
PART 1 GENERAL**1.1 RELATED DOCUMENTS**

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

1.2 SUMMARY

- A. This Section includes:
 - 1. Dimension stone interior flooring.
 - 2. Dimension stone thresholds.
- B. Related Requirements:
 - 1. Section 07 92 00 "Joint Sealants" for sealing control and expansion joints in stonework with elastomeric sealants.
 - 2. Section 09 75 13 "Stone Paneling" for Stone Base.

1.3 QUALITY ASSURANCE

- A. The work of this section shall be performed by a company which specializes in the type of stone flooring work required for this Project, with a minimum of 5 years of documented successful experience and shall be performed by skilled workmen thoroughly experienced in the necessary crafts.
 - 1. Work shall be performed in compliance with Owner's insurance underwriters' requirements and UL approvals and testing for materials, assemblies and procedures.
- B. Manufacturer shall specialize in manufacturing the type of stone flooring specified in this section, with a minimum of 5 years of documented successful experience, and have the facilities capable of meeting all requirements of Contract Documents as a single-source responsibility and warranty.
- C. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate stone flooring.
- D. Installer Qualifications: Fabricator of stone flooring.
- E. Full-sized dry Mock-up:
 - 1. Layout out the floor panels for the following spaces on a smooth and level horizontal surface to represent each stone's final location in the constructed Work.
 - a. Ground Level Building Lobbies.
 - b. Ground Level Elevator Lobbies.
 - 2. Locate mock-up in Contractor's off-site facility as approved by the Project Manager.
 - 3. Provide Project Manager and Architect with at least 15 working days advance notice that the mock-up is ready for review by the Architect and Project Manager.
 - 4. Relocate stones as determined by the Project Manger and Architect to create an overall blend and consistency acceptable to the Architect.
 - 5. Remove and replace stone which is not within the approved range.
 - 6. After acceptance by the Architect and Project Manager, mark each stone panel to record the approved location. Install panels according to the approved mock-up.
- F. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for fabrication and execution.
 - 1. Build mockup of typical interior floor area about 96 inches (2400 mm) square.
 - 2. Build mockup of typical exterior pavement area about 96 inches (2400 mm) square.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
- G. Manufacturer's identification tags or marks are not acceptable on surfaces which will remain exposed to view after installation.
 - 1. Evidence of "patching" after removal of tags or marks is not acceptable.

1.4 PERFORMANCE REQUIREMENTS

- A. FloorScore Compliance: Stone for floors shall comply with requirements of FloorScore Standard.
- B. Static Coefficient of Friction: Per ASTM C1028:
 - 1. Level Surfaces: Minimum 0.6.
 - 2. Step Treads: Minimum 0.6.
 - 3. Ramp Surfaces: Minimum 0.8.

