

## **EXHIBIT "A" SCOPE OF SERVICES (4 Pages)**

This is an indefinite quantity Job Order Master Agreement under which the Contractor will provide Pima County with a full range of FLOORING Services such work to be requested by COUNTY from time to time by issuance of an individual Job Order for individual projects. Services are for the County's Facilities Management Department (PCFM).

### **GENERAL REQUIREMENTS:**

General Scope: Scope of work will include repair, replacement, and new installations of flooring in existing County-owned commercial buildings.

Specifications: All work under this Job Order Master Agreement shall be performed in accordance with the following Specification Sections attached and incorporated hereto as Exhibit "A-1" Product Specifications (51 Pages):

- 093013 – Ceramic Tiling (Porcelain)
- 096516 – Vinyl Sheet Flooring
- 096519 – Resilient Tile Flooring
- 096813 – Carpet Tile
- 096816 – Sheet Carpeting (Broadloom)
- 099726 – Cementitious Coatings

### **Services:**

Contractor will provide all labor, materials, equipment, management, supervision, services, and coordination required to provide a full range of flooring services. The scope of work for each project cannot be precisely defined at this time, but the range of services CONTRACTOR may be responsible for includes, but is not limited to, such work typically provided by the following Flooring Services:

- Porcelain tiles
- Vinyl sheet goods
- Vinyl composition tiles
- Carpet tiles
- Broadloom carpet
- Rolled rubber base
- Sub-floor preparation

It is the intention of PCFM, from time to time, to have more than one project or a grouping of projects in design or construction at one time. This will facilitate our ability to meet the requirements of both bond scheduling or the needs of the public for flooring projects. PCFM will work with the contractors to determine priorities and scheduling.

**Post Construction Services:** The contractors shall supply all warranty and manufacturer's information to the PCFM staff at the completion of project. As-builts for the project, including location of all pertinent project elements installed as a part of the project.

**Warehouse Services:** The contractor shall provide warehouse space in which to store the surplus product remaining after each project, as described in the Product Specifications (see Attachment '1' to this Appendix 'A'). The contractor shall inform the county's project manager if any product required for a particular installation is available in the warehouse and the quantity of such material. Maintain an updated written inventory product, run number, color, and quantity.

Pima County Facilities Management (PCFM) will contact the CONTRACTOR with a specific scope of service required, and identify the location of the project, and the start and end dates desired. Unless specified

otherwise, the CONTRACTOR will provide all required materials, labor and equipment necessary to do the job. This will be determined by the COUNTY on a project by project basis. CONTRACTOR shall procure necessary materials and equipment in the most cost effective manner possible. COUNTY shall be invoiced for the actual quantity of materials and equipment used on the job.

The CONTRACTOR shall prepare a written estimate of the proposed work to be done for each project, and shall present same to the PCFM Project Manager within 3 working days of the request for quotation for approval and acceptance prior to beginning any work. The PCFM Project Manager will evaluate the response(s) and select award based on the procedures outlined in Appendix "C" – Special Conditions – Multiple Award Job Order Master Agreement. Upon acceptance, the PCFM Project Manager shall issue a written Notice to Proceed to the CONTRACTOR, after which, the CONTRACTOR shall begin work on the project within twenty four (24) hours, unless otherwise agreed to by the PCFM Project Manager. Emergency repairs to any type of flooring material will begin within 4 hours.

CONTRACTOR shall provide detailed documentation in support of requested payment. Payment requests will be made using format as directed by COUNTY. **NO PAYMENT REQUESTS WILL BE ACCEPTED UNTIL AFTER THE NOTICE TO PROCEED HAS BEEN ISSUED.**

All work performed by the CONTRACTOR under this Contract shall be performed in a thorough and workmanlike manner, and in conformance with accepted industry standards. CONTRACTOR shall adhere to a fully implemented, industry mandated safety program while performing all work under this Contract.

The CONTRACTOR must guarantee a four-hour or less response time for emergencies. The CONTRACTOR shall coordinate the work activities so as to minimize interference with the normal work activities of COUNTY staff. A large percentage of work issued under this Contract will need to be scheduled after normal business hours and on weekends.

During the progress of the work, the CONTRACTOR shall keep the premises free from any unnecessary accumulation of tools, equipment, surplus materials and debris. Work areas shall be cleaned up daily. Upon completion of the project, the premises are to be left neat and clean.

Damage to building parts, existing items, or items being delivered, that are attributable to the CONTRACTOR shall be immediately reported to the PCFM Project Manager and repaired or replaced by the CONTRACTOR at no cost to COUNTY.

#### **ORDERING AND SCHEDULING:**

All work performed under this Contract shall be scheduled with PCFM. The CONTRACTOR will not be paid for any work undertaken for another department which has not been directed by or approved by PCFM prior to its commencement.

#### **COMPLETION AND ACCEPTANCE:**

Each project issued under this Contract shall commence and be completed as agreed upon in each Notice to Proceed. Acceptance of the work shall be upon approval of the Director of PCFM, or his designated appointee.

#### **PAYMENT:**

Pay requests for projects issued under this Contract, shall conform to the provisions of Article III of the Contract.

No shop time, travel time or portal-to-portal charges shall be invoiced without the prior approval of PCFM.

#### **WARRANTIES:**

The CONTRACTOR shall warrant that all items provided, and workmanship performed pursuant to this

Contract, complied with the specifications issued for the specific project, and conform to generally accepted procedures, practices and methods that are appropriate for the services provided.

Any defective workmanship or materials discovered prior to or within two (2) years of acceptance of each project, shall be corrected by the CONTRACTOR at no further expense to, and to the satisfaction of the COUNTY. Ordinary wear and tear, and abnormal abuse or neglect, are excepted. In the event that the CONTRACTOR shall fail to make such required repairs, adjustments, or other work that may become necessary by such defects, the COUNTY may affect those repairs, adjustments, or other work, and back charge the CONTRACTOR for costs incurred.

The CONTRACTOR shall provide the manufacturer's Warranty to the COUNTY prior to final payment by the COUNTY.

All warranties call for in this section shall be in addition to, and not in limitation of, all warranties, guaranties or other remedies required by law.

**INSPECTION:**

Inspectors may be assigned to monitor work issued under this Contract. These Inspectors will report the progress and quality of the work to the PCFM Project Manager. Inspectors may call attention of deficiencies to the CONTRACTOR, but shall not relieve the CONTRACTOR from any obligation to provide complete and accurate service that is satisfactory in every way.

In the case of any dispute arising between the Inspector and the CONTRACTOR, as to the manner of performing the work, the Inspector shall have the authority to suspend the work until the issue can be resolved by the PCFM Project Manager.

Inspectors shall in no case act as Foreman, or perform any other duties for the CONTRACTOR, or interfere with the management of the work by the CONTRACTOR. Inspection and Supervision by the COUNTY shall not be considered as direct control of individual workmen and his work. Such direct control shall remain solely the responsibility of the CONTRACTOR's Foreman or Superintendent.

**SUPERVISION BY THE CONTRACTOR:**

The CONTRACTOR shall supervise and direct all work and equipment, either scheduled, extra or emergency. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures for construction. The CONTRACTOR shall maintain and employ, at the work site, a qualified Foreman or Supervisor, who shall have been designated in writing by the CONTRACTOR as his site representative. This Foreman or Supervisor shall have the full authority to act on behalf of the CONTRACTOR and all communications given to the CONTRACTOR. The Foreman or Supervisor shall be present at the site as required to adequately perform his duties of supervision and coordination of the work.

**PROTECTION OF FINISHED OR PARTIALLY FINISHED WORK:**

The CONTRACTOR shall properly guard and protect all finished and partially finished work, and shall remain responsible for same until the work is completed or accepted. Release of partial payment for work partially completed shall not relieve the CONTRACTOR from such responsibility. The CONTRACTOR shall turn over fully completed work including equipment documentation and blueprint as-built as applicable prior to receiving final payment.

**DUST PREVENTION:**

The CONTRACTOR shall take whatever steps, procedures, and methods are necessary, and provide whatever equipment and materials are necessary to prevent dust conditions to exist as a result of his work until that work is fully completed and accepted. He shall comply with the requirements of all applicable air quality standards, regulations and ordinances, during the entire course of the project. THIS IS NOT AN EXTRA PAY ITEM.

**UTILITY LOCATION:**

The CONTRACTOR shall be responsible to locate all utilities prior to commencing his work. THIS IS NOT AN EXTRA PAY ITEM.

**SERVICES TO BE PROVIDED BY THE COUNTY:**

The COUNTY shall provide the following items and services in support of the CONTRACTOR's work:

1. Pre-Proposal meeting and tour of the proposed site and existing conditions for each project.
2. Any as-built drawings and specifications that may exist for the facility.
3. Cost of any materials testing necessary to accomplish the Project.
4. Construction Documents prepared in support of the specific Project.
5. A PCFM Project Manager will be assigned to work with the CONTRACTOR throughout the term of the Project. All project communications must flow through the Project Manager.
6. Any information available regarding building utilities and services as required. This does not limit or negate the requirement of the CONTRACTOR to verify the field conditions.
7. Any reports and/or mitigation regarding asbestos-containing materials in COUNTY buildings. Pima County will contract directly with asbestos abatement contractors, should that be necessary, per the General Conditions.
8. Any building Materials and Finishes Standards.
9. Consultation with Risk Management Safety Officers and Hazardous Material Offices.

**End of Exhibit "A" Scope of Services**

## **EXHIBIT "A-1" PRODUCT SPECIFICATIONS (51 Pages)**

This Exhibit contains the following specification sections:

- 093013 – Ceramic Tiling (Porcelain) (10 Pages)
- 096516 – Vinyl Sheet Flooring (8 Pages)
- 096519 – Resilient Tile Flooring (8 Pages)
- 096813 – Carpet Tile (8 Pages)
- 096816 – Sheet Carpeting (Broadloom) (9 Pages)
- 099726 – Cementitious Coatings (7 Pages)

**SECTION 093013  
CERAMIC TILING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

A. This section includes the following:

1. Per each installation, comply with and provide all labor, materials, equipment and services necessary to furnish and install all Porcelain Tiles and related items as indicated and specified.
2. Ceramic Tiles.
3. Porcelain Tiles.
4. Thresholds and transitions.
5. Waterproof and crack-suppression membrane for thin-set installations.
6. Setting and grout materials.
7. Sealants.
8. Cementitious backer units.

B. Related Documents:

1. Section 099726 - Cementitious Coatings.

**1.2 REFERENCES**

- A. Facial Dimension: 12" x 12"; Class 5 - Severe or Extra Heavy Rated Commercial Tiles
- B. Facial Dimension: 14" x 14" or 16" x 16"; Class 4 - Medium to Heavy Rated Commercial Tiles

**1.3 SEQUENCING AND SCHEDULING**

- A. Wherever possible, install tile and accessories after other finishing operations, excluding painting, have been completed.
- B. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.

**1.4 SUBMITTALS**

- A. Demonstrate that proposed products are equal or better by completing chart attached.
- B. Certify that proposed products conform to or exceed all health/safety requirements and warranties listed on chart attached. Certifications to be on Manufacturers' letterheads and signed by an officer

of the Corporation manufacturing the product and submitted to the Owner (after each installation to be included in the Operating and Maintenance Manual).

- C. Finish Plans: Contractor shall be responsible for all measurements. If drawings are provided, they are only to indicate spaces to receive carpet tile. They are not meant to be scaled.
- D. Successful Contractor shall provide shop drawings showing 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.
- E. Provide samples of Porcelain Tile showing full range of colors and patterns available for each product proposed.
- F. Provide full-size samples of each type of trim and accessory for each color and finish required.
- G. Provide solid polymer sample thresholds in 6-inch (150-mm) lengths.
- H. Provide metal edge strip sample in 6-inch (150-mm) lengths.
- I. Provide manufacturer's product data for adhesives and sealants, including printed statement of VOC content.
- J. Certificates signed by the floor covering Manufacturer certifying that installers comply with requirements specified under "Quality Assurance" article (at time of each installation).
- K. Master Grade Certificates for each shipment, type and composition of tile, signed by tile manufacturer and installer.
- L. Product Certificates for each type of product, signed by product manufacturer.
- M. Bond and moisture testing data (on a case by case basis).
- N. Availability and delivery time (submitted with each quote).

#### 1.5 CLOSEOUT SUBMITTALS

- A. Lot numbers and other information which will enable identification of the certified tile (to be included in the Operating and Maintenance Manual).

