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ADDENDUM NUMBER 1
Riverwalk South Handrails Repairs
RWSHR-SE-0824
July 15, 2024

To all holders of Bid Documents, please be advised to the following:

SECTION 057300 – ADVANCED THERMOSET FLUOROPOLYMER COATING

PART 1 - GENERAL

1.1 SUMMARY

- A. The contractor shall furnish all materials, labor, equipment, and incidentals required to provide a shop-applied protective coating system for the post caps, aluminum rails, flat bars, and miscellaneous hardware. The protective coating is not required for bolts, screws, fasteners, etc. not associated with the guardrail system.
- B. Related Requirements
 - 1. Section 055213 “Pipe and Tube Railings” for aluminum pipe and tube railings and post caps.

1.2 QUALITY ASSURANCE

- A. Workmanship shall be performed by skilled workmen thoroughly trained in necessary crafts and completely familiar with specific requirements and methods specified herein.
- B. All materials shall be produced by a single manufacturer. Total coating system shall be from one manufacturer and no cross coating allowed between primers and finish coats.
- C. Coating system manufacturer’s representative shall be available to provide on-site inspections, technical assistance, and guidance for application of coating system as needed or as requested by the Architect, General Contractor or Painting Contractor.
- D. The painting contractor shall permit Engineer, Owner’s Representative, and/or coating system manufacturer’s representative (as requested by the City) to inspect his work for conformance to this specification. The City reserves the right to reject all work which does not comply with this specification.

1.3 SUBMITTALS

- A. Submit manufacturer's printed literature and other data as required to certify compliance with requirements and systems specified herein.
- B. Submit applicator's detailed plan to apply the coating system, from surface preparation through application of finish coat. The plan should include a manufacturer's certification that the products and methods to be used comply with specified requirements and are suitable for this application.
- C. Selection Samples: Provide sample of aluminum rail section, minimum 18 inches long, illustrating the required sheen, color, texture and coverage rates for approval.
- D. Warranty documentation as specified herein.

PART 2 - PRODUCTS

2.1 ACCEPTABLE SYSTEMS AND MANUFACTURERS

- A. General: Paint product/systems specified are not intended to limit competition, but to establish a standard of quality desired. The City will consider equivalent systems by other manufacturers.

2.2 MATERIALS

- A. Colors and gloss: Black, Semi-gloss
- B. All design basis materials specified herein are manufactured by the Tnemec Company, Inc., North Kansas City, Missouri. Local contact is Michael Anderson, and he can be reached at (803) 429-1045 or andersonm@tnemec.com.
- C. Equivalent materials of other manufacturers may be substituted on approval of the Engineer. Requests for substitution shall include manufacturer's literature for each product giving name, generic type, descriptive information, performance and test data, and evidence of satisfactory past performance. No request for substitution shall be considered if the products' performance criteria is less than the performance criteria of the materials specified herein.
- D. No substitution will be considered unless a request for approval has been submitted by the bidder and has been received by the Engineer at least ten days prior to the date of bids. The burden of the merit of proposed substitute is upon the proposer. The Engineer's decision of approval or disapproval of the proposed substitution shall be final.
- E. **Coating System Schedule:**
 - 1. Primer: Polyamidoamine Epoxy applied at 3.0-4.0 dry mils.

Minimum performance criteria equal to Tnemec Series N69 Hi-Build Epoxoline II is as follows:

- a. Abrasion:

- i. Method: ASTM D 4060 (CS17 Wheel, 100-gram load).
 - ii. System: Two Coats cured 7 days at 75 F
 - iii. Requirement: No more than 140 mg loss after 1,000 cycles.
 - b. Adhesion:
 - i. Method: ASTM D4541 Type V Self-Aligning Adhesion Tester
 - ii. System: Two Coats cured 14 days at 75 F
 - iii. Requirement: No less than 1,943 PSI pull, average of three tests
 - c. Salt Fog:
 - i. Method: ASTM B 117
 - ii. System: Two Coats applied to SSPC-SP10/NACE 2 Near-White Metal Blast Cleaned steel and cured 14 days at 75 F
 - iii. Requirement: No blistering, cracking, checking, rusting or delamination of film. No more than 1% rusting on plane. No more than 1/16" rust creepage at scribe after 6,700 hours exposure
2. Intermediate Coat: Aliphatic Acrylic Polyurethane applied at 2.0-3.0 dry mils.

