

ADDENDUM #05

MOORE COUNTY COURTHOUSE AND RENOVATION CARTHAGE, NORTH CAROLINA

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04-20-2021

A/E's Project #582405 Set No.

GENERAL:

Planholders are requested to attach this Addendum to the inside front cover of each Project Manual. Inform all concerned that the Bidding Documents are modified by this Addendum.

The following modifications and clarifications are hereby made a part of the Bidding Documents and supersede or otherwise modify the provisions of the published *Project Manual* and *Drawings* dated March 19, 2021.

Refer to the Drawings and Specification Sections, if any, attached to this Addendum, which are hereby made a part of this Addendum.

MODIFICATIONS TO THE PROJECT MANUAL:

SECTION 093000 – TILING

REPLACE with the attached section.

MODIFICATIONS TO THE DRAWINGS:

NONE

QUESTIONS FROM BIDDERS:

QUESTION: Section 093000 Para 3.10A now indicates TCNA method F121 which requires a cement mortar bed on waterproofing. This is a thickset method and typically required slab depressions to allow for the thickness of the system. I do not see any slab depression on the structural drawings at tile areas. Is the thickset Mud bed installation really required or did they intend to specify method F122 thin set with waterproofing?

ANSWER: Reply: The design intent is to install 12x24 tile with waterproofing and a medium bed mortar to avoid lippage. The tile spec has been modified to indicate TCNA installation method F122. No slab depressions are required.

QUESTION: Section 093000 Para 3.10B1 also indicates W31 thickset method for bathroom walls. Are we sure this is the desired installation method for the bathroom walls? W244C or W244F would be a much more typical and cost effective wall tile installation method.

ANSWER: The design intent is to install 12x24 tile on the wall with waterproofing and an appropriate mortar to hold it on the wall. The tile spec has been modified to indicate TNCA installation method W244 for all specified tiles (P-TILE-A, P-TILE-B, and GT).

ATTACHMENTS:

SECTION 093000 – TILING

END OF ADDENDUM NO 5

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SECTION 093000 - TILING **(*AD 04) (*AD 05)**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Provisions of the Contract and of the Contract Documents apply to this Section.

1.2 DEFINITIONS

- A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.
- B. ANSI A108 Series: ANSI A108.01, ANSI A108.02, ANSI A108.1A, ANSI A108.1B, ANSI A108.1C, ANSI A108.4, ANSI A108.5, ANSI A108.6, ANSI A108.9, ANSI A108.10, ANSI A108.11, ANSI A108.13, ANSI A108.14, ANSI A108.15, ANSI A108.16, and ANSI A108.17, which are contained in its "Specifications for Installation of Ceramic Tile."
- C. Module Size: Actual tile size plus joint width indicated.
- D. Face Size: Actual tile size, excluding spacer lugs.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.
 - 2. Review locations and requirements for installation of crack isolation membrane.
 - 3. Review alteration work conditions. Review recommended specialty bedding and grouting materials recommended by grout manufacturer's technical representative for retrofit applications at existing conditions.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces. Include waterproofing details at floor drains, cove base, and thresholds.
- C. Samples for Verification:
 - 1. Full-size units of each type and composition of tile and for each color and finish required. For ceramic mosaic tile in color blend patterns, provide full sheets of each color blend.
 - 2. Assembled samples mounted on a rigid panel, with grouted joints, for each type and composition of tile and for each color and finish required. Make samples at least 12 inches square, but not fewer than four tiles. Use grout of type and in color or colors approved for completed Work.
 - 3. Full-size units of each type of trim and accessory for each color and finish required.
 - 4. Metal edge strips in 6-inch lengths.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Master Grade Certificates: For each shipment, type, and composition of tile, signed by tile manufacturer and Installer.
- C. Product Certificates: For each type of product.