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Maintenance materials of Tiles: When product arrives it shall be separated from the shipment, checked, re-sealed and re-tagged with original labels identifying the manufacturer, brand name, quality, or grade, color, dye lot, pattern and fire hazard information. Maintenance materials will be at least one full box of full-size tiles.
- B. Maintenance materials of Rubber Base (no scraps or pieces), exclusive of materials required to properly complete installation, to be cartoned and tagged with labels identifying the manufacturer, brand name, quality or grade, color, dye lot, pattern, fire hazard classification, lot number and linear feet.

#### 1.7 QUALITY ASSURANCE

- A. Manufacturer qualifications and requirements: Shall be an established porcelain tile manufacturer for no less than ten (10) continual years.
- B. Vendor qualifications:
  - 1. Shall be approved by the manufacturer as an established flooring company for not less than five (5) continual years.
  - 2. Must be insured and bondable.
  - 3. Guarantee full value of replacement and installation of carpet tile for THREE (3) YEARS.
  - 4. Advise installer in proper procedures of installation.
  - 5. Inspect all tiles after manufacture for manufacturing defects.
  - 6. Inspect all surfaces to receive tile and recommended accessories.
- C. Installer Qualifications: Engage installer that is certified by floor covering manufacturer as competent in the installation of tile pavers, trim units and threshold with no less than five (5) years of documented experience with installations of similar scope, materials and design.
- D. Source Limitations for Porcelain tile: Obtain each tile from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the work.
- E. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.
- F. Source Limitations for Other products: Obtain each of the following products specified in this Section through one source from a single manufacturer for each product: Waterproofing, Backer Rods and Joint Sealants.
- G. Source Limitations for Other Products: Obtain each of the following products specified in this Section through one source from a single manufacturer for each product: Solid Polymer Thresholds, Reducers and Edge Strips.
- H. Mockups: Assembled samples with grouted joints for each type and composition of tile and for each color and finish required, at least 24" square and mounted on rigid panel. Use grout of type and in color or colors approved for completed work. Mockup shall be approved by Project Manager prior to beginning work.
- I. Concrete Slab Test Methods:
  - 1. Delmhorst Test Method as a preliminary test to determine moisture.
    - a. Perform one test per every 1000 sq. ft.
    - b. If preliminary testing indicates more than 5.0 moisture per 1000 sq. ft. per 24 hours then provide Owner written documentation and await instructions before proceeding with further moisture tests.
  - 2. Calcium Chloride test method to determine moisture (on a case by case basis)



- a. Perform one test per every 1000 sq. ft.
  - b. Send samples to an independent testing laboratory for results.
  - c. Provide written documentation on test results and to Owner.
3. Litmus Paper test method to determine Alkalinity
  - a. Perform one test per every 1000 sq. ft.
  - b. Provide written documentation on test results and submit to Owner.
  - c. Acceptable conditions should test in the range of 6.0 to 8.0.

#### 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 requirement in ANSI A137.1 for labeling sealed tile packages.
- B. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.
- C. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
- D. Store materials in their undamaged cartons from weather, moisture, soiling and extreme temperatures.
- E. Handle tile that has temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

#### 1.9 SITE 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.
- C. Do not install tile over concrete slabs until slabs, patches and/or floated areas have cured and are sufficiently dried to bond with adhesives as determined by the floor covering manufacturer's bond and moisture test and/or as directed by Owner.

#### 1.10 WARRANTY

- A. All of the work embraced herein shall be subject to the inspection and approval of Pima County Facilities Management.
  1. Guarantee period is TWO (2) YEARS after the date of substantial completion per installation.
  2. Manufacturer's FIVE (5) YEAR limited wear warranty.
- B. Within the TWO (2) YEAR period if Owner has reasonable cause to doubt the performance of the installed goods, a sample of the questionable materials will be sent to an accredited and industry approved testing facility. If any part of the goods are found to be of lower than acceptable industry

and manufacturer's tolerances, or were not installed as per manufacturer's standards, monetary compensation or replacement will be made by the vendor/manufacturer to Pima County, including cost of testing.

- C. Special project guarantee: Submit a written guarantee, executed by the contractor, installer and manufacturer, agreeing to repair or replace units which fail in materials or workmanship.

## PART 2 - PRODUCTS

### 2.1 PRODUCT TYPE

- A. These requirements are not meant to be proprietary, but are intended to demonstrate MINIMUM APPEARANCE, PERFORMANCE, AND HEALTH AND SAFETY STANDARDS in order to be considered for acceptance by Pima County. Manufacturer's names are used solely for the purpose of demonstrating these minimum requirements for quality, craftsmanship and style:

1. Crossville Ceramics Company – Basis of Design
2. Daltile Division of Dal-Tile International – Basis of Design
3. Interceramic

### 2.2 ACCESSORIES

- A. Adhesives: As per Manufacturers' requirements.
- B. Comply with ANSI Standard for Tile Installation Materials and current Tile Council of America Handbook for products and materials indicated for setting and grouting.
- C. Fabricate thresholds to sizes and profiles indicated or required to provide transition between adjacent floor finishes. Bevel edges at 1:2, slope aligning lower edge of bevel with adjacent floor finish. Limit height of bevel to ½ inch or less, and finish bevel to match face of threshold.
- D. Solid Polymer Thresholds: made from homogeneous solid sheets of filled plastic resin complying with ANSI A124.3, for Type 5 or Type 6, without pre-coated finish.
  1. Preapproved manufacturers:
    - a. Avonite, Inc.
    - b. Dupont Polymers.
    - c. Per Manufacturer's installation instructions.
- E. Metal Thresholds and Transitions: anodized aluminum, non-slip complying with ADA.
  1. Preapproved Manufacturers:
    - a. Ceramic Tool Company Tranz
    - b. Schluter

- F. Metal Edge Strips: angle or L-shape, height to match tile and setting-bed thickness, metallic, combination of metal and PVC, or neoprene base, designed specifically for flooring applications, exposed-edge material.
  - 1. Preapproved Manufacturers:
    - a. Ceramic Tool Company Tranz
    - b. Schluter
- G. Rubber Wall Base, Thresholds and Reducer Strips
  - 1. Roppe extruded rubber cove base (4" high x 1/8" thick).
    - a. 120 linear foot roll goods; cut lengths (4' pieces) are not acceptable; no molded or preformed corners.
    - b. Color standard for all projects shall be #100 Black or #147 Light Brown.
  - 2. Roppe extruded rubber threshold and reducer strips with appropriate butting gauge tapered to meet abutting materials.
- H. Waterproofing and crack suppression for thin-set tile installations.
  - 1. Unreinforced, waterproof liquid applied membrane product: ANSI A118.10 consistency suitable for roll-on application and intended for use as waterproofing and crack suppression up to 1/16" in width.
    - a. Preapproved Manufacturers:
      - 1. Laticrete International Inc.
      - 2. Mapei Corporations; PRP M19
      - 3. As per manufacturer's installation instructions.
- I. Setting and Grouting Materials.
  - 1. Preapproved Manufacturers:
    - a. Laticrete International Inc.
    - b. Mapei Corporations; PRP M19.
    - c. As per manufacturer's installation instructions.
  - 2. Polymer-modified Cement Grout: ANSI A118.7; color as indicated in a non-wet application.
  - 3. Modified Epoxy Emulsion Mortar/Grout: ANSI A118.3; color as indicated in a non-wet application
  - 4. Polymer-modified Thin Set: ANSI A118.4
- J. Backer Rods and Elastomeric Sealants

1. Closed cell backer rods as per manufacturer's instructions.
2. Multipart, pourable urethane sealant: ASTM C794; provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints, unless otherwise indicated.
  - a. Preapproved Manufacturers:
    1. Tremco
    2. Bostick
- K. Cementitious Backer Units complying with ANSI A118.9 in maximum lengths available to minimize end-to-end butt joints.
  1. Thickness: Manufacturer's standard thickness, but not less than ¼ inch.
  2. Width: Manufacturer's standard width, but not less than 32 inches.
  3. Preapproved Manufacturers:
    - a. C-Cure Board 990
    - b. Custom Building Products - Wonderboard
    - c. FinPan Inc.; Util-A-Crete Concrete Backer Board
- L. Trowelable Underlayments and patching Compounds: Latex-modified, Portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.
  1. Preapproved Manufacturers:
    - a. Ardex
    - b. Mapei
- M. Mixing Mortars and Grout shall comply with referenced standards and manufacturer's written instructions.

## 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 installed tile.
  1. Verify that substrates for setting tile are firm, dry, clean, free of oil, waxy films, and curing compounds, and within flatness tolerances required by ANSI A108 Series of tile installation standards for installation indicated.
  2. 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 before installing tile.

3. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
  4. Verify that joint locations on drawings.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by floor covering manufacturer. Refer to Section 1.7 Quality Assurance, Item I, 1-3.
  - C. Do not proceed with installation until all unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Comply with manufacturer's installation specifications to prepare substrates indicated to receive tile. Remove coatings, including curing compounds and other substances that contain soap, wax, oil, or silicone, that are incompatible with tile-setting materials.
- B. Provide concrete substrates for tile floors installed with thin-set mortar that comply with flatness tolerances specified in referenced ANSI A108 Series of tile installation standards.
- C. Use trowelable leveling and patching compounds per floor covering manufacturer's direction to fill cracks, holes and depressions in substrates per manufacturer's written instructions. Use product specifically recommended by tile-setting material manufacturer.
- D. Remove protrusions, bumps, and ridges by sanding or grinding.
- E. Blending: For tile exhibiting color variations within ranges selected during Sample submittals; 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.

### 3.3 INSTALLATION

- A. MOST INSTALLATIONS WILL OCCUR AFTER REGULAR WORKING HOURS AND ON WEEKENDS.
- B. Furniture to be moved by Flooring Contractor, or coordinated to be moved by Flooring Contractor or a third party vendor under supervision of Flooring Contractor.
- C. Comply with ANSI A108 Series "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in tile installation schedules.
- D. Comply with TCA installation methods indicated in tile installation schedules.
- E. 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.
- F. 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 build-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

- G. Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.
- H. Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tile.
- I. Locate joints in tile surfaces directly above joints in concrete substrates.
- J. Prepare joints and apply sealants per manufacturers recommendation.
- K. Grout tile to comply with ANSI A108.10 or manufacturer's written instructions for type of tile installation.
- L. Where indicated, install cementitious backer units and treat joints to comply with ANSI A108.11 and manufacturer's written instructions for type of application indicated.
- M. Install waterproofing to comply with ANSI A108.13 and waterproofing manufacturer's written instructions to produce waterproof membrane of uniform thickness bonded securely to substrate.
- N. Install crack-suppression membrane to comply with manufacturer's written instructions to produce membrane of uniform thickness bonded securely to substrate.
- O. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.
- P. Edge Strips: Install at locations indicated or where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with top of tile.

#### 3.4 REPAIR/RESTORATION

- A. Repair defects or replace with new materials; faulty materials or workmanship developed during guarantee period at no expense to the owner.

#### 3.5 CLEANING

- A. Perform the following operations on completion of placement and grouting.
  - 1. Remove grout residue from tile as soon as possible.
  - 2. Clean grout smears and haze from tile according to 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 cleaners are safe by testing on sample tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning.
  - 3. Flush surfaces with clean water before and after cleaning.
- B. All project scraps shall be removed by Flooring Contractor to Contractor's trash container. Use of County trash containers is not permitted.

### 3.6 PROTECTION

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

**END OF SECTION**

**SECTION 096516  
VINYL SHEET FLOORING**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. This section includes the following:
  - 1. Per each installation, comply with and provide all labor, materials, equipment and services necessary to furnish and install sheet vinyl flooring and related items as indicated and specified.
  - 2. Sheet vinyl floor covering without backing.
  - 3. Adhesives.
  - 4. Related accessories.
  - 5. Bond and Moisture Tests.
- B. Related Documents:
  - 1. Section 099726 - Cementitious Coatings.

**1.2 REFERENCES**

- A. Definitions
  - 1. Sheet vinyl floor covering, non-layered, non-backed, homogeneous sheet vinyl with minimum binder content.

**1.3 SEQUENCING AND SCHEDULING**

- A. Wherever possible, install sheet vinyl and accessories after other finishing operations, including painting, have been completed.
- B. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.