Minimum performance criteria equal to Tnemec Series 73 Endura-Shield is as follows:

- a. Abrasion:
 - i. Method: ASTM D 4060 (CS17 Wheel, 100-gram load).
 - ii. System: Series 66 Hi-Build Epoxoline/Series 73 Endura-Shield applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel and cured 28 days at 75°F (24°C).
 - iii. Requirement: No more than 96mg loss after 1,000 cycles.
 - b. Adhesion:
 - i. Method: ASTM D4541 Method E, Type V
 - ii. System: Series 66 Hi-Build Epoxoline/Series 73 Endura-Shield applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel and cured 14 days at 75°F (24°C).
 - iii. Requirement: No less than 2,040 PSI pull, average of three tests.
 - c. Humidity
 - i. Method: ASTM D 4585
 - ii. System: Series 66 Hi-Build Epoxoline / Series 73 Endura-Shield applied to SSPC-SP 10/NACE 2 Near-White Metal Blast Cleaned steel and cured 14 days at 75 F.
 - iii. Requirement: No blistering, cracking, rusting or delamination of film after 2,000 hours exposure.
3. Finish Coat: Advanced Thermoset Fluoropolymer applied at 3.0-4.0 dry mils.

Minimum performance criteria equal to Tnemec Series 1071 Fluoronar is as follows:

- a. Abrasion:
 - i. Method: ASTM D 4060 (CS17 Wheel, 100-gram load).
 - ii. System: Series 66 Hi-Build Epoxoline/Series 73 Endura-Shield applied to SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaned steel and cured 28 days at 75°F (24°C).
 - iii. Requirement: No more than 134 mg loss after 1,000 cycles.

- b. Adhesion:
 - i. Method: ASTM D4541 Method E, Type V
 - ii. System: Series 90-97 Tneme-Zinc/Series 73 Endura-Shield/Series 1071 Fluoronar applied to SSPC-SP5/NACE No. 1 White Metal Blast Cleaned steel and cured 14 days at 75°F (24°C).
 - iii. Requirement: No less than 1,733 PSI pull-off strength, average of three tests.
- c. Cleanability
 - i. Method: MIL-PRF-85285D Section 4.6.13
 - ii. System: Series 20 Pota-Pox / Series 1071 Fluoronar applied to aluminum panels and cured 30 days at 75 F
 - iii. Requirement: No less than 99% cleaning efficiency, average of two tests.
- d. Exterior Exposure
 - i. Method: ASTM D 4141, Method C (EMMAQUA)
 - ii. System: Series 66 Hi-Build Epoxoline / Series 1071 Fluoronar applied to SSPC-SP1 Solvent Cleaned aluminum panels and cured 30 days at 75 F.
 - iii. Requirement: No blistering, cracking or chalking. No less than 79% gloss retention, no more than 9 units gloss loss and no more than 0.45 DEHunter color change (white) after 3,500 MJ/m² (128,951 MJ/m² total) EMMAQUA exposure.
- e. Flexibility & Elongation
 - i. Method: ASTM D522 Method B, Cylindrical Mandrel
 - ii. System: Series 135 Chembuild / Series 1071 Fluoronar applied to SSPC-SP7/NACE 4 Brush-Off Blast Cleaned steel and cured 14 days at 75 F
 - iii. Requirement: No cracking, checking or delamination of film with 1/8” mandrel and no less than 38.9% elongation after 14 days cure, average of three tests.
- f. Hardness
 - i. Method ASTM D 3363
 - ii. System: Series 66 Hi-Build Epoxoline / Series 1071 Fluoronar applied to SSPC-SP7/NACE 4 Brush-Off Blast Cleaned steel and cured 30 days at 75 F
 - iii. Requirement: No gauging with an 8H or less pencil
- g. Humidity
 - i. Method: ASTM D 4585
 - ii. System: Series 66 Hi-Build Epoxoline / Series 1071 Fluoronar applied to SSPC-SP10/NACE 2 Near-White Metal Blast Cleaned steel and cured 14 days at 75 F.
 - iii. Requirement: No blistering, cracking, rusting or delamination of film after 2,000 hours exposure.
- h. Impact
 - i. Method: ASTM D 2794
 - ii. System: Series 66 Hi-Build Epoxoline / Series 1071 Fluoronar applied to SSPC-SP7/NACE 4 Brush-Off Blast Cleaned steel and cured 7 days at 75 F
 - iii. Requirement: No visible cracking or delamination of film after 28 inch-pounds or less direct impact, average of three tests.
- i. QUV Exposure