1.5 SUBMITTALS

- A. Submit the following according to Conditions of the Construction Contract and Division 1 Specification Sections.
- B. Product Data:
 - 1. For each variety of stone, include data on physical properties required by referenced ASTM Standards.
 - 2. For stone accessories, and other manufactured products.
- C. LEED Submittals:
 - 1. Product Certificates for Credit MR 5: For products and materials required to comply with requirements for regional materials, certificates indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating distance to Project, cost for each regional material, and fraction by weight that is considered regional.
 - 2. Product Data for Credit IEQ 4.1: For adhesives, documentation including printed statement of VOC content.
 - 3. Product Data for Credit IEQ 4.3: For interior stone flooring, documentation from an independent testing agency indicating compliance with the FloorScore Standard.
 - 4. Product Data for Credit IEQ 4.3: For adhesives and grout, documentation including printed statement of VOC content.
- D. Shop Drawings: Include plans, sections, details, and attachments to other work.
 - 1. Show locations and details of joints both within stone flooring and between stone flooring and other finish materials.
 - 2. Show direction of veining, grain, or other directional patterns.
- E. Samples:
 - 1. Prior to the Architect's visit to the fabricator's plant for formal stone review, submit three samples of each stone type, 12 inch x 12 inch, showing full range of color and texture including typical inclusions in finished work from the proposed material source.
 - a. Architect's review and acceptance of samples is for color, texture and pattern only of the material source proposed.
 - b. Formal review and acceptance of the material for actual use on the Project shall occur at the fabricator's plant.
 - c. Compliance with other requirements is Contractor's responsibility.
 - d. Sample review and acceptance shall precede mock-up installations.
 - 2. In addition to above, provide adjacent 12" x 12" sample panels showing sealant and grout materials for Architect's review.
- F. Qualification Data: For qualified fabricator.
- G. Maintenance Data: For stone flooring to include in maintenance manuals. Include Product Data for stone-care products used or recommended by Installer and names, addresses, and telephone numbers of local sources for products.
- H. Hazardous Materials Notification: In the event no product or material is available that does not contain asbestos, PCB or other hazardous materials as determined by the Owner, a "Material Safety Data Sheet" (MSDS) equivalent to OSHA Form 20 shall be submitted for that proposed product or material prior to installation.
- I. Asbestos and PCB Certification: After completion of installation, but prior to Substantial Completion, Contractor shall certify in writing that products and materials installed, and processes used, do not contain asbestos or polychlorinated biphenyls (PCB), using format in Article 3 of General Conditions.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For fabricator.
- B. Material Test Reports:
 - 1. Stone Test Reports: For each stone variety proposed for use on Project, by a qualified testing agency, indicating compliance with required physical properties, according to referenced ASTM standards. Base reports on testing within previous three years.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For stone flooring to include in maintenance manuals. Include product data for stone-care products used or recommended by Installer and names, addresses, and telephone numbers of local sources for products.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Comply with General Conditions and Division 1 Section "Product Requirements".
- B. Store and handle stone and related materials to prevent deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breaking, chipping, and other causes.
 - 1. Lift stone with wide-belt slings; do not use wire rope or ropes that might cause staining. Move stone, if required, using dollies with cushioned wood supports.
 - 2. Store stone on wood A-frames or pallets with nonstaining, waterproof covers. Arrange to distribute weight evenly and to prevent damage to stone. Ventilate under covers to prevent condensation.
- C. Mark stone units, on surface that is concealed after installation, with designations used on Shop Drawings to identify individual stone units. Orient markings on vertical panels so that they are right side up when units are installed.
- D. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- E. Do not exceed building design loads during delivery and storage of stone and setting materials.
 - 1. No portions of the building or Project site are designated as storage locations for the stone.

1.9 FIELD CONDITIONS

- A. Maintain air and material temperatures to comply with requirements of installation material manufacturers, but not less than 50 deg F (10 deg C) during installation and for seven days after completion.
- B. Cold-Weather Requirements for Exterior Stone Flooring: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
- C. Hot-Weather Requirements for Stone Flooring: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602 and with the following:
 - 1. Maintain temperature of materials below 100 deg F (38 deg C).
 - 2. Do not apply mortar to substrates with temperatures of 100 deg F (38 deg C) and above.
 - 3. When the ambient temperature exceeds 90 deg F (32 deg C), fog spray installed stone flooring until damp at least three times a day until flooring is three days old.

1.10 WARRANTY

- A. Comply with General Conditions and Division 1 Section "Product Requirements".

1.11 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.
 - 1. Stone Flooring Units: Furnish quantity of full-size units for each shape and thickness equal to 2% of amount installed.

1.12 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

PART 2 PRODUCTS**2.1 UNAUTHORIZED MATERIALS**

- A. Materials and products required for work of this section shall not contain asbestos, polychlorinated biphenyls (PCB) or other hazardous materials identified by the Owner.