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- D. Product Test Reports: For tile-setting and -grouting products and certified porcelain tile.
- 1.6 MAINTENANCE MATERIAL SUBMITTALS
 - A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.
 - 2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.
- 1.7 QUALITY ASSURANCE
 - A. Installer Qualifications:
 - 1. An experienced installer who has completed work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
 - B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockup of each type of floor tile installation not less than 5 feet square in location approved by Architect.
 - 2. Build mockup of each type of wall tile installation not less than 5 feet square in location approved by Architect.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- 1.8 DELIVERY, STORAGE, AND HANDLING
 - A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.
 - B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
 - C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.
 - D. Store liquid materials in unopened containers and protected from freezing.
- 1.9 FIELD CONDITIONS
 - A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

- 2.1 MANUFACTURERS
 - A. Source Limitations for Tile: Obtain tile of each type and color or finish tile of each type from single source or producer.
 - 1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.
 - B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.

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1. Obtain setting and grouting materials, except for unmodified Portland cement and aggregate, from single manufacturer.
 2. Obtain waterproof membrane and crack isolation membrane, except for sheet products, from manufacturer of setting and grouting materials.
- C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer:
1. Stone thresholds.
 2. Waterproof membrane.
 3. Crack isolation membrane.
 4. Cementitious backer units.
 5. Metal edge strips.
 6. Metal nosing.
- 2.2 PRODUCTS, GENERAL
- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
1. Provide tile complying with Standard grade requirements.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.
- C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.
- D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.
1. Where tile is indicated for installation in showers, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.
- 2.3 TILE PRODUCTS
- A. Ceramic Tile Type **P-TILE-A1, P-TILE-A2**: Unglazed porcelain tile.
1. Basis-of-Design Product: Subject to compliance with requirements, provide **Ceramic Technics; "Cooperative Concrete"** or one of the following:
 - a. Crossville, Inc.; Color Blox
 - b. Daltile; Haut Monde
 2. Certification: Tile certified by the Porcelain Tile Certification Agency.
 3. Face Size: 12 by 24 inches.
 4. Face Size Variation: Rectified.
 5. Thickness: 1/4 inch (6.4 mm).
 6. Face: Plain with square edges.
 7. Dynamic Coefficient of Friction: Not less than 0.42.
 8. Tile Color, Glaze, and Pattern: As selected by Architect from manufacturer's full range.
 9. Grout Color: As selected by Architect from manufacturer's full range.
 10. Trim Units: Metal transition strips as required for adjoining materials
 - a. Inside cove: Metal cove transition strip from floor to wall and at inside corners.

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- b. Tile cap: Flat metal transition cap for all exposed tile edges on top of tile.
 - c. Edge trim: Flat metal transition for all exposed tile edges on wall surfaces.
 - d. Outside corner trim: Rounded metal transition strip for all outside wall corners.
 - e. Finishing trim: metal trim with minimal reveal for use between two tile surfaces.
 - f. Accessible trim: Angled metal transition strip between tile and thinner flooring materials
- B. Ceramic Tile Type **P-TILE-B**: Factory-mounted unglazed ceramic mosaic tile.
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide **Ceramic Technics; Cooperative Concrete** or comparable product by one of the following:
 - a. Crossville Tile; "Color Blox"
 - b. Daltile; "Haut Monde"
 - 2. Composition: Porcelain.
 - 3. Certification: Porcelain tile certified by the Porcelain Tile Certification Agency.
 - 4. Module Size: 2 by 2 inches (50.8 by 50.8 mm).
 - 5. Thickness: 10.5 mm.
 - 6. Face: Plain with square edges.
 - 7. Surface: Smooth, without abrasive admixture.
 - 8. Dynamic Coefficient of Friction: Not less than 0.42.
 - 9. Tile Color and Pattern: As selected by Architect from manufacturer's full range.
 - 10. Grout Color: As selected by Architect from manufacturer's full range.
 - 11. Trim Units: Metal transition strips as required for adjoining materials
 - a. Inside cove: Metal cove transition strip from floor to wall and at inside corners.
 - b. Tile cap: Flat metal transition cap for all exposed tile edges on top of tile.
 - c. Edge trim: Flat metal transition for all exposed tile edges on wall surfaces.
 - d. Outside corner trim: Rounded metal transition strip for all outside wall corners.
 - e. Finishing trim: metal trim with minimal reveal for use between two tile surfaces.
 - f. Accessible trim: Angled metal transition strip between tile and thinner flooring materials
- C. Tile Type **GT-A1, GT-A2**: Factory-mounted glass mosaic tile.
- 1. Basis-of-Design Product: Subject to compliance with requirements, provide **Ceramic Technics; "Glamour Glass Bella Muro"** or comparable product by one of the following:
 - a. Daltile; "Endeavors"
 - b. Emser Tile; "Infinity"
 - 2. Composition: Glass and Stone.
 - 3. Module Size: 13 by 12 1/2 inch sheets.
 - 4. Thickness: 5/16 inch.
 - 5. Surface: Smooth, without abrasive admixture.
 - 6. Dynamic Coefficient of Friction: Not less than 0.42.
 - 7. Tile Color and Pattern: As selected by Architect from manufacturer's full range.
 - 8. Grout Color: As selected by Architect from manufacturer's full range.
 - 9. Trim Units: Metal transition strips as required for adjoining materials
 - a. Inside cove: Metal cove transition strip from floor to wall and at inside corners.
 - b. Tile cap: Flat metal transition cap for all exposed tile edges on top of tile.
 - c. Edge trim: Flat metal transition for all exposed tile edges on wall surfaces.
 - d. Outside corner trim: Rounded metal transition strip for all outside wall corners.

