# DIVISION 12 – FURNISHINGS

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Solid-surface-material countertops and backsplashes.
   2. Installation of solid-surface material

1.3 RELATED REQUIREMENTS

A. Pertinent Sections specifying Volatile Organic Compound (VOC) Content Restrictions.
B. Section 01 8113 “Sustainable Design Requirements”.
C. Pertinent Sections specifying sealants or referencing this Section for sealant products and Execution Requirements.
D. Section 05 5000 “Metal Fabrications” for steel support framing
E. Section 06 1053 “Miscellaneous Rough Carpentry” for plywood substrate
F. Section 06 4023 “Interior Architectural Woodwork”
G. Section 06 8313 “Resin Infused Composite Fabrications”
H. Section 10 2800 “Toilet and Bath Accessories”
I. Division 22 “Plumbing” for sinks

1.4 REFERENCES

A. California Code of Regulations, Title 24, Part 11 California Green Building Standards Code, “CAL-Green”.


D. Manufacturer's recommendations and specifications.

1.5 ACTION SUBMITTALS

A. General: Submit the following according to Conditions of Contract and Section 01 3300 “Submittal Procedures”.

B. Product Data: For countertop materials.

C. CAL-GREEN Submittals:
   1. Product Data – VOC Limits: For adhesives sealants, fillers and primers, documentation including printed statement of VOC contents, comply with limits specified in Section 01 6116.

D. LEED Submittals:
   1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.
   2. Certificates for Credit MR 6]: Chain-of-custody certificates indicating that wood products comply with forest certification requirements. Include documentation that manufacturer is certified for chain of custody by an FSC-accredited certification body. Include statement indicating cost for each certified wood product.
   3. Product Data for Credit IEQ 4.1: For adhesives, sealants and sealant primers used inside or outside the weatherproofing system, documentation including printed statement of VOC content.
   4. Product Data for Credit IEQ 4.4: For adhesives and composite wood products, documentation indicating that product contains no urea formaldehyde.
   5. Laboratory Test Reports for Credit IEQ, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services’ “Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.”

E. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures.

F. Samples for Initial Selection: For each type of material exposed to view.

G. Samples for Verification: For the following products:
   1. Countertop material, 6 -inches (150 mm) square.
   2. One full-size solid-surface-material countertop, with front edge and backsplash 8 –inches by 10 -inches (200 by 250 mm), of construction and in configuration specified.
1.6 INFORMATIONAL SUBMITTALS

A. Closeout Submittals:
   1. Submit under provisions of Section 01 7700 “Closeout Procedures”.
   2. Warranty: Submit specified warranty.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions of countertops by field measurements after base cabinets are installed but before countertop fabrication is complete.

1.8 COORDINATION

A. Coordinate locations of utilities and/or accessories that will penetrate countertops and/or backsplashes and endsplashes.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. VOC Limits for adhesives sealants, fillers and primers. Comply with limits specified in Section 01 6116.

B. VOC Limits for all primers and coatings: Comply with limits specified in Section 01 6116.

2.2 SOLID-SURFACE-MATERIAL COUNTERTOPS

A. Configuration: Provide countertops with the following front and backsplash style:
   1. Front: Straight, slightly eased at top to form “No-Drip” edge
      a. Refer also to details
   2. Backsplash: Straight, slightly eased at corner

B. Fabrication: Fabricate tops in one piece with shop-applied edges and backsplashes unless otherwise indicated. Comply with solid-surface-material manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.
   1. Fabricate with loose backsplashes for field assembly.

C. Backsplashes: 3/4-inch- (19-mm-) thick, solid surface material[1]

D. Countertops: 3/4-inch- (19-mm-) thick, solid surface material laminated to 3/4-inch- (19-mm-) thick plywood or particleboard with exposed edges built up with 3/4-inch- (19-mm-) thick, solid surface material
   1. Refer also to details
2.3 COUNTERTOP SUBSTRATE MATERIALS

A. Certified Wood Materials: Fabricate countertops with wood and wood-based products produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

B. Particleboard: ANSI A208.1, Grade M-2-Exterior Glue, made with binder containing no urea formaldehyde.

C. Recycled Content of Steel Sheet: Postconsumer recycled content plus one-half of preconsumer recycled content not less than percentage indicated in Section 01 8113, otherwise 20 percent.

D. Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded.