**1.4 SUBMITTALS**

- A. Demonstrate that proposed products are equal or better by completing chart attached.
- B. Certify that proposed products conform to or exceed all health/safety requirements and warranties listed on chart attached. Certifications to be on Manufacturers' letterheads and signed by an officer of the Corporation manufacturing the product and submitted to the Owner (after each installation to be included in the Operating and Maintenance Manual).
- C. Finish Plans: Contractor shall be responsible for all measurements. If drawings are provided, they are only to indicate spaces to receive flooring. They are not meant to be scaled.
- D. Submit required samples for evaluation, along with Manufacturers' color charts consisting of actual sections of sheet vinyl showing full range of colors and patterns available for each product proposed.
- E. Successful Contractor(s) shall provide a seaming diagram for each project along with a written quote



that reflects specific field conditions.

- F. Certificates signed by the floor covering Manufacturer certifying that installers comply with requirements specified under "Quality Assurance" article (at time of each installation).
- G. Bond and moisture testing data (on a case by case basis).
- H. Availability and delivery time (submitted with each quote).

#### 1.5 CLOSEOUT SUBMITTALS

- A. Lot numbers and other information which will enable identification of the certified sheet vinyl (to be included in the Operating and Maintenance Manual).

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Maintenance materials of sheet vinyl (no scraps or pieces), exclusive of materials required to properly complete installation. When product arrives it shall be separated from the shipment, tagged with labels identifying the manufacturer, brand name quality or grade, color, dye lot, pattern, and fire hazard classification. Maintenance materials will be no less than two (2) percent of the total yardage or a 6'-6" x 16' piece, whichever is less.
- B. Maintenance materials of Rubber Base (no scraps or pieces), exclusive of materials required to properly complete installation, to be cartoned and tagged with labels identifying the manufacturer, brand name, quality or grade, color, dye lot, pattern, fire hazard classification, lot number and linear feet.

#### 1.7 QUALITY ASSURANCE

- A. Manufacturer qualifications and requirements: Shall be an established sheet vinyl manufacturer for no less than ten (10) continual years.
- B. Vendor qualifications:
  - 1. Shall be approved by the manufacturer as an established flooring company for not less than five (5) continual years.
  - 2. Must be insured and bondable.
  - 3. Guarantee full value of replacement and installation of sheet vinyl for THREE (3) YEARS.
  - 4. Advise installer in proper procedures of installation.
  - 5. Inspect all sheet vinyl after manufacture for manufacturing defects.
  - 6. Inspect all surfaces to receive sheet vinyl and recommend accessories.
- C. Installer Qualifications: Engage installer that is certified by floor covering manufacturer as competent in the installation of sheet vinyl and in the techniques for heat-welding seams and flash coving. Installer must have a minimum of five (5) continual years' experience with the installation of commercial sheet vinyl flooring.
- D. Single-Source Responsibility for Sheet Vinyl: Obtain each type, color, and pattern of sheet vinyl from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the work.

E. Concrete Slab Test Methods:

1. Delmhorst Test Method as a preliminary test to determine moisture.
  - a. Perform one test per every 1000 sq. ft.
  - b. If preliminary testing indicates more than 5.0 moisture per 1000 sq. ft. per 24 hours then provide Owner written documentation and await instructions before proceeding with further moisture tests.
2. Calcium Chloride test method to determine moisture (on a case by case basis)
  - a. Perform one test per every 1000 sq. ft.
  - b. Send samples to an independent testing laboratory for results.
  - c. Provide written documentation on test results and to Owner.
3. Litmus Paper test method to determine Alkalinity.
  - a. Perform one test per every 1000 sq. ft.
  - b. Provide written documentation on test results and submit to Owner.
  - c. Acceptable conditions should test in the range of 6.0 to 8.0.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Open roll of sheet vinyl in a clean, protected area and allow the product to off-gas for 48 hours prior to delivery to the job site. Re-seal the product in the original wrappings, clearly labeled with identifications of the manufacturer, brand name, quality or grade, fire hazard classifications and lot number.
- B. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.
- C. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
- D. Store re-sealed materials in their undamaged cartons from weather, moisture, soiling, extreme temperatures, humidity, off ground to prevent sagging and warping. Maintain temperature in storage area above 40 degrees Fahrenheit.

1.9 SITE CONDITIONS

- A. Pima County shall maintain a minimum temperature of 65 degrees Fahrenheit for 48 hours prior to installation, during installation and 48 hours after installation. After this period, Pima County shall maintain a temperature of not less than 55 degrees Fahrenheit.
- B. Do not install sheet vinyl floor coverings until it is at the same temperature as the space where it is to be installed.
- C. Do not install sheet vinyl floor coverings over concrete slabs until slabs, patches and/or floated areas have cured and are sufficiently dried to bond with adhesives as determined by the floor covering manufacturer's bond and moisture test and/or as directed by Owner.

## 1.10 WARRANTY

- A. All of the work embraced herein shall be subject to the inspection and approval of Pima County Facilities Management.
  - 1. Guarantee period is THREE YEARS after the date of substantial completion per installation.
  - 2. Manufacturer's FIVE (5) YEAR limited wear warranty.
- B. Within the THREE (3) YEAR period if Owner has reasonable cause to doubt the performance of the installed goods, a sample of the questionable materials will be sent to an accredited and industry approved testing facility. If any part of the goods are found to be of lower than acceptable industry and manufacturer's tolerances, or were not installed as per manufacturer's standards, monetary compensation or replacement will be made by the vendor/manufacturer to Pima County, including cost of testing.
- C. Special project guarantee: Submit a written guarantee, executed by the contractor, installer and manufacturer, agreeing to repair or replace units which fail in materials or workmanship.

## PART 2 - PRODUCTS

### 2.1 PRODUCT TYPE

- A. These requirements are not meant to be proprietary, but are intended to be the minimum standards considered for acceptance by Pima County. Manufacturer's names are used solely for the purpose of demonstrating these minimum requirements for quality, craftsmanship and style:
  - 1. Armstrong – Basis of Design
  - 2. Roppe
  - 3. Mannington

### 2.2 ACCESSORIES

- A. Adhesives: As per Manufacturers' requirements.
- B. Wall Base
  - 1. Roppe extruded rubber cove base (4" high x 1/8" thick).
    - a. 120 linear foot roll goods; cut lengths (4' pieces) are not acceptable; no molded or preformed corners.
    - b. Color standard for all projects shall be #100 Black or #147 Light Brown.
  - 2. Roppe extruded rubber threshold, binding strips and reducer strips with appropriate butting gauge tapered to meet abutting materials.
- C. Concrete Slab Primer: See section 099726 Cementitious Coatings. Allow one (1) bag Ardex featheredge Floor Prep per 900 square feet of VCT.
- D. Seamless-Installation Accessories:
  - 1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.

- a. Color: to match floor covering.
- 2. Chemical-Bonding Compound: Manufacturer's product for chemically bonding seams.
- E. Integral-Flash-Cove-Base Accessories:
  - 1. Cove Strip: 7/8" radius provided or approved by manufacturer.
  - 2. Cap Strip: Rubber provided or approved by manufacturer.
- F. Seam Sealer: Formulation provided or approved by floor covering manufacturer for products indicated.

### PART 3 – EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas where installation of sheet vinyl will occur, with installer present, to verify that substrates and conditions are satisfactory for installation and comply with floor covering manufacturer's requirements and those specified in this section. Subfloor to be free from cracks, holes, ridges and other defects impairing performance or appearance.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by floor covering manufacturer. Refer to Section 1.7 Quality Assurance, Item E, 1-3.
- C. Existing VAT, VCT or sheet vinyl flooring: Remove all other materials to substrate. Do not install sheet vinyl until all conditions in Concrete Subfloors, Item B have been met.
- D. Do not proceed with installation until all unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Comply with manufacturer's installation specifications to prepare substrates indicated to receive sheet vinyl floor coverings.
- B. Remove all ridges and other irregularities that will telegraph through sheet vinyl and/or compromise wearability; Fill cracks, holes and depressions.
- C. Clean floors of dust, dirt, solvents, oil, grease, plaster and other substances detrimental to proper performance of adhesives and sheet vinyl. Allow floors to dry thoroughly.
- D. Ensure concrete floors are free from scaling and irregularities and exhibit neutrality relative to acidity and alkalinity.
- E. Ensure floors are level, with maximum surface variation of 1/4" in 10 feet, non-cumulative (on a case by case basis).
- F. Ensure floors are level with a maximum surface variation of 1/8" where sheet vinyl terminates at other flooring materials.

#### 3.3 INSTALLATION

- A. MOST INSTALLATIONS WILL OCCUR AFTER REGULAR WORKING HOURS AND ON WEEKENDS.
- B. Furniture to be moved by Flooring Contractor, or coordinated to be moved by Flooring Contractor or a third party vendor under supervision of Flooring Contractor.
- C. Maintain on site a copy of the manufacturer's installation instructions. Comply with manufacturer's installation instructions and other requirements indicated that are applicable to this project.
- D. Notify PCFM Project Manager if doors need to be undercut.
- E. In the event a flooring project requires phasing: At the completion of each phase, use the appropriate reducer and/or joiner strips at temporary seams and edges. Do not secure these areas with duct tape or other surface adhesive.
- E. During new construction or remodel, sequence VCT installation with other work to minimize the possibility of damage and soiling during the remainder of the construction period.
- F. Maintain reference markers, holes or openings that are in place or plainly marked for future cutting by repeating on finish floor as marked on subfloor. Use chalk or other non-permanent marking devices.
- G. Following preparation spread adhesive in quantity and manner as per manufacturer's recommended installation instructions.
- H. Prior to installation, check matching of sheet vinyl to ensure there are no defects or visible variations between dye lots. If so, notify architect immediately.
- I. Lay out sheet vinyl to comply with the following requirements and as per seaming diagram.
  - 1. Maintain uniformity of sheet vinyl floor covering direction.
  - 2. Arrange for a minimum number of seams and place them in inconspicuous and low traffic areas, but, in no case less than six inches away from parallel joints in flooring substrates.
  - 3. Match edges of sheet vinyl for color shading and pattern at seams.
  - 4. Avoid cross seams.
- K. Extend sheet vinyl into toe spaces, door reveals, closets and similar openings.
- L. Scribe, cut and fit sheet vinyl to butt tightly to vertical surfaces, permanent fixtures and built-in furniture, including cabinets, pipes, outlets, edgings, thresholds and nosings.
- M. Install sheet vinyl on covers for telephone and electrical ducts and similar items occurring with finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on these covers.
- N. Produce completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks or other surface imperfections.
- O. Heat-weld seams in sheet vinyl where indicated. Prepare, weld and finish seams to produce a surface flush with adjoining sheets.
- P. Integral Flash cove Base: Where indicated, cove sheet vinyl up vertical surfaces to form integral base height of 6" over plastic cove stick with top edge butted against and covered by rubber binding cap.

- Q. Hand roll sheet vinyl in both directions from center out to embed floor coverings in adhesive and eliminate trapped air. At walls, door casings, and other locations where access by roller is impractical, press floor coverings firmly in place with flat-bladed instrument.
- R. Install reducers and threshold strips in a manner limiting surface variations to a maximum of 1/8" between these accessories and flooring materials. Use full length pieces only.
- S. Cove base to be installed on walls, applying adhesive on both wall and back of base. Wrap inside and outside corners. Butt straight sections and joints tightly. Only one seam per any wall and no section less than eighteen (18) inches per wall.

#### 3.4 REPAIR/RESTORATION

- A. Repair defects or replace with new materials; faulty materials or workmanship developed during guarantee period at no expense to the owner.

#### 3.5 CLEANING

- A. Perform the following operations immediately after installing sheet vinyl.
  - 1. Remove visible adhesive and other surface blemishes using cleaner recommended by floor covering manufacturers.
  - 2. Sweep or vacuum floor thoroughly.
- B. All project scraps shall be removed by Flooring Contractor to Contractor's trash container. Use of County trash containers is not permitted
- C. Initial mopping and floor polishing to be performed by Facilities Management janitorial services.

#### 3.6 PROTECTION

- A. Protect flooring against mars, marks, indentations and other damage from construction operations and placement of equipment and fixtures during construction periods.
  - 1. Supply brown paper at least 4' wide.
  - 2. Lay paper over partially demolished areas to prevent tracking of and spread of dust and debris.
  - 3. Tape paper to prevent movement and maintain paper in newly completed areas until the entire project has been completed.