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- e. Finishing trim: metal trim with minimal reveal for use between two tile surfaces.
- f. Accesible trim: Angled metal transition strip between tile and thinner flooring materials

2.4 WATERPROOF MEMBRANE

- A. General: Manufacturer's standard product, selected from the following, that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
- B. Fabric-Reinforced, Fluid-Applied Membrane: System consisting of liquid-latex rubber or elastomeric polymer and continuous fabric reinforcement.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Boiardi Products; a QEP company; Elastiment 344 Reinforced Waterproofing and Anti-Fracture/Crack Suppression Membrane.
 - b. H.B. Fuller Construction Products Inc. / ProSpec; B-6000 Waterproof/Crack Isolation Membrane with Glass Fabric.
 - c. Bostik, Inc.; Hydroment Blacktop 90210.
 - d. Custom Building Products; 9240 Waterproofing and Anti-Fracture Membrane.
 - e. Laticrete International, Inc.; Laticrete 9235 Waterproof Membrane.
 - f. MAPEI Corporation; Mapelastic AquaDefense.
 - g. Merkrete, a ParexUSA company; Hydro-Guard 2000.
 - h. Summitville Tiles, Inc.; S-9000.
 - 2. Provide manufacturer's standard fabric reinforcement and accessory products in combination with specified fluid-applied membrane for a complete crack isolation assembly.

2.5 CRACK ISOLATION MEMBRANE

- A. General: Manufacturer's standard product , selected from the following, that complies with ANSI A118.12 for high performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
- B. Fabric-Reinforced, Modified-Bituminous Sheet: Self-adhering, modified-bituminous sheet with fabric reinforcement facing; 0.040-inch nominal thickness.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:
 - a. Boiardi Products Corporation; a QEP company; Elastiment 340 Sound Control Sheet Membrane Waterproofing and Anti-Fracture/Crack Suppression System.
 - b. Custom Building Products; Crack Buster Pro-Crack Prevention Mat Underlayment.
 - c. MAPEI Corporation; Mapeguard 2.
 - d. National Applied Construction Products, Inc.; ECB Anti-Fracture Membrane.