2.2 ACCEPTABLE MANUFACTURERS

- A. Products of the manufacturers specified in this section establish the minimum functional, aesthetic and quality standards required for work of this section.
- B. Source Limitations for Stone: Obtain each variety of stone, regardless of finish, from single quarry, whether specified in this Section or in another Section of the Specifications, with resources to provide materials of consistent quality in appearance and physical properties.
1. For stone types that include same list of varieties and sources, provide same variety from same source for each.
 2. Make quarried blocks available for examination by Architect.
 3. Make stone slabs available for examination by Architect.
 - a. Architect will select aesthetically acceptable slabs.
 - b. Segregate slabs selected for use on Project and mark backs indicating approval.
 4. The acceptable color range and grain variation for each stone type and finish will be developed through a series of visits to each of the stone fabricators' plant.
 - a. Set up a number of large uncut finished slabs (minimum of 11) of each type sufficient to demonstrate the extreme range, veining, inclusions, knots, swirls, etc., that can be expected for the production run material in a vertical position in the fabricator's yard for viewing by the Architect and Owner.
 - b. The Architect will select the stones which are acceptable and conform to the requirements of the specifications, rejecting any other stones falling outside the requirements.
 - c. Each approved stone panel will be cut in half, with one half being shipped to the Project site with the initial shipment of stone and the other half remaining at the fabricator's plant for quality control purposes.
 5. Establish procedures for blending the range of color and grain of stone panels.
 - a. Control variation from piece to piece to eliminate patchwork or "checkerboard" appearance.
 - b. Provide for evenly blended appearance of finish work.
- C. Substitutions: Comply with General Conditions using form in Division 1 Section "Substitution Request Form".
- D. Recycled Content: For materials containing post-industrial (pre-consumer) and/or post-consumer recycled content, Contractor shall document the cost and percentage (by weight) of each material broken out by post-industrial (pre-consumer) and post-consumer content.
- E. Regional Content: For materials containing content that is extracted, harvested or recovered as well as manufactured within 500 miles of the project site – 101 First Street, San Francisco, CA 94103. Contractor shall document the cost and percentage (by weight) of each material that is regional.
- F. VOC Content: Adhesive and sealants used inside the waterproofing system and applied on site shall have VOC content equal to or less than the applicable VOC limits. Refer to Division 1 Section "Sustainable Design Requirements" for additional information.
- G. Flooring products shall meet the following requirements:
1. Hard Surface Flooring Materials: Materials shall meet or exceed FloorScore Standard.
 2. Tile Settings Adhesives and Grouts: Sealers shall meet or exceed SCAQMD Rule 1168, VOC limits corresponding to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

2.3 LIMESTONE

- A. Material Standard: Comply with ASTM C568.
1. Stone Abrasion Resistance: Minimum value of 10, based on testing according to ASTM C241/C 241M or ASTM C1353.

- B. Varieties and Sources: Subject to compliance with requirements, provide one of the following:
 - 1. Jura Gelb.
 - 2. Gascon Beige.
 - 3. Balzac.
- E. Cut: Match Architect's sample.
- F. Finish: Refer to Stone Schedule.
- G. Match Architect's samples for color, finish, and other stone characteristics relating to aesthetic effects.

2.4 MORTAR MATERIALS

- A. Regional Content: For material that is extracted, harvested or recovered as well as manufactured within 500 miles of the project site – 100 Mission Street, San Francisco, CA 94103, contractor shall document the cost and percentage (by weight) of each material that is regional.
- B. Portland Cement: ASTM C150, Type I or Type II.
 - 1. Low-Alkali Cement: Not more than 0.60 percent total alkali when tested according to ASTM C114.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C150, Type I or Type III, and hydrated lime complying with ASTM C207, Type S.
- E. Colored Portland Cement-Lime Mix: Packaged blend of portland cement, hydrated lime, and mortar pigments. Mix shall produce color indicated or, if not indicated, as selected from manufacturer's standard colors. Pigments shall not exceed 10 percent of portland cement by weight.
- F. Aggregate: ASTM C144; except for joints narrower than 1/4 inch (6 mm), use aggregate graded with 100 percent passing No. 16 (1.18-mm) sieve.
- G. Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part of or all gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed portland cement mortar bed, and not containing a retarder.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Laticrete International, Inc.
 - b. MAPEI Corporation.
- H. Thin-Set Mortar:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Laticrete International, Inc.
 - b. MAPEI Corporation.
- I. Water: Potable.