**END OF SECTION**

## SHEET VINYL FLOOR COVERING

| Criteria                         | Minimum Standard   | Proposed   |
|----------------------------------|--|--|
| Type                             | Homogenous sheet vinyl without backing   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Size                             | Nominal Thickness: 0.08" (min thickness)   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Roll Size                        | 6' x 90' length  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Abrasion Resistance              | To ASTM D3884 with net weight loss after 1000 revolutions  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Chemical Resistance              | 5% acetic, 70% alcohol, white mineral oil, 5% sodium hydroxide, 5% hydrochloric acid, 5% sulfuric acid, 5% ammonia, 5.25% bleach, olive oil, kerosene, unleaded gasoline | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Coefficient of Friction (COF)    | Surpasses ADA guidelines based on ASTM C1028 (wet and dry)   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Critical Radiant Flux            | To ASTM E648 to meet Class 1 per NFPA 253 (0.45 watts/sq cm minimum)   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Dimensional Stability            | Reported dimensional change per ASTM F2199   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Flexibility                      | Passes mandrel flexion per ASTM F137   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Hardness                         | Passes per ASTM D2240  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Heat Stability                   | Report results $\leq 8$ per ASTM F1514 (7 days at 158°F)   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Light Stability                  | Report results $\leq 8$ per ASTM F1515 (300 hrs exposure to Xenon arc)   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Smoke Density                    | To ASTM E662/NFPA 258 (<450)   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Short-term Indentation           | To ASTM F1914; 75 lb load on 0.25 diameter flat tip for 15 minutes; 0.007" maximum indent after 1 hour recovery  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Static Load Limit                | To ASTM F970: Maximum residual compression at 0.005 inches after exposure to load noted on tested report after 24 hours  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| TVOC Emission Rate               | To ASTM D5116 90 (0.132 @ 96 hours)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Post-Industrial Recycled Content | 10% (LEED Certification MR 4.1)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Traffic Rating                   | Heavy Commercial/Extra Heavy   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Color                            | Multi-colored random chip, muted pastels ( $\geq 30$ ), uniform disbursement throughout the thickness of wear layer  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Pattern                          | uniform disbursement throughout the thickness of each sheet  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Warranty                         | 5 years on manufacturing defects   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Product Name                     |  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

**SECTION 096519  
RESILIENT TILE FLOORING**

**PART 1 – GENERAL**

**1.1 SUMMARY**

**A. This section includes the following:**

1. Per each installation, comply with and provide all labor, materials, equipment and services necessary to furnish and install vinyl composition tile and related items as indicated and specified.
2. Twelve (12") x Twelve (12") VCT.
3. Twelve (12") x Twelve (12") Bio-Based VCT.
4. Adhesives.
5. Related accessories.
6. Bond and Moisture Tests.

**B. Related Documents:**

1. General Requirements Division I.

**1.2 REFERENCES**

**A. Definitions**

1. Vinyl Composition Tile: Type 1 smooth; Class 2 through-pattern; Type IV, Composition 1 vinyl composition, asbestos-free

**B. Scraps: Partial VCT tiles remaining after regularly scheduled installation.**

**1.3 SEQUENCING AND SCHEDULING**

- A. Wherever possible, install VCT and accessories after other finishing operations, including painting, have been completed.
- B. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.

**1.4 SUBMITTALS**

- A. Demonstrate that proposed products are equal or better by completing chart attached.
- B. Certify that proposed products conform to or exceed all health/safety requirements and warranties listed on chart attached. Certifications to be on Manufacturers' letterheads and signed by an officer of the Corporation manufacturing the product and submitted to the Owner (after each installation to be included in the Operating and Maintenance Manual).



- C. Finish Plans: Contractor shall be responsible for all measurements. If drawings are provided, they are only to indicate spaces to receive VCT. They are not meant to be scaled.
- D. Submit required samples for evaluation, along with Manufacturers' color charts consisting of actual sections of VCT showing full range of colors and patterns available for each product proposed.
- E. Certificates signed by the floor covering Manufacturer certifying that installers comply with requirements specified under "Quality Assurance" article (at time of each installation).
- F. Bond and moisture testing data (on a case by case basis).
- G. Availability and delivery time (submitted with each quote).

#### 1.5 CLOSEOUT SUBMITTALS

- A. Lot numbers and other information which will enable identification of the certified VCT (to be included in the Operating and Maintenance Manual).

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Maintenance materials of Rubber Base (no scraps or pieces), exclusive of materials required to properly complete installation, to be cartoned and tagged with labels identifying the manufacturer, brand name, quality or grade, color, dye lot, pattern, fire hazard classification, lot number and linear feet.
- B. Maintenance materials of VCT (no scraps or pieces), exclusive of materials required to properly complete installation. When product arrives it shall be separated from the shipment, tagged with labels identifying the manufacturer, brand name quality or grade, color, dye lot, pattern, and fire hazard classification. Maintenance materials will be no less than a full box (45 tiles).

#### 1.7 QUALITY ASSURANCE

- A. Manufacturer qualifications and requirements: Shall be an established VCT manufacturer for no less than ten (10) continual years.
- B. Vendor qualifications:
  - 1. Shall be approved by the manufacturer as an established flooring company for not less than five (5) continual years.
  - 2. Must be insured and bondable.
  - 3. Guarantee full value of replacement and installation of VCT for THREE (3) YEARS.
  - 4. Advise installer in proper procedures of installation.
  - 5. Inspect all VCT after manufacture for manufacturing defects.
  - 6. Inspect all surfaces to receive VCT and recommend accessories.
- C. Installer Qualifications: Engage installer that is certified by floor covering manufacturer as competent in the installation of VCT. Installer to have a minimum of five (5) continual years experience with the installation of VCT.

D. Single-Source responsibility for VCT: Obtain each type, color, and pattern of VCT from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the work.

E. Concrete Slab Test Methods:

1. Delmhorst Test Method as a preliminary test to determine moisture.
  - a. Perform one test per every 1000 sq. ft.
  - b. If preliminary testing indicates more than 5.0 moisture per 1000 sq. ft. per 24 hours then provide Owner written documentation and await instructions before proceeding with further moisture tests.
2. Calcium Chloride test method to determine moisture (on a case by case basis)
  - a. Perform one test per every 1000 sq. ft.
  - b. Send samples to an independent testing laboratory for results.
  - c. Provide written documentation on test results and to Owner.
3. Litmus Paper test method to determine Alkalinity
  - a. Perform one test per every 1000 sq. ft.
  - b. Provide written documentation on test results and submit to Owner.
  - c. Acceptable conditions should test in the range of 6.0 to 8.0.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Open cartons of tile in a clean, protected area and allow the product to off-gas for 48 hours prior to delivery to the job site. Re-seal the product in the original cartons, clearly labeled with identification of the manufacturer, brand name, quality or grade, fire hazard classification and lot number.
- B. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.
- C. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
- D. Store re-sealed materials in their undamaged cartons from weather, moisture, soiling, extreme temperatures, humidity, off ground to prevent sagging and warping. Maintain temperature in storage area above 40 degrees Fahrenheit.

1.9 SITE CONDITIONS

- A. Pima County shall maintain a minimum temperature of 65 degrees Fahrenheit for 48 hours prior to installation, during installation and 48 hours after installation. After this period, Pima County shall maintain a temperature of not less than 55 degrees Fahrenheit.
- B. Do not install VCT until it is at the same temperature as the space where it is to be installed.

- C. Do not install VCT over concrete slabs until slabs, patches and/or floated areas have cured and are sufficiently dried to bond with adhesives as determined by the floor covering manufacturer's bond and moisture test and/or as directed by Owner.

#### 1.10 WARRANTY

- A. All of the work embraced herein shall be subject to the inspection and approval of Pima County Facilities Management.
  - 1. Guarantee period is THREE YEARS after the date of substantial completion per installation.
  - 2. Manufacturer's FIVE (5) YEAR limited wear warranty.
- B. Within the THREE (3) YEAR period if Owner has reasonable cause to doubt the performance of the installed goods, a sample of the questionable materials will be sent to an accredited and industry approved testing facility. If any part of the goods are found to be of lower than acceptable industry and manufacturer's tolerances, or were not installed as per manufacturer's standards, monetary compensation or replacement will be made by the vendor/manufacturer to Pima County, including cost of testing.
- C. Special project guarantee: Submit a written guarantee, executed by the contractor, installer and manufacturer, agreeing to repair or replace units which fail in materials or workmanship.

#### PART 2 – PRODUCTS

##### 2.1 PRODUCT TYPE

- A. These requirements are not meant to be proprietary, but are intended to be the minimum standards considered for acceptance by Pima County. Manufacturer's names are used solely for the purpose of demonstrating these minimum requirements for quality, craftsmanship and style:
  - 1. Armstrong – Basis of Design.
  - 2. Roppe
  - 3. Amtico

##### 2.2 ACCESSORIES

- A. Adhesives: As per Manufacturers' requirements.
- B. Wall Base
  - 1. Roppe extruded rubber cove base (4" high x 1/8" thick).
    - a. 120 linear foot roll goods; cut lengths (4' pieces) are not acceptable; no molded or preformed corners.
    - b. Color standard for all projects shall be #100 Black or #147 Light Brown.
  - 2. Roppe extruded rubber threshold and reducer strips with appropriate butting gauge tapered to meet abutting materials.
- C. Concrete Slab Primer: See section 099726 Cementitious Coatings. Allow one (1) bag Ardex featheredge Floor Prep per 900 square feet of VCT.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Examine areas where installation of VCT will occur, with installer present, to verify that substrates and conditions are satisfactory for installation and comply with floor covering manufacturer's requirements and those specified in this section. Subfloor to be free from cracks, holes, ridges and other defects impairing performance or appearance.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by floor covering manufacturer. Refer to Section 1.7 Quality Assurance, Item E, 1-3.
- C. Existing VAT, VCT or sheet vinyl flooring: Verify that all materials are tight and flat to the subfloor and well fastened at edges as per industry standards before proceeding with glue down installation of VCT.
- D. Do not proceed with installation until all unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Comply with manufacturer's installation specifications to prepare substrates indicated to receive VCT.
- B. Clean floors of dust, dirt, solvents, oil, grease, paint, plaster and other substances detrimental to proper performance of adhesive and VCT. Allow floors to dry thoroughly.
- C. Ensure concrete floors are free from scaling and irregularities and exhibit neutrality relative to acidity and alkalinity.
- D. Ensure floors are level, with maximum surface variation of 1/4" in 10 feet, non-cumulative (on a case by case basis).
- E. Ensure floors are level with a maximum surface variation of 1/8" where VCT terminates at other flooring materials.

### 3.3 INSTALLATION

- A. MOST INSTALLATIONS WILL OCCUR AFTER REGULAR WORKING HOURS AND ON WEEKENDS.
- B. Furniture to be moved by Flooring Contractor, or coordinated to be moved by Flooring Contractor or a third party vendor under supervision of Flooring Contractor.
- C. Maintain on site a copy of the manufacturer's installation instructions. Comply with manufacturer's installation instructions and other requirements indicated that are applicable to this project.
- D. Notify PCFM Project Manager if doors need to be undercut.
- E. In the event a flooring project requires phasing: At the completion of each phase, use the appropriate reducer and/or joiner strips at temporary seams and edges. Do not secure these areas with duct tape or other surface adhesive.

- F. During new construction or remodel, sequence VCT installation with other work to minimize the possibility of damage and soiling during the remainder of the construction period.
- G. Maintain reference markers, holes or openings that are in place or plainly marked for future cutting by repeating on finish floor as marked on subfloor. Use chalk or other non-permanent marking devices.
- H. Following preparation spread adhesive in quantity and manner as per manufacturer's recommended installation instructions.
- I. Prior to installation, check matching of VCT to ensure there are no defects or visible variations between dye lots. If so, notify architect immediately.
- J. Lay tile in a checkerboard pattern with grain reversed in adjacent tiles unless otherwise specified. Avoid boarder tile pieces less than six (6) inches wide.
- K. Cut and fit VCT neatly around projections through floor and to walls and other vertical surfaces.
- L. Fit VCT snugly to walls or other vertical surfaces where no base is scheduled leaving no gaps.
- M. Install VCT on covers for telephone and electrical ducts and similar items occurring with finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on these covers.
- N. Join seam in recommended manner so as not to detract from the appearance of the VCT installation and decrease its life expectancy. Ensure seams are straight, not overlapped or peaked, and free of gaps.
- O. Entire VCT installation to be laid tight and flat to subfloor, well fastened at edges and presenting a uniform, pleasing appearance. Ensure color, pattern and texture match within one area.
- P. Install reducers and threshold strips in a manner limiting surface variations to a maximum of 1/8" between these accessories and flooring materials. Use full length pieces only.
- Q. Cove base to be installed on walls, applying adhesive on both wall and back of base. Wrap inside and outside corners. Butt straight sections and joints tightly. Only one seam per any wall and no section less than eighteen (18) inches per wall.