2.6 SETTING MATERIALS

- A. **Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.02.**
 - 1. **Cleavage Membrane: Asphalt felt, ASTM D 226/D 226M, Type I (No. 15); or polyethylene sheeting, ASTM D 4397, 4.0 mils thick.**
 - 2. **Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by**

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latex-additive manufacturer for use with field-mixed portland cement and aggregate mortar bed. (*AD 05)

- B. Modified Dry-Set Mortar (Thinset): ANSI A118.4.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:
 - a. H.B. Fuller Construction Products Inc. / TEC; TEC Full Flex TA 390/391.
 - b. Laticrete International, Inc.; 252 Silver.
 - c. MAPEI Corporation; Adesilex P10 Ultraflex 2 Ultraflex™ 3.
 - d. Summitville Tiles, Inc; S-1000 MP Thin-Set Latex Mortar.
 2. Provide prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.
 3. Provide prepackaged, dry-mortar mix combined with acrylic resin liquid-latex additive at Project site.
 4. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.4.
- C. Medium-Bed, Modified Dry-Set Mortar: Comply with requirements in ANSI A118.4. Provide product that is approved by manufacturer for application thickness of 5/8 inch (16 mm) for large format tile applications.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. H.B. Fuller Construction Products Inc. / TEC; TEC Ultimate Large Tile Mortar.
 - b. Laticrete International, Inc.; 255 MultiMax.
 - c. MAPEI Corporation; Ultraflex LFT.
 - d. Summitville Tiles, Inc; S-1200 MP Premium Medium Bed Mortar.
 2. Basis-of-Design Product: Subject to compliance with requirements, provide Mapei “Ultraflex LFT” or comparable product by one of the following manufacturers:
 - a. H.B. Fuller Construction Products Inc. / TEC.
 - b. Laticrete International, Inc.
 - c. Summitville Tiles, Inc.
 3. Provide prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.
 4. Provide prepackaged, dry-mortar mix combined with acrylic resin liquid-latex additive at Project site.
- 2.7 GROUT MATERIALS
- A. High-Performance Tile Grout: ANSI A118.7.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Custom Building Products.
 - b. H.B. Fuller Construction Products Inc. / TEC.
 - c. Laticrete International, Inc.
 - d. MAPEI Corporation.
 - e. Summitville Tiles, Inc.
 2. Basis-of-Design Product: Subject to compliance with requirements, provide Mapei “Ultracolor Plus” or comparable product by one of the following:
 - a. Custom Building Products.Prism Ultimate Performance Grout
 - b. H.B. Fuller Construction Products Inc. / TEC.AccuColor Plus; SELF-SEALING
 - c. Laticrete International, Inc.Permacolor Select; SELF-SEALING

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3. Polymer Type: Ethylene vinyl acetate or acrylic additive, in dry, redispersible form, prepackaged with other dry ingredients.
 4. Polymer Type: Acrylic resin in liquid-latex form for addition to prepackaged dry-grout mix.
 - B. Water-Cleanable Epoxy Grout: ANSI A118.3, with a VOC content of 65 g/L or less.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:
 - a. H.B. Fuller Construction Products Inc. / ProSpec; B-7000.
 - b. H.B. Fuller Construction Products Inc. / TEC; AccuColor EFX Epoxy Special Effects Grout (TA 440).
 - c. MAPEI Corporation; Kerapoxy CQ.
 - d. Summitville Tiles, Inc; S-500 Ultra Max.
 2. Provide product capable of withstanding continuous and intermittent exposure to temperatures of up to 140 and 212 deg F (60 and 100 deg C), respectively, and certified by manufacturer for intended use.
- 2.8 ELASTOMERIC SEALANTS
- A. General: Provide sealants, primers, backer rods, and other sealant accessories that comply with the following requirements and with the applicable requirements in Division 07 Section "Joint Sealants."
 1. Use primers, backer rods, and sealant accessories recommended by sealant manufacturer.
 - B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints unless otherwise indicated.
 - C. One-Part, Mildew-Resistant Silicone Sealant (Walls): ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and extreme temperatures.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dow Corning Corporation; Dow Corning 786.
 - b. GE Silicones; a division of GE Specialty Materials; SCS1700 Sanitary.
 - c. Laticrete International, Inc.; Latasil.
 - d. Pecora Corporation; Pecora 898
 - e. Tremco Incorporated; Tremsil 200.
 2. Color: Clear.
 - D. Multipart, Pourable Urethane Sealant for Use T (Floors): ASTM C 920; Type M; Grade P; Class 25; Uses T, M, A, and, as applicable to joint substrates indicated, O.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF; MasterSeal SL 2.
 - b. Pecora Corporation; NR-200 Urexpan.
 - c. Sika Corporation; Sikaflex-2c SL.
 - d. Tremco Incorporated.; THC-901.

