



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

June 8, 2022

SUBJECT: Route FAU 5352 & FAU 5336 (North 1st Street & Lucinda Avenue)
Section 18-00193-00-BR (City of DeKalb)
DeKalb County
Contract No. 87779
Item 215
June 17, 2022 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

- 1. Revised sheets 4 & 32 of the Plans.**
- 2. Revised the Schedule of Prices.**
- 3. Revised the Table of Contents to the Special Provisions.**
- 4. Revised pages 10 & 11 of the Special Provisions.**
- 5. Added pages 10A – 10L to the Special Provisions.**

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Jack A. Elston'.

Jack A. Elston, P.E.
Bureau Chief, Design and Environment

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- a. Catalogue cuts of the proposed liner, including bonding and release agents.
- b. Contractor's proposed construction procedure
- c. One 10" x 10" liner sample.
- d. Verification Sample Panel. Submit a 2' x 2' x 6" sample of the simulated stone masonry finish which demonstrates the finish, color and textures specified.
- e. Thirty days prior to starting construction of any form lined surface, provide a mock-up to remain on the site as a basis for comparison of the work constructed on the project. Duplicate in form and appearance (texture, joint dimension, stone size and coloration) all work constructed on the project matching the sample panel. Remove any sample rejected by the Engineer from the project and submit a new sample at no additional expense to the City. The mock-up shall be 2' x 2' x 6" and shall include color staining.

After removal of the formwork from the first constructed section utilizing architectural finish, the Engineer will examine the section and instruct the Contractor if the architectural finish is acceptable or if future sections need further modifications. If necessary, the Contractor shall pour additional test sections at locations designated by the Engineer until a section meets with the Engineer's approval. The architectural finish of all subsequently installed sections shall match the approved section. All deviations from the approved architectural finish shall be repaired by the Contractor to the satisfaction of the Engineer at no additional cost to the Department.

Shop drawing plan, elevation and details to show overall pattern, joint locations, form tie locations and end, edge, as well as other special conditions.

Method of Measurement. Architectural finish will be measured in place and the area computed in square feet. The dimensions used to compute the area architectural finish will be those dimensions indicated on the plan or directed by the Engineer which outline plane area. Measurement will not be on actual surface area of architectural finish.

Basis of Payment. This work will be paid for at the contract unit price per square foot for FORM LINER TEXTURED SURFACE.

ORNAMENTAL RAILING

Description. This work shall consist of furnishing and installing an ornamental bridge railing at locations indicated on plans and specified herein. The bridge railing work includes cast-in-place foundations, precast stone, metal railing, architectural columns, and all miscellaneous and collateral work specified herein and in the plans. This work shall also include furnishing design computations and details, architectural drawings, shop plans, equipment and labor necessary to complete this work.

General. The ornamental railing shall consist of a steel capped picket style fence and architectural columns.

The architectural columns shall have a reinforced concrete core and be clad in precast stone, and meet the intentions of the architectural guidelines presented in the plans, to the satisfaction of the Engineer and the City of DeKalb.

The ornamental railing and architectural columns shall match the appearance of the College Avenue bridge ornamental railings and architectural columns, in the City of DeKalb, to the satisfaction of the Engineer and the City of DeKalb.

Materials. Portland cement concrete for cast in place portions of the architectural columns shall be Class SI concrete according to Article 1020.02 of the Standard Specifications. Reinforcement bars shall be in accordance with Section 508 of the Standard Specifications.

Ornamental metal railing shall be in accordance with the following special provisions:

METAL FABRICATIONS

Precast Stone shall be in accordance with the following special provision:

ARCHITECTURAL PRECAST STONE

Submittals. The contractor shall submit to the engineer for review and approval the following:

- A. Structural Design: Submit design computations and details for the metal railing. The computations and details shall be sealed by a licensed Illinois Structural Engineer (SE).
- B. Architectural Design: Submit architectural drawings for the architectural columns. The drawings shall be sealed by a licensed Illinois Architect.
- C. Product Data: Submit manufacturer's product specifications and installation instructions for products and processes used in handrails and railings, including finishes and grout.
- D. Shop Drawing: Submit shop drawings for fabrication and erection of railings and precast stone. Include plans, elevations and details of fittings, connections and anchorages to other work. Provide templates for anchor and bolt installation by others.
 - 1. Where materials or fabrications are indicated to comply with certain requirements for design loadings, include structural details, material properties and other information needed to comply with the SE's sealed design computations.
- E. Samples: Submit samples for each type of metal finish indicated. Prepare samples on metal on same gauge and alloy to be used in work. Where normal color and texture variations are to be expected, provide "range" samples showing limits of such variations.
 - 1. Include 6 inch long samples of distinctly different railing members including handrails, top rails, posts and rail coverings, if any. Include samples of fittings and brackets if requested by Architect/Engineer.

