ADDENDUM NUMBER FOUR TO PLANS AND SPECIFICATIONS

FOR

NEW COMPLEX FOR WASHINGTON COUNTY ROAD & BRIDGE BRENHAM, TEXAS

October 26, 2018

PLANNORTH ARCHITECTURAL CO.

P.O. BOX 2468 101 SOUTH BAYLOR ST. BRENHAM, TEXAS 77833 PH 979-421-8003

NOTICE TO BIDDERS:

This Addendum shall be considered part of the specifications and drawings for the above-named project as though it had been issued at the same time and incorporated integrally with such plans. Wherein provisions of the following supplementary plans and specifications contained in this Addendum differ from the provisions of the original drawings, the provisions of this Addendum shall govern and take precedence.

Bidders are hereby notified that they are to make any adjustments in their estimates which they may deem necessary because of this Addendum; it will be considered that each bidder's proposal is submitted with full knowledge of all modifications and changes specified herein. This Addendum shall become a component of the Contract Documents.

This document contains:

- 03 35 43 DIAMOND POLISHING CONCRETE FLOORS
- 09 61 19 CONCRETE FLOOR SEALER
- A2.04 TIRE & SIGN STORAGE BUILDING
- A9.01 DOOR TYPES AND WINDOW TYPES / SCHEDULE
- A11.02 COMPOSITE FIRST FLOOR AND SECOND FLOOR FINISH PLANS

A. Modifications to Project Manual

- 1. 03 35 43 DIAMOND POLISHING CONCRETE FLOORS Replace this spec. section with the attached 03 35 73 DIAMOND POLISHING CONCRETE FLOORS.
- 2. 09 61 19 CONCRETE FLOOR SEALER Add back to project manual. Replace this spec. section with the attached 09 61 19 CONCRETE FLOOR SEALER.

B. Modifications to Architectural Plans

- 3. A2.04 TIRE & SIGN STORAGE BUILDING -Polished Concrete remains inside the building. Porches to be BROOM FINISHED. Replace Sheet A2.04.
- 4. A9.01 DOOR TYPES AND WINDOW TYPES / SCHEDULE Add Hardware Set 8.0 to Doors 223A and 224A. Replace Sheet A9.01
- 5. <u>A11.02 COMPOSITE FIRST FLOOR AND SECOND FLOOR FINISH PLANS</u> The following areas are to be broom finished: Washbay 214, Covered Porch 216, Covered Porch 215,

Breezeway between buildings, and the front porch at office building's Main Entry. The Second Floor Storage 301 is to be Sealed Concrete. Replace Sheet 11.02.

END OF DOCUMENT



October 26, 2018

SECTION 03 35 43

DIAMOND POLISHING CONCRETE FLOORS

3	PART 1 - GENERAI	L

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4 1.1 SUMMARY

5 A. Section Includes: Products and procedures for non-colored diamond polishing concrete floors 6 using multi-step wet/dry mechanical process, and accessories indicated, specified, or required to 7 complete polishing.

8 1.2 **DEFINITIONS**

9 A. Terminology: As defined by CPAA.

10 1.3 SUBMITTALS

- 11 A. Product Data: Manufacturer's technical literature for each product indicated, specified, or required. Include manufacturer's technical data, application instructions, and recommendations.
- B. Installer Qualifications: Data for company, principal personnel, experience, and training specified in PART 1 "Quality Assurance" Article.
- 15 C. Field Quality Control Static Coefficient of Friction Test Reports: Reports of testing specified in PART 3 "Field Quality Control" Article.
- D. Maintenance Data: For inclusion in maintenance manual required by Division 01.
 - 1. Include manufacturer's instructions for maintenance of installed work, including methods and frequency recommended for maintaining optimum condition under anticipated use.
 - 2. Include precautions against cleaning products and methods which may be detrimental to finishes and performance.

22 1.4 QUALITY ASSURANCE

- A. Polisher Qualifications:
- 24 1. Experience: Company experienced in performing specified work similar in design, 25 products, and extent to scope of this Project; with a record of successful in-service 26 performance; and with sufficient production capability, facilities, and personnel to 27 produce specified work.
 - 2. Supervision: Maintain competent supervisor who is at Project during times specified work is in progress, and is currently certified as Craftsman or Master Craftsman by CPAA.
- 30 Manufacturer Qualification: Approved by manufacturer to apply liquid applied products.
- B. Walkway Auditor: Certified by NFSI to test polished floors for static coefficient of friction according to NFSI 101-A.
- 33 C. Static Coefficient of Friction: Achieve not less than 0.5 for level floor surfaces as determined by quality control testing according to NFSI 101-A.