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2.9 METAL EDGE STRIPS

- A. Metal Flooring Transitions: Heavy duty aluminum edging designed for installation with tile and designed to comply with ADA requirements for accessible path of travel. Provide wherever tile abuts to any adjacent floor surface with more than 1/8-inch difference in floor level and no other transitions are indicated, such as thresholds, cover plates, or wood or resilient transitions.
1. Available Products: For transitions to exposed concrete and flooring less than 3/16-inch thick, subject to compliance with requirements, available products that may be incorporated into the Work may include the following:
 - a. Schlüter "RENO-RAMP."
 - b. Ceramic Tool Company (CTC) "Tranz."
 - c. Blanke "DRIVE."
 - d. Size: To suit tile thickness.
 - e. **Finish: Satin anodized. (*AD 04)**
 2. Available Products: For transitions to flooring materials 3/16-inch thick or more subject to compliance with requirements, available products that may be incorporated into the Work may include the following:
 - a. Schlüter "RENO-U."
 - b. Ceramic Tool Company (CTC) "Ramp."
 - c. Blanke "Reducer Trim."
 - d. Size: To suit tile thickness.
 - e. **Finish: Satin anodized. (*AD 04)**
- B. Finishes and Edge Protection Profiles: Heavy duty aluminum edging designed for installation with tile. Provide at all outside corners, exposed side at casework backsplash, top of wainscot, and the wall transition where tile abuts adjacent wall surface.
1. Available Products: For transition between different wall finish materials and outside corners of tiled walls subject to compliance with requirements, available products that may be incorporated into the Work may include the following:
 - a. Schlüter "Schiene"
 - b. Ceramic Tool Company (CTC) "L-Angle"
 - c. Blanke "T-Transition"
 2. Description: Profile with square visible surface, integrated perforated anchoring leg, and integrated grout joint spacer.
 - a. Product should coordinate with cove profile using connectors
 - b. Corners:
 - 1) Provide with matching outside corners and end caps
 - 2) Provide with matching connectors.
 - c. Height as required to coordinate with tile selection and setting system selected.
 - d. **Finish: Satin anodized. (*AD 04)**
- C. Metal Cove Profiles: Heavy duty aluminum cove-shaped profile with a single anchoring leg that provides an attractive, clean, and maintenance-free alternative for inside wall corners, and countertop/backsplash and floor/wall transitions.
1. Available Products: For transition from wall to floor or countertop and at inside corners, subject to compliance with requirements, available products that may be incorporated into the Work may include the following:
 - a. Schlüter "DILEX-AHK"
 - b. Custom Building Products "PROCOVE"

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- c. Blanke "COVE"
- d. Description: Anodized aluminum profile with integrated trapezoid perforated anchoring leg, connected at a 90-degree angle by a coveshaped section with 3/8" (10 mm) radius that forms the visible surface.
 - 1) Product should coordinate with cove profile using connectors
- e. Corners:
 - 1) Provide with matching inside, outside corners and end caps
 - 2) Provide with matching connectors.
- f. Height as required to coordinate with tile selection and setting system selected.
- g. **Finish: Satin anodized. (*AD 04)**