Quality Assurance.

- A. Shop assembly: preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

Railing Design Criteria. Provide railing and handrail assemblies which, when installed, comply with the design load requirements of the 2020 AASHTO LRFD Bridge Design Specifications, 9th Edition, and the additional following minimum requirements for structural performance, meeting whichever is more stringent, unless otherwise indicated.

- A. Handrails and Top rails: Capable of withstanding the following loads applied as indicated:
 - 1. Concentrated load of 200 pounds applied at any point in any direction.

2. Uniform load of 50 pounds per linear foot applied simultaneously in both vertical and horizontal directions.
- B. Guards: Intermediate rails, balusters and panel fillers capable of withstanding a uniform load of 25 pounds per square foot of gross area of guard, including any open areas of which they are a part.
1. Above load need not be assumed to be acting concurrently with uniform horizontal loads on top rails of railing assembly in determining stress on guard supporting members.

Method of Measurement. This work will be measured for payment in place in feet. The length measured will be the overall length along the bridge sidewalk surface, back-to-back of architectural columns.

Basis of Payment. This work shall be included in the contract unit price bid per foot for ORNAMENTAL RAILING and no additional compensation will be allowed.

METAL FABRICATIONS

Description. This work shall consist of fabricating handrails and railings to design, dimensions and details shown and providing handrail and railing members in sizes and profiles indicated, with supporting posts and brackets of size and spacing shown, but not less than required to support the design loading indicated.

Materials.

A. Steel:

1. Structural Tubing:

- i. Cold Formed Welded and Seamless: ASTM A500.
- ii. Hot Formed Welded and Seamless: ASTM A501.
- iii. Finished tubing: ASTM A513, electric resistance-welded, low carbon, MT1010, bright finish pickled and oiled strip, outside welding flash removed.

2. Finished tubing: ASTM A513, electric resistance-welded, low carbon, MT1010, bright finish pickled and oiled strip, outside welding flash removed.

3. Plate: ASTM A283, Grade C.

4. Bar:

- i. Hot rolled: ASTM A36.
- ii. Cold finished: ASTM A108, Grade 1018.

B. Fasteners:

1. Expansion shields: Fed. Spec. FF-S-325, machine bolt type, tubular type, or self-drilling tubular type.

2. Capsule anchors: Hilti, Inc. "HVA Adhesive Anchor System"; or ITW Ramset/Redhead "EPCON System"; or Rawl Plug Co. Inc. "Chem-Stud".
3. Steel bolts, standard fasteners: ASTM A307.
4. Steel bolts, high strength: ASTM A325.

C. Nonshrink Grout:

1. A factory premixed and packaged non-metallic compound complying with ASTM C1107, Grade C, at all flow levels, and one of the following, or as approved:
 - i. Dayton Superior Corp. "Sure-Grip High Performance Grout"
 - ii. Euclid Chemical Co. "Hi-Flow Grout"
 - iii. L & M Construction Chemicals, Inc. "Crystex".
 - iv. Symons Corp. "Symons Multi-Purpose".
2. Note: Nonshrink grout exposed to view: pigmented to match color of concrete.

Fabrication.

A. Anchors:

1. Provide anchors and fastening required to secure work in place.
2. Wherever possible, embed anchors in new concrete and masonry. Use expansion shields or capsule anchors only where anchors cannot be located before concrete is poured and for anchoring to existing concrete and masonry.
3. Unless otherwise indicated or specified, provide 1-1/2-inch-diameter anchor bolts. Cut off projecting ends of bolts within 1-1/8 inch of face of nut and grind or file smooth after installation.

B. Workmanship:

1. Provide concealed fastenings where possible. Drill or punch holes in shop. Holes made or enlarged in field are subject to approval by the Engineer.
2. Provide holes for bolted connections with allowance for field adjustment.
3. Provide members which are straight and in alignment at joints. Mill exposed ends smooth. Remove shear burrs from edges of sheet steel.
4. Provide members which are straight and in alignment at joints. Mill exposed ends smooth. Remove shear burrs from edges of sheet steel.