D. Field Mock-up for Aesthetic Purposes: Before performing work of this Section, provide as many 1 field mock-ups required to verify selections made under submittals and to demonstrate aesthetic 2 effects of polishing. Approval does not constitute approval of deviations from Contract 3 Documents, unless such deviations are specifically approved by Architect in writing. 4 Grind, hone, and polish as shown in the drawings, floor area for one color finish approved 1. 5 under sample submittals; include edges and joints (saw cut). 6 Use same personnel, including supervisors, which will perform work. 7 2. Install products and materials according to specified requirements. 8 3. Work shall be representative of those to be expected for work. 9 4. Finish various components to show maximum variation that will exist in work. 10 5. Approval is for following aesthetic qualities: 11 6. Compliance with approved submittals. a. 12 Uniformity of exposed aggregate. b. 13 Uniformity of sheen. 14 c. 15 Obtain Architect's approval before starting work on Project. 16 7. Protect approved field mock-ups from elements with weather resistant covering. 8. 17 Maintain field mock-ups during construction in an undisturbed condition as a standard for 18 9. judging completed work. 19 Do not demolish, alter, or remove field mock-ups until acceptable to Owner and Architect. 10. 20 E. Pre-Installation of Concrete Conference: Prior to placing concrete for areas scheduled for 21 polishing, conduct conference at Project to comply with requirements of applicable Division o1 22 Sections. 23 Required Attendees: 1. 24 Owner. a. 25 26 b. Architect. Contractor, including supervisor. c. 27 d. Concrete polisher, including supervisor. 28 Minimum Agenda: Polisher shall demonstrate understanding of work required by 29 2. reviewing and discussing procedures for, but not limited to, following: 30 a. Tour mock-up and representative areas of required work, discuss and evaluate for 31 compliance with Contract Documents, including substrate conditions, surface 32 preparations, sequence of procedures, and other preparatory work performed by 33 34 other installers. b. Review Contract Document requirements. 35 Review approved submittals. 36 c. Review procedures, including, but not limited to: d. 37 38 1) Details of each step of grinding, honing, and polishing operations. 39 2) Application of liquid applied products. 40 Protecting concrete floor surfaces until polishing work begins. 3) 41 Protecting polished concrete floors after polishing work is completed. 42 Reports: Record discussions, including decisions and agreements reached, and furnish 43 3. copy of record to each party attending. 44

1.5 FIELD CONDITIONS

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- 2 A. Damage and Stain Prevention: Take precautions to prevent damage and staining of concrete surfaces to be polished.
 - 1. Prohibit vehicle parking over concrete surfaces to be polished.
 - 2. Prohibit pipe-cutting operations over concrete surfaces to be polished.
 - 3. Prohibit storage of any items over concrete surfaces to be polished for not less than 28 days after concrete placement.
 - 4. Prohibit ferrous metals storage over concrete surfaces to be polished.
 - 5. Protect from petroleum, oil, hydraulic fluid, or other liquid dripping from equipment working over concrete surfaces to be polished.
 - 6. Protect from acids and acidic detergents contacting concrete surfaces to be polished.
 - 7. Protect from painting activities over concrete surfaces to be polished.
 - B. Environmental Limitations: Comply with manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting liquid applied product application.

PART 2 - PRODUCTS

17 2.1 LIQUID APPLIED PRODUCTS

- A. Surface Treatment: Colorless, odorless, water-based, Micro Lithium surface treatment that penetrates and seals by reacting chemically with the concrete surface forming a clear, dense, durable and hard inorganic topical surface layer
- Design Basis: Design is based upon Luma-Hard by Luma Concrete Systems.
- 23 O2 Physical Properties:
 - a. Form: Clear, pale green, water-based solution.
- b. Total Solids: 16%
- 26 c. Active Ingredients: 100% of total solids.
- d. Specific Gravity: 1.11
- 28 e. pH: 11.0

B. Finish Treatment: Colorless, finish coat applied over polished concrete to provide improved stain resistance and increase the gloss level and co-efficient of friction.

- o1 Design Basis: Starseal Finish Coat Ultra by Vexcon
- 34 02 3 coat application (approximately 1,500 s.f./gal)
- 35 og After Drying, coating must be high speed propane burnished.