#### 3.4 REPAIR/RESTORATION

- A. Repair defects or replace with new materials; faulty materials or workmanship developed during guarantee period at no expense to the owner.

#### 3.5 CLEANING

- A. Perform the following operations immediately after installing VCT coverings.
  - 1. Remove visible adhesive and other surface blemishes using cleaner recommended by floor covering manufacturers.
  - 2. Sweep or vacuum floor thoroughly.
- B. All project scraps shall be removed by Flooring Contractor to Contractor's trash container. Use of County trash containers is not permitted
- C. Initial mopping and floor polishing to be performed by Facilities Management janitorial services.

### 3.6 PROTECTION

- A. Protect flooring against mars, marks, indentations and other damage from construction operations and placement of equipment and fixtures during construction periods.
  - 1. Supply brown paper at least 4' wide.
  - 2. Lay paper over partially demolished areas to prevent tracking of and spread of dust and debris.
  - 3. Tape paper to prevent movement and maintain paper in newly completed areas until the entire project has been completed.

**END OF SECTION**

## RESILIENT TILE FLOORING

| Criteria                         | Minimum Standard  | Proposed   |
|----------------------------------|---|--|
| Appearance                       | Multi-colored random chip, muted pastels and primaries ( $\geq 50$ ), uniform disbursement throughout the thickness (through-pattern) | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Type                             | Type IV, Composition 1 per SS-T-312B<br>Class 2 per ASTM F 1066   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Gauge                            | Nominal Thickness: 1/8" (3.2 mm)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Size                             | 12"x12"; squareness not out more than 0.010"  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Abrasion Resistance              | To ASTM D3884 with net weight loss after 1000 revolutions   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Chemical Resistance              | 95% alcohol, tallow, mineral oil, vegetable oil, kerosene, 5% sodium hydroxide  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Coefficient of Friction (COF)    | Surpasses ADA guidelines based on ASTM C1028 (wet and dry)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Critical Radiant Flux            | To ASTM E648 to meet Class 1 per NFPA 253 (0.45 watts/sq cm minimum)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Dimensional Stability            | No more than 0.024" change after 6 hours at 180°F   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Heat Stability                   | Report results $\leq 8$ per ASTM F1514 (7 days at 158°F)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Light Stability                  | Report results $\leq 8$ per ASTM F1515 (300 hrs exposure to Xenon arc)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Smoke Density                    | To ASTM E662/NFPA 258 (<450)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Short-term Indentation           | To ASTM F1914; 30lb load on 0.25 diameter ball tip for 10 minutes; 0.010" to 0.021" maximum indent after 1 hour recovery              | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Static Load Limit                | To ASTM F970. ( $\geq 75$ psi)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| TVOC Emission Rate               | To ASTM D5116 90 (0.132 @ 96 hours)   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Post-Industrial Recycled Content | 10% (LEED Certification MR 4.1)   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Traffic Rating                   | Heavy Commercial/Extra Heavy  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Pattern                          | uniform disbursement throughout total thickness   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Warranty                         | 5 years on manufacturing defects<br>5 year limited wear   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Product Name                     |   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Sample                           | Provide cross section sample minimum 4"x4" square   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

Note: In regards to ASTM F 1066, BIO-BASED's unique binder system does not contain polyvinyl chloride resins, plasticizers and stabilizers, so it does not meet the Materials requirements. However, it shall conform to the size, squareness, thickness, indentation, impact, deflection, resistance to chemicals and heat requirements.

**SECTION 096813  
CARPET TILE**

**PART 1 – GENERAL**

**1.1 SUMMARY**

A. This section includes the following:

1. Per each installation, comply with and provide all labor, materials, equipment and services necessary to furnish and install all Carpet Tiles and related items as indicated and specified.
2. Carpet Tiles.
3. Adhesives.
4. Related accessories.

B. Related Documents:

1. Section 099726 Cementitious Coatings.

**1.2 REFERENCES**

A. Carpet Tile: 24" x 24" square; Group I - Severe or Extra Heavy Rated Commercial Tufted Tiles

**1.3 SEQUENCING AND SCHEDULING**

- A. Wherever possible, install carpet tile and accessories after other finishing operations, including painting, have been completed.
- B. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
- D. Furniture: verify responsibility for moving of furniture for each project with county project manager.
- E. Systems Furniture lifting system: contractor shall have lift equipment available for use on any project and include that work in the project proposal.

**1.4 SUBMITTALS**

- A. Alternate product submittal: see Part 2 of this spec.
- B. Bond and moisture testing data (on a case by case basis).
- C. Availability and delivery time (submitted with each quote).

**1.5 SURPLUS MATERIAL**

- A. All surplus whole pieces of carpet tile and rubber base pieces longer than 15 feet, shall be added to JOC warehouse for future county projects.

**1.6 QUALITY ASSURANCE**



- A. Single-Source responsibility for carpet tile: Obtain each type, color, and pattern of carpet tile from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the work.
- B. Concrete Slab Test Methods:
  - 1. Delmhorst Test Method as a preliminary test to determine moisture.
    - a. Perform one test per every 1000 sq. ft.
    - b. If preliminary testing indicates more than 5.0 moisture per 1000 sq. ft. per 24 hours then provide Owner written documentation and await instructions before proceeding with further moisture tests.
  - 2. Calcium Chloride test method to determine moisture (on a case by case basis)
    - a. Perform one test per every 1000 sq. ft.
    - b. Send samples to an independent testing laboratory for results.
    - c. Provide written documentation on test results and to Owner.
  - 3. Litmus Paper test method to determine Alkalinity
    - a. Perform one test per every 1000 sq. ft.
    - b. Provide written documentation on test results and submit to Owner.
    - c. Acceptable conditions should test in the range of 6.0 to 8.0.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. Open cartons of product in a clean, protected area and allow the product to off-gas for 48 hours prior to delivery to the job site. Re-seal the product in the original cartons, clearly labeled with identification of the manufacturer, brand name, quality or grade, fire hazard classification and lot number.
- B. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.
- C. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
- D. Store re-sealed materials in their undamaged cartons from weather, moisture, soiling, extreme temperatures, humidity, off ground to prevent sagging and warping. Maintain temperature in storage area above 40 degrees Fahrenheit.

#### 1.8 SITE CONDITIONS

- A. Finish Plans: Contractor shall be responsible for all measurements. If drawings are provided, they are only to indicate spaces to receive carpet tile. They are not meant to be scaled.

- B. Pima County shall maintain a minimum temperature of 65 degrees Fahrenheit for 48 hours prior to installation, during installation and 48 hours after installation. After this period, Pima County shall maintain a temperature of not less than 55 degrees Fahrenheit.
- C. Do not install carpet tile until it is at the same temperature as the space where it is to be installed.
- D. Do not install carpet tile over concrete slabs until slabs, patches and/or floated areas have cured and are sufficiently dried to bond with adhesives as determined by the floor covering manufacturer's bond and moisture test and/or as directed by Owner.

#### 1.9 WARRANTY

- A. All of the work embraced herein shall be subject to the inspection and approval of Pima County Facilities Management.
  - 1. Guarantee period is THREE YEARS after the date of substantial completion per installation.
  - 2. Manufacturer's FIVE (5) YEAR limited wear warranty.
- B. Within the THREE (3) YEAR period if Owner has reasonable cause to doubt the performance of the installed goods, a sample of the questionable materials will be sent to an accredited and industry approved testing facility. If any part of the goods are found to be of lower than acceptable industry and manufacturer's tolerances, or were not installed as per manufacturer's standards, monetary compensation or replacement will be made by the vendor/manufacturer to Pima County, including cost of testing.

### PART 2 - PRODUCTS

#### 2.1 PRODUCT TYPE

- A. These requirements are not meant to be proprietary, but are intended to demonstrate MINIMUM APPEARANCE, PERFORMANCE, AND HEALTH AND SAFETY STANDARDS in order to be considered for acceptance by Pima County. Manufacturer's names are used solely for the purpose of demonstrating these minimum requirements for quality, craftsmanship and style:
  - 1. The Mohawk Group – Basis of Design.
  - 2. Shaw Contract Group.
  - 3. Mannington Commercial.

#### 2.2 ACCESSORIES

- A. Adhesives: As per Manufacturers' requirements.
- B. Wall Base
  - 1. Roppe extruded rubber cove base (4" high x 1/8" thick), or approved equal.
    - a. 120 linear foot roll goods; cut lengths (4' pieces) are not acceptable; no molded or preformed corners.
    - b. Color standard for all projects shall be #100 Black or #147 Light Brown.

2. Roppe extruded rubber threshold and reducer strips with appropriate butting gauge tapered to meet abutting materials, or approved equal.
- C. Schluter Schlene stainless steel transition profile where carpet meets tile or concrete.
- D. Concrete Slab Primer: See section 099726 Cementitious Coatings.
- E. Trowelable Underlayments and patching Compounds: See section 099726 Cementitious Coatings.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas where installation of carpet tile will occur, with installer present, to verify that substrates and conditions are satisfactory for installation and comply with floor covering manufacturer's requirements and those specified in this section. Subfloor to be free from cracks, holes, ridges and other defects impairing performance or appearance.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by floor covering manufacturer. Refer to Section 1.6 Quality Assurance, Item B, 1-3.
- C. Do not proceed with installation until all unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Comply with manufacturer's installation specifications to prepare substrates indicated to receive carpet tile.
- B. Clean floors of dust, dirt, solvents, oil, grease, paint, plaster and other substances detrimental to proper performance of adhesive and carpet tile. Allow floors to dry thoroughly.
- C. Examine substrates to determine if there is any evidence of moisture, alkaline salts, carbonation or dust.
- D. Use trowelable leveling and patching compounds per floor covering manufacturer's direction to fill cracks, holes and depressions in substrates (See Section 099726).
- E. Ensure floors are level, with maximum surface variation of 1/4" in 10 feet, non-cumulative (on a case by case basis).
- F. Ensure floors are level with a maximum surface variation of 1/8" where carpet tile terminates at other flooring materials.

### 3.3 INSTALLATION

- A. MOST INSTALLATIONS WILL OCCUR AFTER REGULAR WORKING HOURS AND ON WEEKENDS.
- B. Maintain on site a copy of the manufacturer's installation instructions. Comply with manufacturer's installation instructions and other requirements indicated that are applicable to this project.
- C. Notify PCFM Project Manager if doors need to be undercut.

- D. In the event a flooring project requires phasing: At the completion of each phase, use the appropriate reducer and/or joiner strips at temporary seams and edges. Do not secure these areas with duct tape or other surface adhesive.
- E. During new construction or remodel, sequence carpet tile installation with other work to minimize the possibility of damage and soiling during the remainder of the construction period.
- F. Maintain reference markers, holes or openings that are in place or plainly marked for future cutting by repeating on finish floor as marked on subfloor. Use chalk or other non-permanent marking devices.
- G. Following preparation spread adhesive in quantity and manner as per manufacturer's recommended installation instructions.
- H. Lay carpet tile in the direction indicated on the back of the tiles and as per manufacturer's installation instructions.
- I. Cut and fit carpet tiles neatly around projections through floor and to walls and other vertical surfaces leaving no gaps.
- J. Entire carpet tile installation is to be laid tight and flat to subfloor, presenting a uniform, pleasing appearance.
- K. Insure seams are straight, not overlapped or peaked and free of gaps
- L. Install reducers and threshold strips in a manner limiting surface variations to a maximum of 1/8" between these accessories and flooring materials. Use full length pieces only.
- M. Cove base to be installed on walls, applying adhesive on both wall and back of base. Wrap inside and outside corners. Butt straight sections and joints tightly. Only one seam per any wall and no section less than eighteen (18) inches per wall.

#### 3.4 REPAIR/RESTORATION

- A. Repair defects or replace with new materials; faulty materials or workmanship developed during guarantee period at no expense to the owner.

#### 3.5 CLEANING

- A. Perform the following operations immediately after installing carpet tile.
  - 1. Clean up dirt and debris and clean carpet of all spots with proper spot remover.
  - 2. Remove all loose threads with sharp scissors.
  - 3. Vacuum entire carpet installation thoroughly.
- B. All project scraps shall be removed by Flooring Contractor to Contractor's trash container. Use of County trash containers is not permitted

#### 3.6 PROTECTION

- A. Protect flooring against mars, marks, indentations and other damage from construction operations and placement of equipment and fixtures during construction periods. Use protection methods indicated or recommended by floor covering manufacturer.