Welded Connections. Fabricate handrails and railings of materials indicated below for interconnections of members by welding. Preassemble railing units in shop to maximum extent practicable and consistent with shipping and handling limitations. Perform welding to comply with applicable AWS specifications, using method appropriate for metal, galvanizing, and finish indicated. Grind exposed welds smooth and flush to match and blend with adjoining surfaces.

- A. Provide welded connections for ferrous pipe handrails and railings.
 - 1. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain profile of member throughout entire bend without buckling, twisting or otherwise deforming exposed surfaces of handrail and railing components.
 - 2. For exterior handrails and railings, and those exposed to moisture from condensation or other sources, provide weep holes or other means for evacuation of entrapped water in hollow sections of railing members.
 - 3. Brackets, Flanges, Fittings and Anchors: Provide manufacturer's standard wall brackets, flanges, miscellaneous fittings and anchors for interconnection of handrail and railing members to other work, unless otherwise indicated. Furnish inserts and other anchorage devices for connecting handrails and railing to concrete or masonry work. Fabricate and space anchorage devices as indicated and as required to provide adequate support. Coordinate anchorage devices with supporting structure.
- B. For railing posts set in concrete provide sleeves of galvanized steel, not less than 6 inches long and with inside dimensions not less than 1/2 inch greater than outside dimensions of post. Provide galvanized steel plate closure welded to bottom of sleeves, make closure 1 inch greater in length and width than outside dimensions of sleeve.
- C. Provide slip-fit metal sockets to receive removable railing posts. Include removable socket covers designed and fabricated to fit into socket and resist accidental removal.

Galvanizing. All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications prior to receiving a painted finish.

Metal Finishes. Finish shall be an acrylic polyurethane paint system as manufactured by TNEMEC Co., inc.; or Sherwin Williams Architectural/Protective Coatings; or ICI Paint Stores Exterior Architectural Finishes, or other similar system by an approved manufacturer. Color to be selected by Architect/Engineer.

Prepare all surfaces by removing all dirt, grease or other foreign matter according to the manufacturer of the paint system.

- A. Shop Applied Prime Coat: Apply a prime coat of TNEMEC Series 66, Color Hi-Build Epoxoline; or Sherwin Williams KEM KROMIK Metal Primer; or ICI Paint Stores Decra-Sheild Exterior Acrylic Primer to a dry thickness of 3 to 4 mils.
- B. Shop Applied Finish Coat: Apply a finish coat of Hi-Build Acrylic Polyurethane Enamel, TNEMEC Series 73 (semi-gloss) or 74 (high-gloss), Endura-Shield III; or Sherwin Williams METALAST1C II Enamel, or ICI Paint Stores Ultra-Hide Durus Exterior Acrylic Primecoat to a dry film thickness of 2.5 to 3.5 mils.

Execution.

- A. Examination: Installer must examine the areas and conditions under which handrails and railings are to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
- B. Preparation: Coordinate setting drawings, diagrams, templates, instructions and directions for installation of anchorages such as sleeves, concrete inserts, anchor bolts and miscellaneous items having integral anchors which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.
- C. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay job progress; allow for adjustments during installation where taking field measurements before fabrication might delay work.
- D. Installation:
 - 1. General:
 - i. Fit exposed connections accurately together to form tight, hairline joints.
 - ii. Perform cutting, drilling and fitting required for installation of handrails and railings. Set work accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels. Do not weld, cut or abrade surfaces of handrails and railing components which have been coated or finished after fabrication, and are intended for field connection by mechanical means without further cutting or fitting.
 - 2. Anchoring Posts:
 - i. Anchor posts in concrete by means of sleeves preset and anchored into concrete. After posts have been inserted into sleeves, fill annular space between posts and sleeve solid with non-shrink, non-metallic grout, mixed and placed to comply with grout manufacturer's directions. Leave anchorage joint exposed; wipe off excess grout and leave 1/8 inch build up, sloped away from post. For installation exposed on exterior or to flow of water, seal grout to comply with grout manufacturer's directions.
 - ii. Anchor posts to metal surfaces with manufacturer's standard fittings designed for this purpose, unless otherwise indicated.
 - iii. Provide removable railing sections as indicated, using slip-fit metal sockets. Accurately locate sockets to match post spacing.
- E. Adjust and Clean:
 - 1. Protect finishes of railings and handrails from damage during construction period by use of temporary protective coverings approved by railing manufacturer. Remove protective covering at project completion or when directed by Architect/Engineer. Restore finishes damaged during installation and construction period so that no evidence remains of correction work. Return items which cannot be refinished in the field to the shop; make required alterations and refinish entire unit or provide new units as required.

2. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections and abraded areas of shop paint; and paint exposed areas with same material.

Method of Measurement. This work shall not be measured separately for payment.

Basis of Payment. This work shall be considered included in the contract unit price bid per foot for ORNAMENTAL RAILING and no additional compensation will be allowed.

ARCHITECTURAL PRECAST STONE

Description. This work consists of furnishing and installing architectural precast stone at locations shown in plans and as specified herein. Cleaning and sealing of the cast stone and furnishing and installation of all anchors and required hardware shall be included with this work.

Submittals. The contractor shall submit to the engineer for review and approval the following:

- A. Product Data: Submit manufacturer's product data.
- B. Shop Drawings: Submit manufacturer's shop drawings for fabrication and erection of units proposed for use in project.
- C. Verification Samples: Submit pieces of actual Cast Stone components, 12 inches (305 mm) square, illustrating range of color and texture to be anticipated in components furnished for project.
- D. Test Results: Submit manufacturer's test results of Cast Stone components made previously by manufacturer using materials from same sources proposed for use in project.

Quality Assurance.

- A. Manufacturer Qualifications:
 1. Manufacturer shall have sufficient plant facilities to produce the shapes, quantities and size of cast stone required without delaying progress of the Work.
 2. Manufacturer must be an Architectural Precast Association Certified Plant or approved equal with minimum of five years history of manufacturing cast stone or similar units.
- B. Standards: Comply with requirements of the Architectural Precast Association specifications or Cast Stone Institute Technical Manual and project specifications. Where a conflict may occur the contract documents shall prevail.
- C. Mock-Up: Provide full size mock up of Cast Stone components for installation in mock-up of wall. Approved mock-up will become standard for appearance and workmanship.
 1. Approved mock-up may remain as part of the completed Work.

Delivery, Storage and Handling.

A. Delivery:

1. Deliver Cast Stone components secured to shipping pallets and protected from damage and discoloration.
2. Protect corners from damage.
3. Number each piece individually to match shop drawings and schedules.

B. Storage:

1. Store Cast Stone components and installation materials in accordance with manufacturer's instructions.
2. Store Cast Stone components on pallets with non-staining, waterproof covers.
3. Ventilate under covers to prevent condensation.
4. Prevent contact with dirt.

C. Handling: Protect Cast Stone components during handling and installation to prevent chipping, cracking, or other damage.

Products. The cast stone shall be provided by:

Custom Stone Works
4231 Stephanie Drive
Cortland, Illinois 60112

Use of other manufacturer's products will be considered if requested in writing and approved by the Engineer.

A. Architectural Cast Stone Requirements:

1. Cast Stone: ASTM C 1364.
2. Physical Properties: Provide the following:
 - i. Compressive Strength, ASTM C 1194: 6,500 psi minimum at 28 days.
 - ii. Absorption, ASTM C 642: 6 percent maximum by weight at 28 days.
 - iii. Air Content- ASTM C173 or C231, for wet cast product shall be 4-8%.
 - iv. Freeze-Thaw- ASTM C666: The Cumulative Percentage Weight Loss shall be less than 5% after 300 cycles of freezing and thawing.
 - v. Linear Shrinkage- ASTM C 426: Shrinkage shall not exceed 0.065%.

3. Surface Texture:

- i. Fine grained texture, similar to natural stone.
- ii. No bug holes, air voids, or other surface blemishes in excess of 1/32 in.

4. Color and Finish:

- i. Shall be determined by the Architect and approved by the Engineer.

5. Color Variation:

- i. Viewing Conditions: Compare in direct daylight at 10 feet (3 m), between components of similar age, subjected to comparable weathering conditions.

6. Maximum Variation, ASTM D 2244:

- i. Hue: 2 units.
- ii. Lightness, Chroma, and Hue Combined: 6 units.