E. Adhesives: Adhesives shall not contain urea formaldehyde.

2.4 MANUFACTURERS

A. Solid Surface Material: Homogeneous solid sheets of filled plastic resin complying with ANSI SS1.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Engineered GEOS Stone Slab material by SpecCeramics, Inc. www.specceramics.com, http://eos-surfaces.com or comparable product by one of the following:

2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Avonite Surfaces.
   b. Formica Corporation.
   c. Wilsonart International.

3. Colors and Patterns:
   a. As indicated in drawings, refer to but not limited to; A4.01

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install countertops level to a tolerance of 1/8-inch in 8-feet (3 mm in 2.4 m).

B. Fasten countertops by screwing through corner blocks of base units into underside of countertop. Pre-drill holes for screws as recommended by manufacturer. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

1. Install backsplashes and endsplashes- to comply with manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.
C. Seal edges of cutouts in particleboard subtops by saturating with varnish.

- END OF SECTION -
PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Benches.
B. Trash / Ash / Recycling Receptacles
C. Bike racks.
D. Bike locker
E. Bollards
F. Pottery

1.2 SUBMITTALS

A. Product Data: For each type of product indicated. Refer to Site Furnishings Legend on Sheet L0.1.
B. Samples: For each exposed finish.
C. Material Certificates: For site furnishings, signed by manufacturers.
D. Concrete mix design and test reports for pre-cast furnishings
E. Maintenance Data.
F. LEED Submittal:
   1. Product Data for LEED credits:
      a. For product having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content.
      b. For local / regional materials:
         1) Sourcing location(s): Indicate location of extraction, harvesting, and recovery; indicate distance from these locations and the project site.
         2) Manufacturing location(s): Indicate location of manufacturing facility and distance from facility to project site.
         3) Product Value: Indicate dollar value of local materials.
1.3 QUALITY ASSURANCE:
   A. Pre-cast Concrete Fabricator’s Qualifications: Firm shall have a minimum of ten (10) years’ experience in producing pre-cast concrete site furnishings.
      1. Fabricating plant shall be a certified plan and member of one of the following:
         a. Architectural Precast Association
         b. Precast/Restressed Concrete Institute, Group A1
   B. Firm assumes responsibility for engineering architectural precast concrete to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.

1.4 DELIVERY STORAGE AND HANDLING
   A. Deliver on a truck owned by the manufacturer. Truck to have a crane or a forklift for placement. Driver to be trained to use applicable equipment.

PART 2 - PRODUCTS

2.1 MATERIALS
   A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated; free of surface blemishes.
   B. Steel and Iron: Free of surface blemishes.
   C. Stainless Steel: Free of surface blemishes.
   D. Pre-cast concrete:
      1. Portland Cement: ASTM C 150, Type III (gray) or White to achieve desired finish colors. Use only one brand, type, and color from the same mill. Minimum of 30% of cement to be replaced with a pozzolan made from a recycled material or post industrial waste.
      2. Design mixes for each type of concrete specified may be prepared by an independent testing agency or by architectural precast manufacturing plant personnel at precast fabricator’s option.
      3. Mix Design must be made of 80% recycled materials or materials deemed post industrial waste as determined by the U.S. Green Building Council. Manufacturer to provide certification of recycled material and post industrial waste content from an independent laboratory approved by owner during the production sequence of specified product.
      4. Proportion mixes by either testing agency trial batch or field test data methods in accordance with ACI 211.1, using materials to be used on the project, to provide normal weight concrete with properties as follows:
      5. Compressive Strength: 5,000 psi when tested in accordance with ASTM C 39.
      6. Maximum water cement ratio 0.42 at point of placement.
      7. Add air-entrainment admixture to result in air content at point of placement complying with ACI 533 requirements.
      8. Aggregates: ASTM C 33, gradation may differ to achieve desired finish characteristics. Select coarse and fine aggregate colors and screen sizes to match approved sample(s).
Verify that adequate supply, from one pit or quarry, for each type of aggregate is available for the entire Project. If possible obtain entire aggregate supply prior to starting Work, or have aggregate supply held in reserve by aggregate supplier. Use new mined materials only when necessary as shown above. Minimum of 90% of aggregates to be reclaimed and gradated so suitable for concrete.


10. Admixtures:
   b. Water Reducing: ASTM C 494, Type A,B,C,F, or G.
   c. Coloring Agent: ASTM C 979, compatible with other concrete materials.
   d. Hycrete for integral waterproofing and corrosion protection. Dosage per manufacturer's recommendation. www.hycrte.com

11. Reinforcing Materials:
   a. Reinforcing Bars: ASTM A615, GRADE 60

E. Anchors, Fasteners, Fittings, and Hardware: Manufacturer's standard, corrosion-resistant-coated or noncorrodible materials; commercial quality, tamperproof, vandal and theft resistant, concealed, recessed, and capped or plugged.

F. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107; recommended in writing by manufacturer, for exterior applications.

G. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound; resistant to erosion from water exposure without needing protection by a sealer or waterproof coating; recommended in writing by manufacturer, for exterior applications.

H. Galvanizing:
   1. Zinc-Coated Tubing: External, zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. of zinc after welding, a chromate conversion coating, and a clear, polymer film. Internal, same as external or consisting of 81 percent zinc pigmented coating, not less than 0.3 mil thick.
   2. Hot-Dip Galvanizing: According to ASTM A 123/A 123M, ASTM A 153/A 153M, or ASTM A 924/A 924M.

2.2 SITE FURNISHINGS

A. See drawings for "Site Furnishing Legend" on sheet L0.1 for additional site furnishing model numbers, including installation method and finishes.

B. Minimum material requirements specified in this section apply to other furnishing listed on drawings not found in this section.

2.3 BENCHES

A. Basis-of-Design Product: Subject to compliance with requirements, provide Forms and Surfaces Duo Bench, model number as shown on drawings, or an equal product by one of the following:
   1. Landscape Forms.
2. Columbia Cascade Company.
3. DuMor Inc.
4. Hess America
5. Urban Accessories, Inc.

B. Frame: Stainless steel frame.

C. Seat:
   1. Material:
      a. Jatoba wood
      b. Arms: None

2.4 TRASH / ASH / RECYCLING RECEPTACLES

A. Basis-of-Design Product: Subject to compliance with requirements, provide Forms and Surfaces Universal, model number as shown on drawings, or an equal product by one of the following:
   1. Landscape Forms.
   2. Columbia Cascade Company.
   3. DuMor Inc.
   4. Hess America
   5. Urban Accessories, Inc.

B. Body:
   1. Stainless steel – finish as shown on drawings
   2. Installation type: Surface mounted per manufacturer.

2.5 BIKE RACKS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Forms and Surfaces Fremont, model number as shown on drawings, or an equal product by one of the following:
   1. Landscape Forms.
   2. Columbia Cascade Company.
   3. DuMor Inc.
   4. Hess America
   5. Urban Accessories, Inc.

B. Finish: as shown on the drawings

2.6 BIKE LOCKER

A. Basis-of-Design Product: Subject to compliance with requirements, provide Belson Outdoors Dura Bike Locker, Model number as shown on drawings, or an equal product by one of the following:
   1. Landscape Forms.
2. Columbia Cascade Company.
3. DuMor Inc.
4. Urban Accessories, Inc.

B. Finish: As shown on the drawings.

2.7 BOLLARDS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Quickcrete model number as shown on drawings, or an equal product by one of the following:
   1. Pacific Stone Design
   2. Quickcrete
   3. Tournesol
   4. Wausau

B. Material: Pre-cast concrete

C. Finish: Light Sandblast

D. Color: Natural Grey with standard sealer

2.8 POTTERY

A. Basis-of-Design Product: Subject to compliance with requirements, provide Quickcrete Santa Fe Planter, model number shown on the drawings, or an equal product by one of the following:
   1. Pacific Stone Design
   2. Quickcrete
   3. Tournesol
   4. Wausau

B. Pre-cast type: Gen2

C. Finish and Color: as shown on the drawings

2.9 FABRICATION

A. Metal Components: Form to required shapes and sizes with true, consistent curves, lines, and angles. Separate metals from dissimilar materials to prevent electrolytic action.

B. Welded Connections: At exposed connections, finish surfaces smooth and blended so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.

C. Pipes and Tubes: Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
D. Exposed Surfaces: Polished, sanded, or otherwise finished; all surfaces smooth, free of burrs, barbs, splinters, and sharpness; all edges and ends rolled, rounded, or capped.

E. Factory Assembly: Assemble components in the factory to greatest extent possible to minimize field assembly. Clearly mark units for assembly in the field.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.

B. Post Setting: Set cast-in support posts in concrete footing plumb or at correct angle and aligned and at correct height and spacing.

C. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site furnishings and fill annular space between post and concrete with nonshrink, nonmetallic grout mixed and placed to comply with anchoring material manufacturer's written instructions.

D. Pipe Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout mixed and placed to comply with anchoring material manufacturer's written instructions.

- END OF SECTION -