- i. Method: ASTM D 4587 (UVA 340 bulbs, Cycle 4: 8 hours UV / 4 hours condensation)
- ii. System: Series 66 Hi-Build Epoxoline / Series 1071 Fluoronar applied to SSPC-SP1 Solvent Cleaned aluminum panels and cured 30 days at 75 F.
- iii. Requirement: No blistering, cracking or chalking. No less than 92% gloss retention (3.4 units gloss change) and 3.12 DEFMC2 color change (white) after 10,000 hours exposure. (TR5788)

PART 3 - EXECUTION

3.1 INSPECTION

- A. Thoroughly examine surface scheduled to be painted prior to commencing work. Report in writing to the Engineer any condition that may affect proper application and overall performance of coating system. Do not proceed with work until such conditions have been corrected. Commencing with work indicates acceptance of existing conditions and for responsibility for performance of applied coating.

3.2 SURFACE PREPARATION

- A. Pre-clean per SSPC-SP 1 Solvent Cleaning. Uniformly scarify to achieve a minimum 1.0 mil anchor profile. The surface shall be clean and dry prior to coating application.

3.3 APPLICATION

- A. General Requirements:
 1. Application Method: Shop-applied
 2. Coating system shall be applied in strict compliance with manufacturer's instructions and using application method best suited for obtaining full, uniform coverage of surfaces to be coated.
 3. Apply primer, intermediate, and finish coats to comply with wet and dry film thickness and spreading rates for each type of material as recommended by manufacturer.
 - a. Application rates in excess of those recommended and fewer numbers of coats than specified shall not be accepted.

3.4 DELIVERY, HANDLING AND STORAGE

- A. The contractor shall follow all manufacturer's instructions and recommendations to minimize damage of the coating film when loading, unloading and shipping shop painted members.

3.5 REPAIR/RESTORATION

- A. At completion of Work, touchup and restore finishes where damaged in accordance with coating manufacturer's recommendations.

- B. Defects in Finished Surfaces: When stain, dirt, or undercoats show through final coat, correct defects and cover with additional coats until coating is of uniform finish, color, appearance and coverage.
- C. Touchup of minor damage shall be acceptable where result is not visibly different from surrounding surfaces. Where result is visibly different, either in color, sheen, or texture, recoat entire surface.

3.6 WARRANTY

- A. The contractor shall warrant the work free from defects in material and workmanship for a period of three (3) years. The contractor will return in one (1) year and along with a City representative and perform an inspection of the work. Deficiencies found will be corrected by the contractor at no cost to the City.
- B. The coating system manufacturer shall provide a warranty for color and gloss retention for a period of (15) years.

END OF SECTION 057300

Acknowledge receipt of this Addendum in the space provided in the Proposal. Failure to do so may disqualify the Bidder.

All other terms and conditions remain unchanged.

Daryle L. Parker, Purchasing Manager
Purchasing Division
END OF ADDENDUM ONE