## CARPET TILES - PRODUCT CRITERIA MATRIX

Name of Product Line Proposed: \_\_\_\_\_

| <b>Physical Performance Requirements</b>         |   |  |
|--|---|--|
| <b>Criteria</b>                                  | <b>Minimum Standard</b>   | <b>Proposed</b>  |
| Appearance                                       | Pattern   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | Non-directional textured loop   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Appearance Retention Rating                      | Severe ( $\geq 3.5$ ARR) based on ASTM D-5252 (Hexapod) using 3750-gram tumbler or ASTM D-5417 (Vettermann) test method. Carpets Shall be tested without underlay. The exposure conditioned carpet shall be assessed according to CRI TM101   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Tuft Bind  | Looped Pile shall comply with GSA Spec $\geq 10$ lbs  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Dimensional Stability                            | Aachen Test meets or exceeds GSA Spec $\pm 0.15\%$ maximum when wet   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Delamination Resistance of the Secondary Backing | Tufted Construction $\geq 3$ psi per ASTM D-3936  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Colorfastness                                    | To Crocking: Crock Meter Method $\geq 4$ rating, wet and dry, per AATCC 165   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | To Light: minimum rating of 3-4 per AATCC 16E after: min 160 hrs for solution dyed yarn and min 60 hrs for yarn dyed yarn   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Antimicrobial Activity                           | Inherent in backing as registered with the EPA and integrated during production, topical finishes not allowed; Bound (chemically bonded to the fiber) in accordance with AATCC 174 & AATCC 138 guidelines demonstrating >90% reduction in bacterial growth after 24 hours with no visible fungal growth activity after 3 days following 15 washings | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Electrostatic Propensity                         | Inherent in both yarn and backing in accordance with AATCC 134 $\leq 3.5$ kV  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Flammability                                     | a. Methenamine Pill Test: Self-Extinguishing - compliance with Federal Flammability Standards CPSC FF-1-70 when tested in accordance with ASTM D 2859   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | b. Radiant Panel: minimum critical radiant flux of 0.45 watts per square centimeter per ASTM E 648 Class 1  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | c. Smoke Density: maximum 450 Dmc in flaming mode per ASTM E 663  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Indoor Air Quality                               | a. Carpet: shall be only those certified with the CRI IAQ Carpet Testing Program Green Label, or tested for compliance to meet the CRI IAQ Carpet Testing Program requirements and criteria   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | b. Adhesive: shall be only those certified with the CRI IAQ Adhesive Testing Program Green Label or tested for compliance to meet the CRI IAQ Adhesive Testing Program requirements and criteria  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | c. All products (carpet and adhesives) from current production must be retested on a quarterly basis to ensure continuing compliance with CRI IAQ Test Program requirements   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Soil Resistance                                  | Bonded/Bound per AATCC 189  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Stain Resistance                                 | Red Dye Stain Scale rating of 8 per AATCC 175   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

| <b>Material Requirements</b> |  |  |
|------------------------------|--|--|
| <b>Criteria</b>              | <b>Minimum Standard</b>  | <b>Proposed</b>  |
| Pile Fiber Type              | 100% continuous bulk filament (CBF) nylon, branded and carries a Federally registered Trademark, Type 6 <u>OR</u> Type 6.6 tested in accordance with AATCC 20  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Backing Materials            | Asbestos Free  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Pile Density                 | Minimum 6300; pile density = 36 x pile yarn weight (oz/yd.) / pile thickness (Pile Thickness: ASTM D6859)  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Primary Backing              | Synthetic PVC Free tested in accordance with AATCC 20  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Secondary Backing            | Synthetic PVC Free tested in accordance with ASTM D 629  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Recycled Content             | Renewed nylon carpet, which is cleaned, retextured, recolored, or otherwise reused to produce new nylon carpet is acceptable; otherwise comply with the following recycled content requirements:<br>a. Nylon Carpet Face Fiber: 25% minimum total recovered material content | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                              | b. Nylon Carpet Backing: For vinyl backing, use the highest percentage of total recovered materials content available; however 0% is not acceptable  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Reusability/Recyclability    | All components shall be recyclable into either new carpet products or other nylon-based products, or shall be capable of being refurbished to the point of rendering them "almost new" and reusable  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Coordinating Products        | should have coordinating broadloom   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

| <b>Construction Requirements</b>  |  |  |
|-----------------------------------|--|--|
| <b>Criteria</b>                   | <b>Minimum Standard</b>  | <b>Proposed</b>  |
| Surface Texture                   | tufted pile, multi-level loop, pattern                         | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Yarn                              | multi-ply  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Tufting Machining Gauge           | minimum 1/10 gauge   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Number of Stitches                | minimum 8 per inch   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Finished Pile Thickness           | minimum 0.125 inch (3.175 mm), maximum 0.250 inch (6.35 mm)    | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Average Finished Pile Yarn Weight | minimum 20 ounces per square yard                              | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Dye Method                        | Injection Yarn dyed or Solution dyed                           | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Color                             | Random multi-colored with minimum of three (3) distinct colors | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Finished Tile Size                | 24"x24" tiles  | <input type="checkbox"/> Available <input type="checkbox"/> Unavailable    |
| Squareness                        | Tolerance range $\pm 1/32"$ of dimensional specifications      | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

| <b>Assembled Product Warranties</b>              |                         |  |
|--|-------------------------|--|
| <b>Criteria</b>                                  | <b>Minimum Standard</b> | <b>Proposed</b>  |
| Edge Ravel                                       | $\geq 10$ years         | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Dimensional Stability                            | $\geq 10$ years         | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Delamination Resistance of the Secondary Backing | $\geq 10$ years         | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Static Protection                                | $\geq 10$ years         | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Zippering  | $\geq 10$ years         | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

|                        |            |  |
|------------------------|------------|--|
| Antimicrobial Activity | ≥ 10 years | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Texture Retention      | ≥ 10 years | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

#### Qualifications

| Criteria                    | Minimum Standard   | Proposed   |
|-----------------------------|--|--|
| Manufacturer Qualifications | no less than 10 continual years  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Vendor Qualifications       | approved by manufacturer as established flooring company for not less than 5 continual years             | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | must be insured and bondable   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | guarantee full value of replacement and installation for 3 years   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | advise installer in proper procedures of installation  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | inspect product after manufacture for defects  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | inspect all surfaces to receive flooring and recommended accessories                                     | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Installer Qualifications    | certified by floor covering manufacturer and have minimum 5 years continual experience with installation | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

Vendor: \_\_\_\_\_

Date: \_\_\_\_\_

COMPLETE FORMULA #1: AVERAGE CARPET PILE YARN DENSITY and place the formula's results in the PROPOSED column of the above chart where indicated.

Legend:

w = Pile Yarn Weight (ounces/SY) t = Pile Thickness for loop piles (inches) T = Tuft Height for cut piles (inches)

36 x w 36 times Pile Yarn Weight divided by Pile Thickness (for loop pile) or Tuft Height (for cut pile) t (or T)

Sample Example:  $\frac{36 \times 30}{0.125} = 8,640$  Average Pile Yarn Density

$\frac{36 \times ( )}{0.125} =$  \_\_\_\_\_ (Place this answer in the PROPOSED column of the preceding Table)

COMPLETE FORMULA #2: WEIGHT DENSITY CARPET PILE YARN DENSITY and place the formula's results in the PROPOSED column of the above chart where indicated.

Legend:

w = Pile Yarn Weight (ounces/SY) t = Pile Thickness for loop piles (inches) T = Tuft Height for cut piles (inches)

36 x w<sup>2</sup> 36 times Weight squared (Weight times Weight) divided by Pile Thickness (for loop pile) or t (or T) Tuft Height (for cut pile)

Sample Example:  $\frac{36 \times 30 \times 30}{0.125} = 259,200$  Weight Density

$\frac{36 \times ( ) \times ( )}{0.125} =$  \_\_\_\_\_ (Place this answer in the PROPOSED column of the preceding Table)

**SECTION 096816  
SHEET CARPETING (BROADLOOM)**

**PART 1 - GENERAL**

**1.1 SUMMARY**

**A. This section includes the following:**

1. Per each installation, comply with and provide all labor, materials, equipment and services necessary to furnish and install all carpet and related items as indicated and specified.
2. Broadloom Carpet.
3. Adhesives.
4. Related accessories.

**B. Related Documents:**

1. Section 099726 Cementitious Coatings.

**1.2 REFERENCES**

- A. Broadloom Carpet: 12' width; Group I - Severe Rated Commercial.
- B. Scraps: Carpet remaining from regularly scheduled installation not less than 3' wide x 3' long.

**1.3 SEQUENCING AND SCHEDULING**

- A. Wherever possible, install carpet and accessories after other finishing operations, including painting, have been completed.
- B. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
- D. Furniture: verify responsibility for moving of furniture for each project with county project manager.

**1.4 SUBMITTALS**

- A. Alternate product submittal: see Part 2 of this spec.
- B. Bond and moisture testing data (on a case by case basis).
- C. Availability and delivery time (submitted with each quote).

**1.5 SURPLUS MATERIAL**

- A. All surplus whole pieces of carpet (full broadloom width and no less than three (3) feet in length) and rubber base pieces longer than 15 feet, shall be added to JOC warehouse for future county projects.

**1.6 QUALITY ASSURANCE**



- A. Single-Source responsibility for broadloom carpet: Obtain each type, color, and pattern of carpet from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the work.
- B. Concrete Slab Test Methods:
  - 1. Delmhorst Test Method as a preliminary test to determine moisture.
    - a. Perform one test per every 1000 sq. ft.
    - b. If preliminary testing indicates more than 5.0 moisture per 1000 sq. ft. per 24 hours then provide Owner written documentation and await instructions before proceeding with further moisture tests.
  - 2. Calcium Chloride test method to determine moisture (on a case by case basis)
    - a. Perform one test per every 1000 sq. ft.
    - b. Send samples to an independent testing laboratory for results.
    - c. Provide written documentation on test results and to Owner.
  - 3. Litmus Paper test method to determine Alkalinity.
    - a. Perform one test per every 1000 sq. ft.
    - b. Provide written documentation on test results and submit to Owner.
    - c. Acceptable conditions should test in the range of 6.0 to 8.0.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. Open product in a clean, protected area and allow the product to off-gas for 48 hours prior to delivery to the job site. Re-packed and re-sealed rolls must remain clearly labeled with identification of the manufacturer, brand name, quality or grade, fire hazard classification and lot number.
- B. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.
- C. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
- D. Store re-rolled and re-sealed materials in their undamaged cartons from weather, moisture, soiling, extreme temperatures, humidity, off ground to prevent sagging and warping. Maintain temperature in storage area above 40 degrees Fahrenheit.

#### 1.8 SITE CONDITIONS

- A. Finish Plans: Contractor shall be responsible for all measurements. If drawings are provided, they are only to indicate spaces to receive carpet tile. They are not meant to be scaled.
- B. Pima County shall maintain a minimum temperature of 60 degrees Fahrenheit for 48 hours prior to installation, during installation and 48 hours after installation. After this period, Pima County shall maintain a temperature of not less than 55 degrees Fahrenheit.

- C. Do not install carpet until it is at the same temperature as the space where it is to be installed.
- D. Do not install carpet over concrete slabs until slabs, patches and/or floated areas have cured and are sufficiently dried to bond with adhesives as determined by the floor covering manufacturer's bond and moisture test and/or as directed by Owner.

## 1.9 WARRANTY

- A. All of the work embraced herein shall be subject to the inspection and approval of Pima County Facilities Management.
  - 1. Guarantee period is THREE YEARS after the date of substantial completion per installation.
  - 2. Manufacturer's FIVE (5) YEAR limited wear warranty.
- B. Within the THREE (3) YEAR period if Owner has reasonable cause to doubt the performance of the installed goods, a sample of the questionable materials will be sent to an accredited and industry approved testing facility. If any part of the goods are found to be of lower than acceptable industry and manufacturer's tolerances, or were not installed as per manufacturer's standards, monetary compensation or replacement will be made by the vendor/manufacturer to Pima County, including cost of testing.