2.5 GROUT

- A. Grout Colors: As noted in Grout Color Schedule.
- B. Polymer-Modified Cement Grout: ANSI A118.7, packaged.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Laticrete International, Inc.
 - b. MAPEI Corporation.
 - 2. Polymer Type: Acrylic resin or styrene-butadiene rubber in liquid-latex form for addition to packaged dry-grout mix.
 - 3. Unsanded grout mix for joints 1/8 inch (3 mm) and narrower.
 - 4. Sanded grout mix for joints wider than 1/8 inch (3 mm).

2.6 ACCESSORIES

- A. Temporary Spacers: Resilient plastic, nonstaining to stone, sized to suit joint thickness.
- B. Cleavage Membrane: Polyethylene sheeting, ASTM D4397, 4.0 mils (0.1 mm) thick.
- C. Reinforcing Wire: Galvanized, welded, 0.062-inch- (1.57-mm-) diameter wire; 2-by-2-inch (50-by-50-mm) mesh; comply with ASTM A185/A 185M and ASTM A82/A 82M except for minimum wire size.
- D. Cleaner: Stone cleaner specifically formulated for stone types, finishes, and applications indicated, as recommended by stone producer and by sealer manufacturer. Do not use cleaning compounds containing acids, caustics, harsh fillers, or abrasives.
 - 1. Type: Miracle Sealants Co., "Miracleclean #1."
- E. Interior Floor Sealer: Colorless, slip- and stain-resistant sealer that does not affect color or physical properties of stone surfaces, as recommended by stone producer for application indicated.

2.7 MORTAR AND GROUT MIXES

- A. Mortar: Comply with referenced standards and with manufacturers' written instructions for mix proportions, mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures needed to produce mortar of uniform quality and with optimum performance characteristics.
 - 1. Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated. Do not use calcium chloride.
 - 2. Combine mortar materials and thoroughly mix in a mechanical batch mixer unless otherwise indicated. Discard mortar when it has reached initial set.
- B. Latex-Modified Portland Cement Setting Mortar: Proportion and mix portland cement, aggregate, and latex additive to comply with latex-additive manufacturer's written instructions and to produce a stiff mixture with a moist surface when bed is ready to receive stone.
- C. Mortar-Bed Bond Coat: Mix neat cement and latex additive to a creamy consistency.
- D. Latex-Modified Portland Cement Bond Coat: Proportion and mix portland cement, aggregate, and latex additive to comply with latex-additive manufacturer's written instructions.
- E. Joint Grout: Comply with mixing requirements in referenced ANSI standards and with manufacturer's written instructions.

2.8 STONE FABRICATION

- A. Select stone for intended use to prevent fabricated units from containing cracks, seams, and starts that could impair structural integrity or function.
 - 1. Repairs that are characteristic of the varieties specified are acceptable provided they do not impair structural integrity or function and are not aesthetically displeasing, as judged by Architect.
- B. Fabricate stone to comply with requirements indicated and with the following references:
 - 1. For limestone, comply with recommendations in ILLI's "Indiana Limestone Handbook."
- C. Cut stone to produce pieces of thickness, size, and shape indicated, including details on drawings and shop drawings.
 - 1. Stone Edges: Square cut with top corner slightly eased to prevent snipping.
 - 2. Joint Width: 1/8 inch at interior paving.
- D. Pattern Arrangement: Fabricate and arrange stone units with veining and other natural markings to comply with the following requirements:
 - 1. Cut stone from one block or contiguous, matched blocks in which natural markings occur.
 - 2. Arrange units with veining as indicated on Drawings.
- E. Fabricate stone thresholds in sizes and profiles as indicated or required to provide transition between adjacent floor finishes.
 - 1. Bevel edges of thresholds at 1:2 slope, aligning lower edge of bevel with adjacent floor finish. Limit height of bevel to 1/2 inch or less, and finish bevel to match adjacent surfaces of threshold.

