. Fabricate items with joints neatly fitted and properly secured.
 - 4. Fit and shop assemble in largest practical sections for delivery.
 - 5. Supply components required for proper anchorage; fabricate anchorage and related components of same material and finish as treillage.

PART 3 - EXECUTION

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication.
- B. Installation: Install treillage and accessories to provide rigid structure for configurations indicated as specified and in accordance with applicable code requirements.
 - 1. Install plumb and in correct relation to adjacent materials, in locations indicated on Drawings.
 - 2. Obtain Architect's review prior to site cutting or making adjustments that are not part of scheduled work.
 - 3. Install components square and level, accurately fitted and free from distortion or defects detrimental to appearance or performance.
 - 4. Ensure alignment with adjacent construction; coordinate with related work to ensure no interruption in installation.
 - 5. Make provision for erection stresses by temporary bracing; keep work in alignment.

END OF SECTION

SECTION 12 48 00 - ENTRY FLOOR MATS

PART 1 - GENERAL

- A. Section Includes: Provide carpet surfaced recessed entry floor mats grilles with recessed metal frames and accessories as required for complete finished installation.
- B. Submittals: Furnish manufacturer's literature and samples of exposed finishes.

PART 2 - PRODUCTS

- A. Manufacturers: Mats Inc.; Balco, Inc.; Construction Specialties, Inc. (CS); Reese Enterprises, Inc.
- B. Entry Floor Mat:
 - 1. Basis of Design: Mats Inc./Soft Grid with R Frame.
 - a. Color: As indicated, as selected by Architect from manufacturer's full range of colors where not otherwise indicated.
- C. Recessed Frame: Extruded aluminum; mill finish.
- D. Primer: Manufacturer's standard zinc chromate primer or similar protective coating for surfaces in contact with concrete and dissimilar materials.
- E. Anchors and Accessories: As required for complete, secured assembly.

PART 3 - EXECUTION

- A. Install units in accordance with manufacturer's recommendations and installation instructions and approved shop drawings.
 - 1. Set to allow entry floor mats to be flush with adjacent finish floor.
- B. Install entry floor mats and true to line, flush with adjacent floor finishes.
- C. Anchor entry floor mats to frame with devices spaced as recommended by manufacturer and as required to comply with requirements for access for persons with disabilities.

END OF SECTION

SECTION 32 31 10 – WELDED WIRE FENCE

PART 1 - GENERAL

- A. Section Includes: Provide welded wire fence framing and fabric with accessories as required for complete installation. Excavate for post bases and provide concrete anchorage for posts.
 - 1. Decorative fence and gates are in Section 32 31 20.
- B. Submittals: Submit product literature, including standard details, and shop drawings indicating layout, spacing of components, accessories, and anchorage.

PART 2 - PRODUCTS

- A. Manufacturers: ASSA ABLOY Ameristar/Wire Works Plus commercial welded wire steel fence.
- B. Framework: Design fence framework to support anticipated loads including loads from persons attempting to climb fence.
 - 1. Fence Height: 5'-0" unless otherwise indicated.
- C. Welded Wire Fabric: Manufacturer's standard welded wire fabric in sizes and shapes indicated; as selected by Architect where more than one size or shape is available.
- D. Concrete: ASTM C94, normal Portland cement, 2,500 psi at 28 days, 2" to 3" slump, 2 to 4 percent entrained air.

PART 3 - EXECUTION

- A. Installation: Install line posts, corner posts, gates, welded wire fencing and accessories as required to provide rigid structure for fence of height indicated and in accordance with manufacturer recommendations.

END OF SECTION

SECTION 32 31 20 – DECORATIVE FENCE AND GATES

PART 1 - GENERAL

- A. Summary: Provide decorative fence system including gates, framing, and accessories as required for complete fence installation as indicated.
- B. Submittals: Submit shop drawings, product data, samples of welds and finish, and certification signed by a California registered civil or structural engineer indicating compliance with Contract Documents and applicable codes.

PART 2 - PRODUCTS

- A. Manufacturers: Ultra Fencing & Railing.
- B. Decorative Fence and Gates: Ultra Fencing & Railing/UAF-200 Flat Top with spears & flush bottom flat top short pickets, commercial, aluminum railing system as indicated.
- C. Aluminum: Alloy and temper recommended by aluminum producer or finisher for type and use and finish indicated; sized for strength and durability consistent with application involved.
 - 1. Finish: Comply with NAAMM "Metal Finishes Manual" and referenced standards.
 - a. Bronze Anodized: AA-M12C22A42, Class I, AAMA 606.1.
 - 2. Comply with following minimum standards for aluminum.
 - a. Extruded Bar and Shapes: ASTM B221, 6063-T6.
 - b. Drawn Seamless Tube: ASTM B483, 6063-T832.
 - c. Plate and Sheet: ASTM B209, 6061-T6.
 - d. Castings: ASTM B26, 356.0-T6.
- D. Decorative Shop Finish: Provide TGIC powder coat finish over galvanized coating.
 - 1. Manufacturers: Courtaulds Coatings (Interpon)/TGIC Powder Coating; Porter Powder Coatings/TGIC Powder Coating; H.B. Fuller Co./TGIC Powder Coating.
 - 2. Powder Coating System: Provide top line quality commercial grade factory formulated polyester TGIC powder coating materials intended for powder coating application and as required to match approved sample.
 - 3. Color: As indicated and approved by Architect.
- E. Fasteners and Rough Hardware: Type required for specific usage; zinc-coated.
- F. Welding Materials: AWS D1.1, type required for materials being welded.
- G. Fabrication: Configurations as indicated; welded construction unless otherwise indicated; design and fabricate fence to withstand anticipated loads; provide fittings and accessories as required for complete installation.
 - 1. Swing Gates: Welded construction; provide complete with hardware.
 - a. Pivots: Lift-off type, extra heavy duty ball bearing pivots, sized for anticipated gate loads plus additional live loads of up to 500 lbs per gate leaf, without damage.
 - b. Cane Bolts: Custom fabrications as indicated.
 - c. Accessories: Keepers, stops, and accessories as required for complete, secure manually operated fence gate installation.
- H. Make exposed joints flush butt type, hairline joints where mechanically fastened; fabricate joints exposed to weather in manner to exclude water or provide weep holes where water could accumulate.

PART 3 - EXECUTION

- A. Install fence, gates, and accessories to provide rigid structure for configurations indicated as specified and in accordance with applicable code requirements.
- B. Install gates for free, easy operation.

END OF SECTION