## PART 2 - PRODUCTS

### 2.1 PRODUCT TYPE

- A. Basis of Design: The product criteria matrix at the end of this specification is based on Mohawk carpet. These requirements are not meant to be proprietary, but are intended to demonstrate MINIMUM APPEARANCE, PERFORMANCE, AND HEALTH AND SAFETY STANDARDS in order to be considered for acceptance by Pima County.
- B. Acceptable Manufacturers: Mohawk; Shaw.
- C. Alternate Products: Contractor shall submit a completed product criteria matrix, a samples book, and product literature for any product being proposed in lieu of the acceptable manufacturers.

### 2.2 ACCESSORIES

- A. Adhesives: As per Manufacturers' requirements.
- B. Wall Base.
  - 1. Roppe extruded rubber cove base (4" high x 1/8" thick), or approved equal.
    - a. 120 linear foot roll goods; cut lengths (4' pieces) are not acceptable; no molded or preformed corners.
    - b. Color standard for all projects shall be #100 Black or #147 Light Brown.
  - 2. Roppe extruded rubber threshold and reducer strips with appropriate butting gauge tapered to meet abutting materials, or approved equal.
- C. Schluter Schlene stainless steel transition profile where carpet meets tile or concrete.
- D. Concrete Slab Primer: See section 099726 Cementitious Coatings.

- E. Trowelable Underlayments and patching Compounds: See section 099726 Cementitious Coatings.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas where installation of carpet will occur, with installer present, to verify that substrates and conditions are satisfactory for installation and comply with floor covering manufacturer's requirements and those specified in this section. Subfloor to be free from cracks, holes, ridges and other defects impairing performance or appearance.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the slab substrates are dry and free of curing compounds, sealers, hardeners, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by floor covering manufacturer. Refer to Section 1.6 Quality Assurance, Item B, 1-3.
- C. Existing VAT, VCT or sheet vinyl flooring: Verify that all materials are tight and flat to the subfloor and well fastened at edges as per industry standards before proceeding with glue down installation of carpet.
- D. Do not proceed with installation until all unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Comply with manufacturer's installation specifications to prepare substrates indicated to receive carpet.
- B. Successful Contractor(s) shall provide a seaming diagram for each project along with a written quote that reflects specific field conditions.
- C. Clean floors of dust, dirt, solvents, oil, grease, paint, plaster and other substances detrimental to proper performance of adhesive and carpet. Allow floors to dry thoroughly.
- D. Examine substrates to determine if there is any evidence of moisture, alkaline salts, carbonation or dust.
- E. Use trowelable leveling and patching compounds per floor covering manufacturer's direction to fill cracks, holes and depressions in substrates (See Section 099726).
- F. Ensure floors are level, with maximum surface variation of ¼" in 10 feet, non-cumulative (on a case by case basis).
- G. Ensure floors are level with a maximum surface variation of 1/8" where carpet tile terminates at other flooring materials.

#### 3.3 INSTALLATION

- A. MOST INSTALLATIONS WILL OCCUR AFTER REGULAR WORKING HOURS AND ON WEEKENDS.
- B. Maintain on site a copy of the manufacturer's installation instructions. Comply with manufacturer's installation instructions and other requirements indicated that are applicable to this project.
- C. Notify PCFM Project Manager if doors need to be undercut.

- D. In the event a flooring project requires phasing: At the completion of each phase, use the appropriate reducer and/or joiner strips at temporary seams and edges. Do not secure these areas with duct tape or other surface adhesive.
- E. During new construction or remodel, sequence carpet tile installation with other work to minimize the possibility of damage and soiling during the remainder of the construction period.
- F. Maintain reference markers, holes or openings that are in place or plainly marked for future cutting by repeating on finish floor as marked on subfloor. Use chalk or other non-permanent marking devices.
- G. Following preparation spread adhesive in quantity and manner as per manufacturer's recommended installation instructions.
- H. Lay carpet in the same direction throughout the space. Make no turns. Lay carpet as indicated on the seaming diagram and as per manufacturer's installation instructions.
- I. Cut and fit carpet tiles neatly around projections through floor and to walls and other vertical surfaces leaving no gaps.
- J. Install carpet on covers for telephone and electrical devices and similar items occurring with finished floor areas.
- K. Entire carpet tile installation is to be laid tight and flat to subfloor, presenting a uniform, pleasing appearance.
- L. Insure seams are straight, not overlapped or peaked and free of gaps
- M. Install reducers and threshold strips in a manner limiting surface variations to a maximum of 1/8" between these accessories and flooring materials. Use full length pieces only. No seams are allowed within the area of a threshold.
- N. Cove base to be installed on walls, applying adhesive on both wall and back of base. Wrap inside and outside corners. Butt straight sections and joints tightly. Only one seam per any wall and no section less than eighteen (18) inches per wall.

#### 3.4 REPAIR/RESTORATION

- A. Repair defects or replace with new materials; faulty materials or workmanship developed during guarantee period at no expense to the owner.

#### 3.5 CLEANING

- A. Perform the following operations immediately after installing carpet.
  - 1. Clean up dirt and debris and clean carpet of all spots with proper spot remover.
  - 2. Remove all loose threads with sharp scissors.
  - 3. Vacuum entire carpet installation thoroughly.
- B. Owner shall view all carpet scraps and retain any chosen for future repairs before they are removed from the job site. Neatly roll and tie scraps selected by Owner and leave at the project site. These scraps will not be considered part of the maintenance product.

- C. All project scraps shall be removed by Flooring Contractor to Contractor's trash container. Use of County trash containers is not permitted

3.6 PROTECTION

- A. Protect flooring against mars, marks, indentations and other damage from construction operations and placement of equipment and fixtures during construction periods. Use protection methods indicated or recommended by floor covering manufacturer.

**END OF SECTION**

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## BROADLOOM CARPET - PRODUCT CRITERIA MATRIX

Name of Product Line Proposed: \_\_\_\_\_

| <b>Physical Performance Requirements</b>         |  |  |
|--|--|--|
| <b>Criteria</b>                                  | <b>Minimum Standard</b>  | <b>Proposed</b>  |
| Appearance Retention Rating                      | Severe ( $\geq 3.5$ ARR) based on ASTM D-5252 (Hexapod) using 3750-gram tumbler or ASTM D-5417 (Vettermann) test method. Carpets shall be tested without underlay. The exposure conditioned carpet shall be assessed according to CRI TM101  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Tuft Bind  | Looped Pile tuft bind of $\geq 20$ lbs   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Dimensional Stability                            | maximum shrinkage of 1 percent in both length and width  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Delamination Resistance of the Secondary Backing | Tufted Construction $\geq 3$ psi per ASTM D-3936   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Colorfastness                                    | To Crocking: Crock Meter Method $\geq 4$ rating, wet and dry, per AATCC 165  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | To Light: minimum rating of 3-4 per AATCC 16E after: min 160 hrs for solution dyed yarn  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Antimicrobial Activity                           | Inherent in backing as registered with the EPA and integrated during production, topical finishes not allowed; Bound (chemically bonded to the fiber) in accordance with AATCC 174 & AATCC 138 guidelines demonstrating $>90\%$ reduction in bacterial growth after 24 hours with no visible fungal growth activity after 3 days following 15 washings | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Electrostatic Propensity                         | Inherent in both yarn and backing in accordance with AATCC 134 $\leq 3.5$ kV   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Flammability                                     | a. Methenamine Pill Test: Self-Extinguishing - compliance with Federal Flammability Standards CPSC FF-1-70 when tested in accordance with ASTM D 2859  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | b. Radiant Panel: minimum critical radiant flux of 0.45 watts per square centimeter per ASTM E 648 Class 1   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | c. Smoke Density: maximum 450 Dmc in flaming mode per ASTM E 663   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Indoor Air Quality                               | a. Carpet: shall be only those certified with the CRI IAQ Carpet Testing Program Green Label, or tested for compliance to meet the CRI IAQ Carpet Testing Program requirements and criteria  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | b. Adhesive: shall be only those certified with the CRI IAQ Adhesive Testing Program Green Label or tested for compliance to meet the CRI IAQ Adhesive Testing Program requirements and criteria   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | c. All products (carpet, cushion and adhesives) from current production must be retested on a quarterly basis to ensure continuing compliance with CRI IAQ Test Program requirements   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Soil Resistance                                  | Bonded/Bound per AATCC 189   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Stain Resistance                                 | Red Dye Stain Scale rating of 8 per AATCC 175  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

| <b>Material Requirements</b>     |  |  |
|----------------------------------|--|--|
| <b>Criteria</b>                  | <b>Minimum Standard</b>  | <b>Proposed</b>  |
| Pile Fiber Type                  | 100% continuous bulk filament (CBF) nylon, branded and carries a Federally registered Trademark, Type 6 <u>OR</u> Type 6.6 tested in accordance with AATCC 20  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Average Carpet Pile Yarn Density | Tested in accordance with ASTM D 418 (calculation: pile yarn weight (oz/yd.) x 36 / average pile height = carpet pile density)   | Formula #1 =   |
| Weight Density                   | Tested in accordance with ASTM D 418 (calculation: (2 x pile yarn weight (oz/yd.)) x 36 / average pile height = carpet pile density)   | Formula #2 =   |
| Backing Materials                | Asbestos Free  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Primary Backing                  | Synthetic PCV Free tested in accordance with AATCC 20  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Secondary Backing                | Synthetic PVC Free tested in accordance with ASTM D 629  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Recycled Content                 | Renewed nylon carpet, which is cleaned, retextured, recolored, or otherwise reused to produce new nylon carpet is acceptable; otherwise comply with the following recycled content requirements:<br>a. Nylon Carpet Face Fiber: 25% minimum total recovered material content | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                                  | b. Nylon Carpet Backing: For vinyl backing, use the highest percentage of total recovered materials content available; however 0% is not acceptable  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                                  | c. Polymeric Cushion: Preference will be given to recycled content cushion backings  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Reusability/Recyclability        | All components shall be recyclable into either new carpet products or other nylon-based products, or shall be capable of being refurbished to the point of rendering them "almost new" and reusable  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

| <b>Construction Requirements</b>  |  |  |
|-----------------------------------|--|--|
| <b>Criteria</b>                   | <b>Minimum Standard</b>  | <b>Proposed</b>  |
| Surface Texture                   | tufted or woven pile, multi-level loop, pattern                | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Yarn                              | multi-ply  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Tufting Machining Gauge           | minimum 1/10 gauge   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Number of Stitches                | minimum 8 per inch   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Finished Pile Thickness           | minimum 0.125 inch (3.175 mm), maximum 0.250 inch (6.35 mm)    | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Average Finished Pile Yarn Weight | minimum 20 ounces per square yard                              | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Dye Method                        | Injection Yarn dyed or Solution dyed                           | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Color                             | Random multi-colored with minimum of three (3) distinct colors | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Finished Size                     | 12' wide   | <input type="checkbox"/> Available <input type="checkbox"/> Unavailable    |

| <b>Assembled Product Warranties</b> |                         |  |
|-------------------------------------|-------------------------|--|
| <b>Criteria</b>                     | <b>Minimum Standard</b> | <b>Proposed</b>  |
| Edge Ravel                          | Lifetime                | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Dimensional Stability               | Lifetime                | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

|  |          |  |
|--|----------|--|
| Delamination Resistance of the Secondary Backing | Lifetime | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Static Protection                                | Lifetime | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Zippering  | Lifetime | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Antimicrobial Activity                           | Lifetime | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Texture Retention                                | Lifetime | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

#### Qualifications

| Criteria                    | Minimum Standard   | Proposed   |
|-----------------------------|--|--|
| Manufacturer Qualifications | no less than 10 continual years  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | approved by manufacturer as established flooring company for not less than 5 continual years             | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | must be insured and bondable   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | guarantee full value of replacement and installation for 3 years   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | advise installer in proper procedures of installation  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|                             | inspect product after manufacture for defects  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Vendor Qualifications       | inspect all surfaces to receive flooring and recommended accessories                                     | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Installer Qualifications    | certified by floor covering manufacturer and have minimum 5 years continual experience with installation | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

Vendor: \_\_\_\_\_ Date: \_\_\_\_\_

COMPLETE FORMULA #1: AVERAGE CARPET PILE YARN DENSITY and place the formula's results in the PROPOSED column of the above chart where indicated.

Legend:

w = Pile Yarn Weight (ounces/SY) t = Pile Thickness for loop piles (inches) T = Tuft Height for cut piles (inches)

36 x w 36 times Pile Yarn Weight divided by Pile Thickness (for loop pile) or Tuft Height (for cut pile) t (or T)

Sample Example:  $\frac{36 \times 30}{0.125} = 8,640$  Average Pile Yarn Density

$\frac{36 \times ( )}{0.125} =$  \_\_\_\_\_ (Place this answer in the PROPOSED column of the preceding Table)

COMPLETE FORMULA #2: WEIGHT DENSITY CARPET PILE YARN DENSITY and place the formula's results in the PROPOSED column of the above chart where indicated.