36 2.2 ACCESSORIES

- A. Patching Compound: Compound composed of 40 percent portland cement, 45 percent limestone, and 15 percent vinyl acetate copolymer, when mixed with dust salvaged from grinding process forms a paste that hardens when surface imperfections are filled.
- B. Grout Material: Clear modified silicate sealant, containing no pore clogging latex, when mixed with dust salvaged from grinding process forms a paste that reacts with calcium hydroxide in concrete that hardens when surface imperfections are filled.

1 C. Protective Cover: Non-woven, puncture and tear resistant, polypropylene fibers laminated with a multi-ply, textured membrane, not less than 18 mils in thickness.

3 2.3 POLISHING EQUIPMENT

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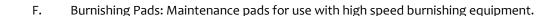
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- 4 A. Field Grinding and Polishing Equipment:
 - 1. Variable speed, multiple head, counter-rotating, walk-behind machine with not less than 600 pounds of down pressure on grinding or diamond polishing pads.
 - 2. If dry grinding, honing, or polishing, use dust extraction equipment with flow rate suitable for dust generated, with squeegee attachments.
- 9 B. Edge Grinding and Polishing Equipment: Hand-held or walk-behind machines which produces same results, without noticeable differences, as field grinding and polishing equipment.
- 11 C. Burnishing Equipment: High speed walk-behind or ride-on machines capable of generating 1000 12 to 2000 revolutions per minute and with sufficient head pressure of not less than 20 pounds to 13 raise floor temperature by 20 degrees F.
- D. Metal Bonded Pads: Grinding pads with embedded industrial grade diamonds of varying grits fabricated for mounting on equipment.
- 16 E. Resin Bonded Pads: Polishing pads with embedded industrial grade diamonds of varying grits fabricated for mounting on equipment.



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19 PART 3 - EXECUTION

20 3.1 EXAMINATION

- A. Acceptance of Surfaces and Conditions:
- 22 1. Examine substrates to be polished for compliance with requirements and other conditions affecting performance.
 - Proceed only when unsatisfactory conditions have been corrected in a manner complying with Contract Documents.
 - 3. Starting work within a particular area will be construed as acceptance of surface conditions.

28 3.2 PREPARATION

- 29 A. Cleaning New Concrete Surfaces:
 - 1. Prepare and clean concrete surfaces.
 - Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, paint splatter, and other contaminants incompatible with liquid applied products and polishing.

3.3 VAPOR TESTING CONCRETE FLOORS

2 A. Alkalinity:

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- Test Method: Measure pH according to method indicated in ASTM F 710.
- Acceptable Results: pH between 8 and 10.
- 5 B. Moisture Vapor Transmission Rate:
 - Test Method: Perform anhydrous calcium chloride test according to ASTM F 1869.
- Acceptable Results: Not more than 5 pounds per 1000 square feet in 24 hours.
- 8 C. Relative Humidity:
- 9 1. Test Method: Perform relative humidity test using in situ probes according to ASTM F 2170.
 - 2. Acceptable Results: Not more than 75 percent.

3.4 POLISHING CONCRETE FLOORS

13 A. Sequence of Polishing: Perform polishing in Maintenance Shop after the overhead work is done.

- B. Initial Grinding:
- 1. Use grinding equipment with metal bonded grinding pads.
 - 2. Begin grinding in one direction using sufficient size grit pad.
- 3. Make sequential passes with each pass perpendicular to previous pass using finer grit pad with each pass, up to 150 grit.
 - 4. Achieve maximum refinement with each pass before proceeding to finer grit pads.
 - 5. Vacuum floor using squeegee vacuum attachment after each pass.
 - 6. Continue grinding until aggregate exposure matches approved field mock-ups.
- C. Treating Surface Imperfections:
- 1. Mix patching compound and grout material with dust created by grinding operations to match color of adjacent concrete surface.
 - 2. Fill surface imperfections including, but not limited to, holes, surface damage, small and micro cracks, air holes, pop-outs, and voids.
 - 3. Work compound and treatment until color differences between concrete surface and filled surface imperfections are not reasonably noticeable when viewed from 10 feet away under lighting conditions that will be present after construction.
 - D. Liquid Densifier Application: Apply undiluted to point of rejection, remove excess liquid, and allow to cure according to manufacturers instructions.
- E. Grout Grinding:
 - Use grinding equipment and appropriate grit grinding pads.
- 2. While applying fresh grout material prior to, grind concrete in direction perpendicular to initial grinding to remove scratches.
- 36 > 3. Vacuum floor using squeegee vacuum attachment after each pass.
 - F. Honing:

Use grinding equipment with resin bonded grinding pads. 1 1. Grind concrete in one direction starting with 50 grit pad and make as many sequential 2. 2 passes required to remove scratches, each pass perpendicular to previous pass, up to 100 3 grit pad reaching maximum refinement with each pass before proceeding to finer grit 4 pads. 5 Auto scrub or vacuum floor using squeegee vacuum attachment after each pass. 6 3. G. Polishing: 7 8 Use polishing equipment with resin bonded polishing and burnishing pads. Begin polishing in one direction starting with 200 grit pad. 9 Make sequential passes with each pass perpendicular to previous pass using finer grit pad 10 3. with each pass, up to 400 grit. 11 Achieve maximum refinement with each pass before proceeding to finer grit pads. 12 Auto scrub or vacuum floor using squeegee vacuum attachment after each pass. 5. 13 6. Continue polishing until gloss appearance, as measured according to ASTM E 430, 14 matches approved field mock-ups. 15 Н. Polish Guard: Uniformly apply and remove excessive liquid according to manufacturer's 16 instructions. 17 Final Polish: Using burnishing equipment and finest grit burnishing pads, burnish to uniform 18 I. sheen matching approved mock-up. 19 Final Polished Concrete Floor Finish: 20 Class B - Fine Aggregate (Salt and Pepper) Finish: Remove not more than 1/16 inch of 21 concrete surface by grinding and polishing resulting in majority of exposure displaying fine 22 aggregate with no, or small amount of, medium aggregate at random locations. 23 Level 2 – Satin Medium Gloss Appearance: 2. 24 Procedure: Not less than 5 step process with full refinement of each diamond pad 25 a. up to 400 grit resin bonded pad with one application of densifier. 26 Gloss Reading: Not less than 55 according to ASTM E 430 before polish guard 27 28 application. FIELD QUALITY CONTROL 29 3.5 Field Testing: Engage a qualified walkway auditor to perform field testing according to NFSI 101-A. 30 A to determine if polished concrete floor finish complies with specified static coefficient of 31 friction. 32 **CLOSEOUT ACTIVITIES** 33 3.6 Maintenance Training: CPAA Master Craftsman shall train Owner's designated personnel in A. 34 35 proper procedures for maintaining polished concrete floor. **PROTECTION** 36 3.7 Covering: After completion of polishing, General Contractor to protect polished floors from 37 A. 38 subsequent construction activities with protective covering. **END OF SECTION** 39

1			SECTION 09 61 19		
2 3 4			CONCRETE FLOOR SEALER		
5	CONDI	TIONS (OF THE CONTRACT AND DIVISION 1, as indexed, apply to this Section.		
7 8	PART 1	PART 1 - GENERAL			
9 10	1.1	DESCRIPTION			
11 12		A.	Refer to Instructions to Proposers for substitutions.		
13 14	1.2 SUBMITTALS				
15 16		A.	Refer to Section 01300. Submit manufacturer's data.		
17 18	PART 2 - PRODUCT				
19 20	2.1	MATE	RIALS AND MANUFACTURERS		
21 22 23		A.	Concrete floor sealer shall be "Cureseal W" semi-gloss clear sealer as manufactured by L M. Scofield; or equal approved by the Architect.		
24 25		В.	Prosoco "Durasheen"		
26 27		C.	ZEP Manufacturing "ZEP Seal Out"		
28 29	PART 3	- EXEC	UTION		
30 31		Α.	Concrete slabs shall be smooth, dry, and free of any foreign materials.		
32 33		В.	Apply two coats of specified finish in strict accordance with manufacturer's instructions.		
34 35 36		c.	Allow approximately 24 hours drying time between installations of coats. Do not apply second coat until Architect has inspected first coat application.		
37 38		D.	Install coating after all painting operations are completed.		
39 40 41		E.	Apply any painted stripes or graphics indicated on drawings. Allow approximately 24 hours drying time between installation and additional coats.		
42 43 44		F.	Apply two (2) additional coats of concrete floor sealer over any areas receiving striping or graphics as specified above. (Total for striped areas is 4 coats.)		
45 46 47 48			END OF SECTION		

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