



## **ADDENDUM NO. TWO TO THE CONSTRUCTION DOCUMENTS FOR:**

**PROJECT:** Cypress River Lofts, 1381, 1382, 1385, & 1389 Duane Street,  
Baton Rouge, LA 70802

**NUMBER:** 75-01-17

**DATE:** March 24, 2021

This Addendum (consisting of **6** letter size pages, **0** 24x36 size page shall be attached to and shall become a part of the Contract Documents. The original Contract Documents shall be modified by this Addendum only to extent specifically stated herein.

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### **CLARIFICATIONS / REVISIONS TO THE SPECIFICATIONS:**

#### **Architectural:**

1. Section 03 35 13 Polished Concrete Floor Finishing: Add the attached specifications to the project manual.

**END OF ADDENDUM NO. TWO**

## Section 03 35 13 Polished Concrete Floor Finishes

Specifications

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### PART 1 GENERAL

#### 1.01 SUMMARY

- A. This section includes the following.
  - 1. Custom Polishing System: Densified polished concrete – created by applying sealer and hardener, and polishing concrete to specified finish level.
- B. Related Work:
  - 1. Section 03 30 00 Cast-In-Place Concrete

#### 1.02 REFERENCES

- A. American Society for Testing and Materials:
  - 1. ASTM-C779, Standard Test Method for Abrasion Resistance of Horizontal Concrete Surfaces
  - 2. ASTM C805, Impact Strength
  - 3. ASTM G23-81, Ultraviolet Light & Water Spray
  - 4. ASTM 1028, Co-Efficient of Friction
- B. American Concrete Institute
  - 1. ACI 302. 1R-89, Guide for Concrete Floor and Slab Construction

#### 1.03 SUBMITTALS

- A. Comply with pertinent provisions of Section 01 33 00- Submittals.
  - 1. Provide submittal information within 35 calendar days after the contractor has received the owner's notice to proceed.
- B. Product data:
  - 1. Submit special concrete finishes manufacturer's specifications, test data and other data required for each type of manufactured material and product indicated.
  - 2. Submit special concrete finishes describing products to be provided, giving manufacturer's name, product name, and product line number for the specified material proposed to be provided under this section.
  - 3. Submit special concrete finishes manufacturer's recommended installation procedures; which when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the work.
  - 4. Submit special concrete finishes technical data sheet giving descriptive data, curing time, and application requirements.
    - a. Provide material analysis and generic type.
  - 5. Submit special concrete finishes manufacturer's Material Safety Data Sheet (MSDS) and other safety requirements.
  - 6. Follow all special concrete finishes published manufacturer's installation instructions.
- C. Test Reports:
  - 1. Provide certified test reports, prepared by an independent testing laboratory, confirming compliance with specified performance criteria.

#### 1.04 QUALITY ASSURANCE

- A. Installer Qualifications:
  - 1. Use an experienced installer and adequate number of skilled workmen who are thoroughly trained and experienced in the necessary craft; use only certified applicators who have been certified by the system/stain manufacturer.
  - 2. The special concrete finish manufacturer for each specified material and process shall certify applicator.
  - 3. Applicator shall be familiar with and have a minimum five years' experience with the specified requirements, and the methods needed for proper performance of work of this section.
- B. Manufacturer's Certification:
  - 1. Provide letter of certification from finish manufacturer or specialized applicator stating that installer is certified applicator of special concrete finishes, and is familiar with proper procedures and installation requirements required by manufacturer.
  - 2. Manufacturer's regional representative shall attend pre- and post-installation inspections, and shall certify compliance with manufacturer and system requirements.
- C. Mock-ups:

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1. Apply mock-ups of each type finish, to demonstrate typical joints, surface finish, color variation (if any), and standard of workmanship.
    - a. Build 10-foot x 10-foot mock-up in the location as directed by the Architect or Owner Representative.
    - b. Concrete shall be same mix design as scheduled for Project.
    - c. Placement and finishing work shall be performed by same personnel as will place and finish concrete for Project.
    - d. Mock-up shall be representative of work to be expected.
    - e. The mock-up shall include one sawcut control joint in each direction.
    - f. Perform grinding, honing, and polishing work as scheduled for Project using same personnel as will perform work for Project.
    - g. Approval is for following aesthetic qualities:
      - i. Compliance with approved submittals.
      - ii. Compliance with specified aggregate exposure.
      - iii. Compliance with specified finished gloss level.
      - iv. Compliance with specified color.
    - h. Notify Architect seven days in advance of dates and times when mock-ups will be constructed.
    - i. Obtain from the Architect approval of mock-ups before starting construction.
    - j. If the Architect determines that mock-ups do not meet requirements, demolish and remove them from the site and cast others until mock-ups are approved.
    - k. Maintain acceptable mock-ups during construction in an undisturbed condition as a standard for judging the completed work. Mock-up must remain covered at all times. Mock-up may not be removed until after substantial completion.
  - D. Protection
    1. No satisfactory chemical or cleaning procedure is available to remove petroleum stains from the concrete surface. Prevention is therefore essential.
      - a. All hydraulic powered equipment must be diapered to avoid staining of the concrete.
      - b. No trade will park vehicles on the inside slab. If necessary to complete their scope of work, drop cloths will be placed under vehicles at all times.
      - c. No pipe cutting machine will be used on the inside floor slab.
      - d. Steel will not be placed on interior slab to avoid rust staining.
  - E. Pre-Installation Conference:
    1. Conduct conference at project site prior to pouring and finishing of concrete slab with concrete slab finishers and contractors in attendance; review level of slab finishing required by this Section – hard steel trowel finish shall be required.
    2. Required Attendees:
      - a. Owner
      - b. Architect
      - c. Contractor, including supervisor
      - d. Concrete producer
      - e. Concrete finisher, including supervisor
      - f. Concrete polisher, including supervisor
      - g. Technical representative of liquid applied product manufacturers
- 1.05 DELIVERY, STORAGE AND HANDLING
- A. Deliver materials in original packages and containers, with seal's unbroken, bearing manufacturer labels indicating brand name and directions for storage, mixing with other components, and application.
  - B. Store materials to comply with manufacturer's written instructions to prevent deterioration from moisture or other detrimental effects.
  - C. Dispense special concrete finish material from factory numbered and sealed containers. Maintain record of container numbers.
- 1.06 PROJECT CONDITIONS
- A. Test for floor flatness and floor levelness within 72 hours as stated in ACI 117R-90 Section 4.5.6. Perform testing in accordance with ASTM E-1155-96.
    1. Concrete floor flatness of at least FF50.
    2. Concrete floor levelness of at least FL30.

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- B. Environmental limitations:
    - 1. Comply with manufacturers written instructions for substrate temperature and moisture content, ambient temperature and humidity, ventilation, and other conditions affecting topping performance.
      - a. Concrete must be cured a minimum of 45 days or as directed by the manufacturer before application of polishing system can begin.
      - b. Application of polishing system shall take place 10 days prior to installation of equipment and substantial completion, thus providing a complete, uninhibited concrete slab for application.
  - C. Initial hardening and grinding process shall begin prior to installation of interior partition walls. Final polishing processes shall not commence until interior partitions are complete. Surfaces shall be protected between hardening and polishing phases and again upon completion.
  - D. Close areas to traffic during floor application and after application, for time period recommended in writing by manufacturer.
  - E. Damage and Stain Prevention: Take precautions to prevent damage and staining of concrete surfaces to be polished.
    - 1. Prohibit use of markers, spray paint, and soapstone.
    - 2. Prohibit improper application of liquid membrane film forming curing compounds.
    - 3. Prohibit vehicle parking over concrete surfaces.
    - 4. Prohibit pipe-cutting operations over concrete surfaces.
    - 5. Prohibit storage of any items over concrete surfaces for not less than 28 days after concrete placement.
    - 6. Prohibit ferrous metals storage over concrete surfaces.
    - 7. Protect from petroleum, oil, hydraulic fluid, or other liquid dripping from equipment working over concrete surfaces.
    - 8. Protect from acids and acidic detergents contacting concrete surfaces.
    - 9. Protect from painting activities over concrete surfaces.
- 1.07 WARRANTY
- A. Manufacturers complete system warranty that guarantees the surface will remain hardened, dust-proof, and water-repellant for a period of ten (10) years commencing on the date of Substantial Completion.

### PART 2 – PRODUCTS

#### 2.01 MANUFACTURERS

- A. Retro-Plate (Basis of Design)
- B. Bomanite
- C. fgs PermaShine
- D. Substitutions: 01 25 00

#### 2.02 PRODUCTS

- A. HARDENING/SEALING AGENT
  - 1. Retro-Plate 99, manufactured by Advanced Floor Products, Inc.
  - 2. Bomanite Stabilizer
  - 3. L & M
  - 4. Substitutions: 01 25 00
- B. FINISH
  - 1. High gloss finish.
    - a. CPAA Class A Level 4. Highly polished with very little aggregate exposure; cream.
    - b. Performance Criteria:
      - i. Abrasion Resistance: ASTM C779 – Up to 400% increase in abrasion resistance.
      - ii. Impact Strength: ASTM C805 – 21% increase impact strength.
      - iii. Ultra Violet Light and Water Spray: ASTM G23-81 – No adverse effect to ultra violet and water spray.
      - iv. Co-efficient of Friction: ASTM 1028 – all levels of finish (up to 800 grit) exceed OSHA and ADA requirements.

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- v. Reflectivity: 30% increase in reflectivity.
3. Color to be selected by Architect from manufacturer's full range.