B. Architectural Cast Stone Material Requirements:

1. General: Manufacturer will choose type and color of portland cement and aggregates based on the Cast Stone color specified by the Engineer.
2. Portland Cement: ASTM C 150, Type I, white or gray as required to match specified color.
3. Coarse Aggregate: ASTM C 33, except for gradation; granite, quartz, or limestone.
4. Fine Aggregate: ASTM C 33, except for gradation; natural or manufactured sands.
5. Pigments: ASTM C 979, inorganic iron oxides.
6. Admixtures:
 - i. ASTM C 494.
 - ii. Integral water repellants and other chemicals for which no ASTM standard exists. Previously established as suitable for use in concrete by proven field performance or through laboratory testing.
 - iii. ASTM C 618 mineral admixtures of dark and variable colors shall not be used in surfaces intended to be exposed to view.
7. Water: Potable

8. Reinforcing Bars:

- i. ASTM A 615/A 615M, epoxy coated.
- ii. Welded Wire Fabric: ASTM A 185 where applicable for wet cast units.

9. All anchors, dowels and other anchoring devices shall be standard building stone anchors commercially available in a non-corrosive material such as zinc plated, galvanized steel, brass, or stainless steel Type 302 or 304.

10. Mortar: ASTM C 270, Type N.

11. Sealant: As specified by the manufacturer.

12. Cleaner:

- i. Manufacturer's standard-strength, general-purpose cleaner designed for removing mortar and grout stains, efflorescence, and other construction stains from new masonry surfaces without discoloring or damaging masonry surfaces.
- ii. Expressly approved for intended use by Cast Stone manufacturer and expressly approved by cleaner manufacturer for use on Cast Stone and adjacent masonry materials.

C. Fabrication:

1. Shapes: Unless otherwise indicated on drawings, provide:

- i. Suitable wash on exterior sills, copings, projecting courses, and components with exposed top surfaces.
- ii. Drips on projecting components, wherever possible.

2. Reinforcement:

- i. As required to withstand handling and structural stresses.
- ii. Comply with ACI 318.
- iii. Minimum of 0.25 percent of cross-sectional area of panels which exceed 12 inches (305 mm) in width.
- iv. Minimum Reinforcing Cover: Twice diameter of reinforcing bars.
- v. Panels greater than 24 inches in one direction shall be reinforced in that direction. Units less than 24 in. in both their length and width shall be nonreinforced unless otherwise specified.
- vi. Welded wire fabric shall not be used in dry cast products.

3. Curing:

- i. Cure zero slump cast units in a warm curing chamber approximately 100 degrees at 95% relative humidity for approximately 12 hours, or cure in a 95% moist environment at a minimum 70 degrees for 16 hours after casting. Additional yard curing at 95% relative humidity shall be 5 days at 70 degrees prior to shipping. Cure measurable slump cast units with sufficient protection from moisture evaporation to achieve specified design properties.

4. Finishing: Remove cement film from exposed surfaces before packaging for shipment.

5. Tolerances: Fabricate Cast Stone components within tolerances in accordance with Cast Stone Institute Technical Manual, unless otherwise specified.

- i. Dimensions: Plus or minus 1/8 inch (3 mm).
- ii. Maximum Bow, Camber, or Twist: Length/360 or 1/8 in. whichever is greater.

D. Source Quality Control:

1. Testing:

- i. Test compressive strength and absorption of specimens selected at random from plant production.
- ii. Perform tests in accordance with ASTM C 1194 and C 1195.
- iii. Select samples at rate of 1 per 500 cubic feet of product produced.

Execution.

A. Examination:

1. Examine construction to receive Cast Stone components. Notify Engineer if construction is not acceptable. Do not begin installation until unacceptable conditions have been corrected.
2. Examine Cast Stone components for fit and finish before installation. Do not install unacceptable components.

B. Installation:

1. Setting:

- i. Drench Cast Stone components with clear, running water immediately before installation.
- ii. Do not use pry bars or other equipment in a manner that could damage Cast Stone components.
- iii. Fill dowel holes and anchor slots completely with mortar or non-shrink grout.
- iv. Set Cast Stone components in a full bed of mortar, unless otherwise indicated on the drawings.

- v. Fill vertical joints with mortar.
- vi. Make joints 3/8 inch (9 mm), unless otherwise indicated on the drawings.
- vii. Leave head joints in copings and similar components open for sealant.
- viii. Rake mortar joints 3/4 inch (19 mm) for pointing. Sponge face of each stone to remove excess mortar.
- ix. Tuck point joints to a slight concave profile.

2. Sealant Joints:

- i. Sealant shall be a non-staining one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25, Use T.
- ii. Prime ends of Cast Stone components, insert properly sized foam backing rod, and install sealant using sealant gun.
- iii. Provide sealant joints at following locations and as indicated on the drawings.
 - a. Cast stone components with exposed tops.
 - b. Joints at relieving angles.
 - c. Control and expansion joints.