- F. Carefully inspect finished stone units at fabrication plant for compliance with appearance, material, and fabrication requirements. Replace defective units. Clean sawed backs of stones to remove rust stains and iron particles.
 - 1. Grade and select stone for overall uniform appearance when assembled in place.
 - 2. Natural variations in appearance are acceptable if installed stone units match range of colors and other appearance characteristics represented in approved Samples and mockups.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive stone flooring and conditions under which stone flooring will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of stone flooring.
- B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of stone flooring.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Sweep concrete substrates to remove dirt, dust, debris, and loose particles.
- B. Remove substances from concrete substrates that could impair mortar bond, including curing and sealing compounds, form oil, and laitance.
- C. Before setting stone, clean dirty or stained stone surfaces by removing soil, stains, and foreign materials. Clean stone by thoroughly scrubbing with fiber brushes and then drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh materials or abrasives.

3.3 INSTALLATION, GENERAL

- A. Do necessary field cutting as stone is set. Cut lines straight and true and finish field-cut edges to match shop-cut edges.
 - 1. Use power saws with diamond blades to cut stone.
- B. Set stone to comply with drawings and shop drawings. Match stone for color and pattern by using units numbered in sequence as indicated on Shop Drawings and approved mockups.
- C. Scribe and field cut stone as necessary to fit at obstructions. Produce neat joints of size specified or indicated.
- D. Expansion and Control Joints: Locate and install according to drawings and shop drawings.

3.4 INSTALLATION TOLERANCES

- A. Variation in Line: For positions shown in plan for edges of flooring, ramps, steps, changes in color or finish, and continuous joint lines, do not exceed 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 3/8 inch (10 mm) maximum.
- B. Variation in Joint Width: Do not vary from average joint width more than plus or minus 1/16 inch (1.5 mm) or one-fourth of nominal joint width, whichever is less.
- C. Variation in Surface Plane: Do not exceed 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 3/8 inch (10 mm) maximum from level or slope indicated.
- D. Variation in Plane between Adjacent Units (Lipping): Do not exceed 1/32-inch (0.8-mm) difference between planes of adjacent units.

3.5 INSTALLATION OF STONE DIRECTLY OVER CONCRETE

- A. Saturate concrete with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.
- B. Apply mortar-bed bond coat to damp concrete and broom to provide an even coating that completely covers the concrete. Do not exceed 1/16-inch (1.5-mm) thickness. Limit area of mortar-bed bond coat to avoid its drying out before placing setting bed.
 - 1. Place reinforcing wire mesh over concrete, lapped at joints by at least one full mesh and supported so mesh becomes embedded in middle of mortar bed. Hold edges back from vertical surfaces about 1/2 inch (13 mm).
- C. Apply mortar bed immediately after applying mortar-bed bond coat. Spread, tamp, and screed to uniform thickness at elevations required for setting stone to finished elevations indicated.
- D. Mix and place only that amount of mortar bed that can be covered with stone before initial set. Cut back, bevel edge, and discard material that has reached initial set before stone can be placed.
- E. Place stone before initial set of mortar occurs. Immediately before placing stone on setting bed, apply uniform 1/16 inch- (1.5-mm-) thick bond coat to mortar bed or to back of each stone unit.
 - 1. At stone steps butter bottom of units with neat cement and place over dowel and set in full bed of setting mortar.
- F. Tamp and beat stone with a wooden block or rubber mallet to obtain full contact with mortar bed and to bring finished surfaces within indicated tolerances. Set each unit in a single operation before initial set of mortar; do not return to areas already set and disturb stone for purposes of realigning finished surfaces or adjusting joints.
- G. Rake out joints to depth required to receive grout as units are set.