2.10 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.
- B. Vapor-Retarder Membrane: Polyethylene sheeting, ASTM D 4397, 4.0 mils (0.1 mm) thick.
- C. Temporary Protective Coating: Manufacturer's standard product formulated to protect exposed surfaces of unglazed or porous tile against adherence or staining from mortar and grout; compatible with tile, mortar, and grout products. Provide the following as recommended for tile type:
 - 1. Sealer/Grout Release: Water-based no-sheen penetrating sealer/grout release formulated to provide maximum stain protection while allowing moisture vapor transmission. Provide product equal to Custom Building Products Aqua Mix "Sealer's Choice 15 Gold" or approved floor sealer designed to also serve as a grout release.
 - 2. Grout Release: Water-based temporary liquid coating that is specially formulated and recommended for use as temporary protective coating for tile and is removed by water during cleanup of grouting. Provide product equal to Custom Building Products Aqua Mix "Grout Release" or MAPEI "UltraCare Grout Release."
- D. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.
- E. Floor Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:
 - a. Custom Building Products; Aqua Mix "Sealer's Choice Gold." 73 Gg/L, wear up to 15 years
 - b. Custom Building Products; TileLab "SurfaceGard Sealer." 49 g/L, wear up to 20 yrs
 - c. SGM, Inc; "Grout Sealer." <25 g/L
 - d. Summitville Tiles, Inc; SL-99, "Summitseal II."
 - 2. Products shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.11 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

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- B. Add materials, water, and additives in accurate proportions.
- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 - 1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
 - 2. Verify that concrete substrates for tile floors installed with adhesives, bonded mortar bed, or thinset mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
 - a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
 - b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
 - 3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
 - 4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with adhesives or thinset mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.
- B. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot (1:50) toward drains.
- C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.
- D. Field-Applied Protective Coating:
 - 1. Tile Indicted to be Sealed: Precoat tile with floor sealer that also serves as grout release, or precoat with temporary grout release recommended by sealer manufacturer.
 - 2. Tile not being Sealed: Where required to prevent staining or ease cleaning of tile surface, precoat tile with continuous film of protective grout release, taking care not to coat unexposed tile surfaces.

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3.3 CERAMIC TILE INSTALLATION

- A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
 - 1. For the following installations, follow procedures in the ANSI A108 series of tile installation standards for providing 95 percent mortar coverage:
 - a. Tile floors in wet areas.
 - b. Tile floors consisting of tiles 8 by 8 inches (200 by 200 mm) or larger.
 - c. Tile floors consisting of rib-backed tiles.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments. Extend floor tiles to center of cased openings and to center under door leafs at door openings unless indicated otherwise. Where transitions occur to another flooring material, extend or cut floor tiles to suit transition.
- C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- D. Where accent tile differs in thickness from field tile, vary setting-bed thickness so that tiles are flush.
- E. Jointing Pattern: Lay tile in 33% ashlar offset unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
 - 1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
 - 2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
 - 3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.
- F. Joint Widths: Install tile with joint widths recommended by tile manufacturer to maintain module size.
- G. Lay out tile wainscots to dimensions indicated.
- H. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
 - 1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.
 - 2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."
- I. Install metal lath to comply with ANSI A108.01-3.3. As an alternative to tack welding or fastening wire lath, a notched and hardened skim coat of compatible epoxy adhesive may be used over horizontal surfaces where recommended by mortar manufacturer.

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- J. Metal Edge Strips: Install per manufacturer recommendations.
 - 1. Install metal transitions and other edges at locations indicated [_____].
- K. Floor Sealer: Apply floor sealer to cementitious grout joints in tile floors according to floor-sealer manufacturer's written instructions. As soon as floor sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.
- 3.4 TILE BACKING PANEL INSTALLATION
 - A. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated. Use modified dry-set mortar for bonding material unless otherwise directed in manufacturer's written instructions.
- 3.5 WATERPROOFING INSTALLATION
 - A. Install waterproofing to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.
 - 1. Provide waterproofing at elevated floor slabs (floors above grade). Turn waterproofing a minimum of 3-inches above floor.
 - 2. Provide shower floor drain detail corresponding to TCNA B421 or TCNA B422 to suit drain type.
 - 3. Provide shower receptor renovation floor drain detail corresponding to TCNA B418 or TCNA B420 to suit drain type.
 - B. Allow waterproofing to cure and verify by testing that it is watertight before installing tile or setting materials over it.
- 3.6 COMBINATION WATERPROOFING AND CRACK ISOLATION MEMBRANE INSTALLATION
 - A. Comply with requirements for both waterproofing membrane installation and crack isolation membrane installation.
- 3.7 CRACK ISOLATION MEMBRANE INSTALLATION
 - A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness that is bonded securely to substrate.
 - 1. Partial Application: For large floor tile applications over concrete subfloor control joints, provide membrane width required, a minimum of two tiles wide, for crack suppression over slab joints in accordance with TCNA F125-Partial for partial coverage. Center membrane width over slab control joint. Provide for all concrete slab joints in entire floor area to receive tile finish. Provide two soft joints (sealant) at crack location in accordance with crack isolation membrane manufacturer's recommendations.
 - 2. Full Application: For applications indicated, provide crack isolation membrane for full coverage in accordance with TCNA F125-Full.
 - B. Allow crack isolation membrane to cure before installing tile or setting materials over it.
- 3.8 ADJUSTING AND CLEANING
 - A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.
 - B. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 - 1. Remove grout residue from tile as soon as possible.