Legend:

w = Pile Yarn Weight (ounces/SY) t = Pile Thickness for loop piles (inches) T = Tuft Height for cut piles (inches)

36 x w<sup>2</sup> 36 times Weight squared (Weight times Weight) divided by Pile Thickness (for loop pile) or t (or T) Tuft Height (for cut pile)

Sample Example:  $\frac{36 \times 30 \times 30}{0.125} = 259,200$  Weight Density

$\frac{36 \times ( ) \times ( )}{0.125} =$  \_\_\_\_\_ (Place this answer in the PROPOSED column of the preceding Table)



**SECTION 099726  
CEMENTITIOUS FLOOR COATING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

**A. This section includes the following:**

1. Per each installation, comply with and provide all labor, materials, equipment and services necessary to furnish and install all cementitious coatings and related items as indicated and specified.
2. Patching substances.
3. Underlayments.

**B. Related Documents:**

1. Section 096519 - Resilient Flooring.
2. Section 096813 - Carpet Tile.

**1.2 SEQUENCING AND SCHEDULING**

- A. Do not install over concrete or wood floors until they are sufficiently dry to bond with cementitious materials as per the manufacturer's recommended bond and moisture test..
- B. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.

**1.3 SUBMITTALS**

- A. Demonstrate that proposed products are equal or better by completing chart attached.
- B. Certify that proposed products conform to or exceed all health/safety requirements and warranties listed on chart attached. Certifications to be on Manufacturers' letterheads and signed by an officer of the Corporation manufacturing the product and submitted to the Owner (after each installation to be included in the Operating and Maintenance Manual).
- C. Finish Plans: Contractor shall be responsible for all measurements. If drawings are provided, they are only to indicate spaces to receive carpet tile. They are not meant to be scaled.

**1.4 QUALITY ASSURANCE**

- A. Installer Qualifications: Engage installer that is certified by floor covering manufacturer as competent in the installation of tile pavers, trim units and threshold with no less than five (5) years of documented experience with installations of similar scope, materials and design.

**1.5 DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials to the job site in the manufacturer's original, new, unopened packages and containers bearing manufacturer's name and label and the following information:
  - 1. Name or title of material.
  - 2. Product description (generic classification or binder type).
  - 3. Manufacturer's name, stock number and date of manufacture.
  - 4. Contents by volume, for major pigment and vehicle constituents.
  - 5. Thinning instructions.
  - 6. Application instructions.
  - 7. Color name and number.
  - 8. Handling instructions and precautions.
- B. Inspect containers upon delivery to ensure that products are undamaged and properly protected.
- C. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
- D. Store re-sealed materials in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 50 degrees Fahrenheit. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
- E. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing and applying the coatings.

#### 1.6 SITE CONDITIONS

- A. Environmental Limitations: Do not apply coatings 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 (50-95 degrees Fahrenheit; humidity exceeds 85 percent).
- B. Allow wet surfaces to dry thoroughly and attain the temperature and conditions specified before proceeding with or continuing the coating operation.
- C. Work may continue during inclement weather only if areas and surfaces to be coated are enclosed and the temperature within the area can be maintained within limits specified by the manufacturer during application and drying periods.

#### 1.7 WARRANTY

- A. All of the work embraced herein shall be subject to the inspection and approval of Pima County Facilities Management.
  - 1. Guarantee period is THREE (3) YEARS after the date of substantial completion per installation.

## PART 2 - PRODUCTS

### 2.1 PRODUCT TYPE

- A. These requirements are not meant to be proprietary, but are intended to demonstrate MINIMUM APPEARANCE, PERFORMANCE, AND HEALTH AND SAFETY STANDARDS in order to be considered for acceptance by Pima County. Manufacturer's names are used solely for the purpose of demonstrating these minimum requirements for quality and craftsmanship:
  - 1. Manufacturers.
    - a. Ardex – Basis of Design.
    - b. Mapei
  - 2. Accessories.
    - a. Ardex P-51 Primer
    - b. Ardex P-82 Primer

### 2.2 ACCESSORIES

- A. Material Compatibility: Fillers, primers, finish coat material, and related materials that are compatible with one another and the substrates indicated under conditions of service and application as demonstrated by the manufacturer based on testing and field experience.
- B. Ardex P-51 primer or equal for use on old and new concrete floors.
- C. Ardex -82 primer or equal for use on terrazzo, quarry tile, ceramic tile, metal, epoxy flooring systems, hardwood or plywood and cut back adhesives.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions under which coatings will be applied for compliance with manufacturer's requirements for applying coatings. Surfaces to receive coatings must be thoroughly dry before coatings are applied.
- B. Do not proceed with installation until all unsatisfactory conditions have been corrected.
- C. Start of application will be construed as the applicator's acceptance of surfaces within that particular area.
- D. Coordinating Work: Review sections in which other coatings are provided to ensure compatibility of the total system for various substrates. On request, furnish information on the characteristics of specified finish materials to ensure compatible primers.
  - 1. Notify the architect of problems anticipated using the coatings specified.

### 3.2 PREPARATION

- A. Remove the top layer, patches and other curing compounds that are loose, flaking, cracked or otherwise compromised and that may act as a bond breaker and/or affect the performance of the underlayment.
- B. All subfloors, regardless of material, must be solid, sound, thoroughly cleaned and properly primed.
- C. All subfloors must be adequate strength, clean and free of all oil, grease, dirt, curing compounds, and any substance which might act as a bond breaker. If necessary, mechanically clean using shot-blasting or other method. Acid etching or the use of solvents is not acceptable.
- D. Cutback and other adhesive residues must be thin, solid and well bonded to the subfloor.
- E. All cracks in the subfloor shall be repaired to minimize telegraphing through the underlayment.
- F. Subfloors shall be inspected and corrected for moisture and any other conditions which could affect the performance of the underlayment or finished floor covering.

### 3.3 INSTALLATION

- A. Maintain on site a copy of the manufacturers' installation instructions. Comply with manufacturer's installation instructions and other requirements indicated that are applicable to the project.
- B. During new construction or remodel, sequence installation with other work to minimize the possibility of damage and soiling during the construction period.
- C. Maintain reference markers, holes or openings that are in place or plainly marked.
- D. Apply cementitious materials by brush, roller, spray, squeegee, or other applicators according to the manufacturer's installation instructions. Use brushes best suited for the material being applied. Use rollers of carpet, velvet back, or high-pile sheep's wool only if recommended by the manufacturer for the material and to achieve a smooth surface.
  - 1. Do not apply coatings over dirt, rust, scale, grease, moisture, scuffed surfaces or conditions detrimental to forming a durable coating film.
  - 2. Provide finish coats compatible with the primers used.
  - 3. The number of coats and film thickness required is the same regardless of the application method. If necessary, do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Where sanding is required, according to the manufacturer's directions, sand between applications to produce a smooth, even surface.
  - 4. Observe the basic rules of concrete work. Do not install below 50 degrees Fahrenheit surface temperature. Install quickly if floor is warm and follow hot weather precautions.
  - 5. Surface shall be true to plane within 1/4" maximum gap under a 10 foot edge in any direction in accordance with ACI 302.1, R-89 flatness tolerance (on a case by case basis).
- E. Priming
  - 1. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to the material required to be coated or finished that has not been prime-coated by others.

- a. Recoat primed and sealed substrates where there is evidence of suction spots or unsealed areas in the first coat to ensure a finish coat with no burn-through or other defects caused by insufficient sealing.
2. Brush Application: Brush-out and work brush coats into surfaces in an even film. Eliminate cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections.
3. Prime with Ardex P-51 primer or Ardex P-82 primer whichever is appropriate for the particular application as directed by the manufacturer's installation instructions.
4. Mechanical Applications: Use mechanical methods to apply coating as per the manufacturer's installation instructions.
  - a. Wherever using spray application, apply each coat to provide the equivalent hiding of brush-applied coats. Do not double-back with spray equipment building-up film thickness of two coats in one pass, unless recommended by the manufacturer
  5. When undercoats or other conditions show through the final coat, apply additional coats until the cured film has a uniform coating finish, color and appearance. Give special attention to edges, corners, crevices, welds, exposed fasteners, and similar surfaces to ensure that they receive a dry film thickness equivalent to that of flat surfaces.
  6. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convactor covers, covers for finned tube radiation, grilles and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
    - a. Coat surfaces behind movable equipment and furniture the same as similar exposed surfaces.
    - b. Coat the back sides of access panels, removable or hinged covers and similar hinged items to match exposed surfaces.
    - c. Omit primer on metal surfaces that have been shop-primed and touch-up painted.

F. Patching

1. Use patching compound as a filler for any areas over 1/4" deep. (Surface texture is rougher and not acceptable as a finished texture.) Apply following manufacturer's recommendations.
2. Apply finish coat of self-leveling material over patch and not to exceed 1/4" thickness. Apply as per manufacturer's recommendations.
3. By definition a patch shall not exceed an area 4' x 4' or 16 square feet.

G. Scheduling Coating: Apply first coat to surfaces that have been cleaned, pre-treated, or otherwise prepared for coating and/or patched as soon as practicable after preparation and before subsequent surface deterioration.

1. Allow sufficient drying time between successive coats. Do not recoat until the coating has dried so it feels firm and does not deform or feel sticky under moderate thumb pressure and where applying another coat does not cause the undercoat to lift or lose adhesion.

H. Application Procedures: Apply coatings by brush, roller, spray or other applicators according to the manufacturer's installation instructions.

1. Brushes: Use brushes best suited for the material applied.
2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as per the manufacturer's installation instructions for the material and texture required.
3. Spray Equipment: Use spray equipment with orifice size as per the manufacturer's installation instructions for the material and texture required.

I. Minimum Coating Thickness: Apply each material no thinner than the manufacturer's recommended spreading rate. Provide total dry film thickness of the entire system as recommended by the manufacturer.

### 3.4 REPAIR/RESTORATION

A. Repair defects or replace with new materials; faulty materials or workmanship developed during guarantee period at no expense to the owner.

### 3.5 CLEANING

A. Clean-up: At the end of each work day, remove rubbish, empty cans, rags and other discarded materials from the site. All project scraps shall be removed by Flooring Contractor to Contractor's trash container. Use of County trash containers is not permitted.

B. After completing work, clean glass and spattered surfaces. Remove spattered coatings by washing, scraping or other methods. Do not scratch or damage adjacent finished surfaces.

### 3.6 PROTECTION

A. Protect work of other trades, whether being coated or not, against damage from coating operation. Correct damage by cleaning, repairing, replacing and recoating as acceptable to the Architect. Leave in an undamaged condition.

B. Provide "Wet Floor" signs to protect newly coated finishes. Remove temporary protective wrappings provided by others to protect their work after completing coating operations.

C. At completion of other trades' construction activities, touch up and restore damaged or defaced coated surfaces.

D. Protect installed tile work with draft paper or other heavy covering during construction period to prevent staining, damage and wear. Supply material at least 4 feet wide.

1. Lay paper over newly completed areas in corridors.
2. Lay paper over partially demolished areas to prevent tracking of and spread of dust and debris.

**END OF SECTION**

## COATINGS

| Criteria                                 | Minimum Standard   | Proposed   |
|--|--|--|
| Construction                             | Group 1  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Self Leveling/Featheredge Underlayment   | Ardex K-15   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | Class 5 - Heavy Commercial                                     | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Set Time                                 | 3-4 Hours  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Compressive Strength                     | To ASTM C109/mod   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | 4100 PSI after 28 days   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Installation of Standard Floor Coverings | 16 Hours   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Initial Set                              | To ASTM C 191, 30 minutes @ 70 degrees Fahrenheit              | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Final Set                                | To ASTM C 191, 2 hours @ 70 degrees Fahrenheit                 | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Flexural Strength                        | To ASTM C 348  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
|  | 100 PSI after 28 days  | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Flammability                             | To ASTM E-48-81a Multi   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Flame Spread                             | none   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Fuel Contribution                        | none   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Smoke Development                        | none   | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |
| Coverage                                 | 10lb bag covers 60 sq.ft., 1/8" thick and 30 sq.ft, 1/4" thick | <input type="checkbox"/> Complies <input type="checkbox"/> Does not comply |

**End of Exhibit "A-1" Product Specifications**