### 2.03 RELATED MATERIALS

- A. Neutralizing Agent:
  1. Tri-sodium Phosphate
- B. Water:
  1. Potable
- C. Liquid Densifier:
  1. An Aqueous solution of Silicon Dioxide dissolved in one of the following Hydroxides that penetrates into the concrete surface and reacts with the Calcium Hydroxide to provide a permanent chemical reaction that hardens and densifies the wear surface of the cementitious portion of the concrete.
    - a. Sodium Silicate
    - b. Potassium Silicate
- D. Dye:
  1. Non-film forming soluble colorant dissolved in a carrier designed to penetrate and alter coloration and appearance of a concrete floor surface without a chemical reaction.
- E. Sealer - Impregnating Stain Protection:
  1. Non film forming stain and food resistant penetrating sealer designed to be applied to densified and polished concrete which meets the requirements of OSHA for slip resistance as tested by ASTM D 2047 and stain resistance of ASTM D 1308.
- F. Joint Sealant:
  1. Expansion joints shall be filled with a self-leveling Polyurea Elastomer joint filler with a Shore A Hardness of 65x equal to CreteFill "Pro 65."
  2. Control joints shall be filled with a high-strength hybrid urethane repair material equal to CreteFill "Crack Repair."

### PART 3- EXECUTION

#### 3.01 SURFACE CONDITIONS:

- A. Examine substrate, with installer present, for conditions affecting performance of finish. Correct conditions detrimental to timely and proper work. Do not proceed until unsatisfactory conditions are corrected.
- B. Verify that base slab meet finish and surface profile requirements in Division 3 Section "Cast-In-Place Concrete," and Project Conditions above.
- C. Prior to application, verify that floor surfaces are free of construction latents.

#### 3.02 APPLICATION

- A. Start any of the floor finish applications in presence of manufacturer's technical representative.
- B. Apply concrete floor finish in accordance with manufacturer's instructions.
- C. Assure that concrete slab/surfaces have been steel troweled to acceptable finish prior to grinding.
- D. Use 50 to 120 grit diamond discs or belts to achieve the appropriate grit level; then bring to 800 grit finish or higher to achieve level of finish specified.
- E. Dye application.
  1. Apply solution by methods and techniques required by manufacturer to produce finish matching approved field mock-ups.
  2. Maintain wet edge, working newly applied solution into edges of adjacent wet edges of previously treated surfaces.
  3. Maintain consistent saturation throughout application.
  4. Avoid splashing, dripping, or puddling of solution on adjacent substrates.
  5. When color matches approved mock-ups, neutralize as required by manufacturer.
- F. Sealing, Hardening and Polishing of Concrete Surface.
  1. Concrete must be in place a minimum of 45 days or as directed by the manufacturer before application can begin.

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2. Application is to take place at least 10 days prior to accessory installation, thus providing a complete, uninhibited concrete slab for application
  3. Use polishing equipment with resin-bonded tooling.
  4. Begin polishing in one direction starting with 800 grit tooling.
  5. Make sequential passes with each pass perpendicular to previous pass using finer grit tooling with each pass until the specified level of gloss has been achieved.
  6. Achieve maximum refinement with each pass before proceeding to finer grit pads.
  7. Clean floor thoroughly after each pass using dust extraction equipment properly fitted with squeegee attachment or walk behind auto scrubber suitable to remove all visible loose debris and dust.
  8. Final Polish: Using burnishing equipment and finest grit abrasive pads, burnish to uniform reflective sheen matching approved field mock-up.
  9. Only a certified applicator shall apply hardener/sealer. Applicable procedures must be followed as recommended by the product manufacturer and as required to match approved test sample.
  10. Achieve waterproofing, hardening, dust-proofing, and abrasion resistance of the surface while imparting a sheen.
  11. Apply special concrete sealer finish in accordance with sealer manufacturer's instructions.
  12. Polish to required sheen level.
- G. Final Polished Concrete Floor Finish:
1. Aggregate Exposure Class A – Cream Finish: Polish Portland cement paste resulting in little or no aggregate exposure.
  2. Finished Gloss Level 4 – Very High Gloss Appearance:
    - a. Procedure: Not less than 4 steps with full refinement of each diamond tool with one application of densifier.
    - b. Gloss Measurement: Determine the specular gloss by incorporating the following:
      - i. Reflective Clarity Reading: Not less than 85 according to ASTM D5767 prior to the application of sealers.
      - ii. Reflective Sheen Reading: Not less than 50 according to ASTM D523 prior to the application of sealers.
- 3.03 WORKMANSHIP AND CLEANING:
- A. The premises shall be kept clean and free of debris at all times.
  - B. Remove spatter from adjoining surfaces, as necessary.
  - C. Repair damages to surface caused by cleaning operations.
  - D. Remove debris from jobsite
    1. Dispose of materials in separate, closed containers in accordance with local regulations.
- 3.04 TOLERANCES:
- A. Measure for F(F) and F(L) tolerances for floors in accordance with ASTM E1155, within 48 hours after slab installation.
  - B. Finish concrete to achieve the following tolerances:
    1. Exposed to View and Foot Traffic: F(F) 75 and F(L) 40.
    2. Correct the slab surface if the actual F(F) or F(L) number for the floor installation measures less than required.
  - C. Correct defects in the defined traffic floor by grinding or removal and replacement of the defective Work. Areas requiring corrective Work will be identified. Re-measure corrected areas by the same process.
- 3.05 PROTECTION:
- A. Protect finished work until fully cured in accordance with manufacturer's recommendations.

**END OF SECTION**