3.6 INSTALLATION OF STONE OVER CLEAVAGE MEMBRANE

- A. Place cleavage membrane over substrates indicated to receive stone, lapped at least 4 inches (100 mm) at joints.
 - 1. Provide cork joint filler, where indicated, at waterproofing that is turned up on vertical surfaces or, if not indicated, provide temporary filler or protection until stone flooring installation is complete.
- B. Place reinforcing wire fabric over cleavage membrane, lapped at least one full mesh at joints and supported so mesh becomes embedded in middle of mortar bed. Hold edges back from vertical surfaces and control and expansion joints about 1/2 inch (13 mm).
- C. Place mortar bed over cleavage membrane with reinforcing wire fabric fully embedded in middle of mortar bed. Spread, tamp, and screed to uniform thickness at elevations required for setting stone to finished elevations indicated.
- D. Mix and place only that amount of mortar bed that can be covered with stone before initial set. Cut back, bevel edge, and discard material that has reached initial set before stone can be placed.
- E. Place stone before initial set of mortar occurs. Immediately before placing stone on setting bed, apply uniform 1/16 inch- (1.5-mm-) thick bond coat to mortar bed or to back of each stone unit.
- F. Tamp and beat stone with a wooden block or rubber mallet to obtain full contact with mortar bed and to bring finished surfaces within indicated tolerances. Set each unit in a single operation before initial set of mortar; do not return to areas already set and disturb stone for purposes of realigning finished surfaces or adjusting joints.
 - 1. At stone steps butter bottom of units with neat cement and place over dowel and set in full bed of setting mortar.
- G. Rake out joints to depth required to receive grout as units are set.

3.7 STONE THRESHOLD INSTALLATION

- A. At locations adjacent to stone flooring, install stone thresholds in same type of setting bed as abutting stone flooring unless otherwise indicated.
 - 1. Set thresholds in thin-set, latex-portland cement mortar to comply with ANSI A108.5 at locations where mortar bed would otherwise be exposed above other adjacent flooring.

- B. At locations not adjacent to stone flooring, install stone thresholds in thin-set, latex-portland cement mortar to comply with ANSI A108.5.

3.8 GROUTING

- A. Grout stone joints with polymer-modified cement grout to comply with ANSI A108.10 and with manufacturer's written instructions.
 1. Do not use sanded grout for polished stone.
 2. Grout joints as soon as possible after initial set of setting bed. Force grout into joints, taking care not to smear grout on adjoining stone and other surfaces. After initial set of grout, finish joints by tooling to produce a slightly concave polished joint, free of drying cracks.
 3. Cure grout by maintaining it in a damp condition for seven days except as otherwise recommended by manufacturer.

3.9 ADJUSTING AND CLEANING

- A. Remove and replace stonework of the following description:
 1. Broken, chipped, stained, or otherwise damaged stone. Stone may be repaired if methods and results are approved by Architect.
 2. Defective joints.
 3. Stone flooring and joints not matching approved Samples and mockups.
 4. Stonework not complying with other requirements indicated.
- B. Replace in a manner that results in stonework matching approved Samples and mockups, complying with other requirements, and showing no evidence of replacement.
- C. In-Progress Cleaning: Clean stonework as work progresses. Remove mortar fins and smears before tooling joints.
- D. Clean stonework after setting and grouting are complete. Use procedures recommended by stone fabricator for application types.
- E. Apply sealer to cleaned stonework according to sealer manufacturer's written instructions.

3.10 PROTECTION

- A. Prohibit traffic from installed stone for a minimum of 72 hours.
- B. Protect installed stonework during construction with nonstaining kraft paper. Where adjoining areas require construction work access, cover stonework with a minimum of 3/4-inch (20-mm) untreated plywood over nonstaining kraft paper.

3.11 STONE SCHEDULE

- A. STONE TYPE **ST-01**:
 1. Type: Limestone.
 2. Name: Jura Gelb.
 3. Finish: Honed, non-slip.
 4. Thickness: Min 3 cm.
- B. STONE TYPE **ST-01A**:
 1. Type: Limestone.
 2. Name: Jura Gelb.
 3. Finish: Thermal.
 4. Thickness: Min 3 cm.
- C. STONE TYPE **ST-01X**:
 1. Type: See Section 04 42 00 "Exterior Stone Cladding".
- D. STONE TYPE **ST-02**:
 1. Type: See Section 09 75 13 "Interior Stone Paneling".

- E. STONE TYPE **ST-03**:
 - 1. Type: Match stone at exterior Plaza, honed, non-slip. See Section 32 14 40 "Stone Paving".
- F. STONE TYPE **ST-04**:
 - 1. Type: See Section 12 36 40 "Stone Counter Tops".

3.12 GROUT COLOR SCHEDULE

- A. Paver Grout **PG-1**:
 - 1. Type: Laticrete.
 - 2. Color: Custom color to match stone.

END OF SECTION