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2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

3.9 PROTECTION

- A. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.
- B. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- C. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

3.10 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

- A. Interior Floor Installations, Concrete Subfloor:
 1. ~~Ceramic Tile Installation: TCNA F121 and ANSI A108.1C; cement mortar bed (thickset) on waterproof membrane.~~
 - a. ~~Ceramic Tile Type: P-TILE-A~~
 - b. ~~Bond Coat for Cured-Bed Method: Medium-bed, modified dry-set mortar.~~
 - c. ~~Grout: Water-cleanable epoxy grout. (*AD 04) (*AD 05)~~
 2. ~~Ceramic Tile Installation: TCNA F122; thinset mortar on waterproof membrane.~~
 - a. ~~Ceramic Tile Type: P-TILE-A~~
 - b. ~~Thinset Mortar: Medium-bed, modified dry-set mortar.~~
 - c. ~~Grout: Water-cleanable epoxy grout. (*AD 05)~~
 3. ~~Ceramic Tile Installation F125-Full: TCNA F125-Full; thinset mortar on crack isolation membrane.~~
 - a. ~~Ceramic Tile Type: P-TILE-A.~~
 - b. ~~Thinset Mortar: Medium-bed, modified dry-set mortar.~~
 - c. ~~Grout: Water-cleanable epoxy grout. (*AD 04)~~
 4. ~~Ceramic Tile Installation F125-Partial: TCNA F125-Partial; thinset mortar on crack isolation membrane.~~
 - a. ~~Ceramic Tile Type: P-TILE-A.~~
 - b. ~~Thinset Mortar: Medium-bed, modified dry-set mortar.~~
 - c. ~~Grout: Water-cleanable epoxy grout. (*AD 04)~~
- B. Interior Wall Installations, Wood or Metal Studs or Furring:
 1. ~~Ceramic Tile Installation W231: TCNA W231/W241 and ANSI A108.1A-ANSI A108.1C; cement mortar bed (thickset) over water-proof membrane. (*AD 04)~~
 - a. ~~Ceramic Tile Type: P-TILE-A2, P-TILE-B, and GT-A1 at bathrooms.~~
 - b. ~~Bond Coat for Wet Set Method: Modified dry-set mortar.~~
 - c. ~~Bond Coat for Cured-Bed Method: Modified dry-set mortar.~~
 - d. ~~Grout: High-performance unsanded grout. (*AD 05)~~
 2. Ceramic Tile Installation W244: TCNA W244C or TCNA W244F; thinset mortar on cementitious backer units or fiber-cement backer board over vapor-retarder membrane.

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- a. Ceramic Tile Type: **P-TILE-A, P-TILE-B, and GT ~~GT-A2~~ at casework backsplashes. (*AD 05)**
- b. Thinset Mortar: Modified dry-set mortar **for GT. (*AD 05)**
- c. **Thinset Mortar: Latex-portland cement mortar for P-TILE-A and P-TILE-B. (*AD 05)**
- d. Grout: **~~High performance unsanded grout. Water-cleanable epoxy grout. (*AD 05)~~**

END OF SECTION 093000