C. Tolerances:

1. Installation Tolerances: Comply with requirements of Cast Stone Institute Technical Manual.

- i. Variation from Plumb: Do not exceed 1/8 inch in 5 feet (3 mm in 1.5 m) or 1/4 inch in 20 feet (6 mm in 6 m) or more.
- ii. Variation from Level: Do not exceed 1/8 inch in 5 feet (3 mm in 1.5 m), 1/4 inch in 20 feet (6 mm in 6 m), or 3/8 inch (9 mm) maximum.
- iii. Variation in Joint Width: Do not vary joint thickness more than 1/8 inch (3 mm) or 1/4 of nominal joint width, whichever is greater.
- iv. Variation in Plane Between Adjacent Surfaces: Do not exceed 1/8-inch (3-mm) difference between planes of adjacent components or adjacent surfaces indicated to be flush with components.

D. Repair:

1. Surface Repair:

- i. Repair chipping and other surface damage noticeable when viewed in direct daylight at 20 feet (6 m).
- ii. Repair with matching touchup material provided by manufacturer and in accordance with manufacturer's instructions.
- iii. Repair methods and results to be approved by Engineer.

E. Protection:

1. Protect Cast Stone components from splashing and other damage.

F. Cleaning:

1. In-Progress Cleaning:

- i. Clean Cast Stone components as work progresses.
- ii. Remove mortar fins and smears before tooling joints.

2. Final Cleaning:

- i. Clean exposed Cast Stone, after mortar is thoroughly set and cured.
- ii. Cleaner:
 - a. Wet surfaces with water before applying cleaner.
 - b. Apply cleaner to Cast Stone in accordance with manufacturer's instructions.
 - c. Remove cleaner promptly by rinsing thoroughly with clear water.

G. Inspection and Acceptance:

1. Inspect in accordance with Cast Stone Institute Technical Manual.

H. Water Repellant:

1. Apply silane or siloxane water repellant for weatherproofing Cast Stone in accordance with manufacturer's instructions.
2. Apply water repellant after pointing, patching, cleaning, and acceptance is completed.

Method of Measurement. This work shall not be measured separately for payment.

Basis of Payment. This work shall be considered included in the contract unit price bid per foot for ORNAMENTAL RAILING and no additional compensation will be allowed.

~~**Submittals.** The contractor shall submit design computations and shop plans to the Engineer. No work or ordering of materials for the railing shall be done by the Contractor until the submittal has been approved in writing by the Engineer. The shop plans shall include all details, dimensions, and quantities, necessary to construct the railing.~~

~~**Method of Measurement.** This work will be measured for payment in place in feet. The length measured will be the overall length along the bridge sidewalk surface, back to back of architectural columns.~~

~~**Basis of Payment.** This work shall be included in the contract unit price bid per foot for ORNAMENTAL RAILING and no additional compensation will be allowed.~~

PROTECTIVE COAT

Description. This work shall be performed in accordance with Section 503 of the Standard Specifications and as specified below.

In addition to the areas required by the Standard Specifications, Protective Coat shall be applied to the top horizontal surface of the soldier pile wall, the exposed vertical face of the soldier pile wall, the exposed vertical face of the north abutment of the North 1st Street bridge, and the horizontal surface of the Portland Cement Concrete 6 Inch, Special portions of the Bike Path.

In addition to Protective Coat, the exposed vertical face of the soldier pile wall and the exposed vertical face of the north abutment of the North 1st Street bridge shall receive an anti-graffiti coating.

ANTI-GRAFFITI COATING

Description. *This work shall consist of the furnishing and application of an anti-graffiti coating to the exposed concrete surfaces as shown in the plans.*

General Requirements. *The anti-graffiti protection system shall consist of a permanent, color stable, UV, stain, chemical and abrasion resistant coating.*

Qualifications. *The anti-graffiti protection system shall be a product that has been commercially available for a period of at least five (5) years. Samples of the proposed material shall be supplied to the Engineer for testing. The Contractor shall apply the material to a test patch following the manufacturer's recommendation. After the manufacturer's recommended curing period the Engineer will apply various types of graffiti materials to the coating. After three (3) days the removal agent shall be used to remove the graffiti. If, after graffiti removal, the anti-graffiti coating is clean and undamaged with no evidence of ghosting, shadowing or staining then the anti-graffiti coating is approved for use.*

Surface Preparation. *Prior to application of the anti-graffiti coating all designated surfaces shall be cleaned of all loose debris, previous coatings and all foreign matter by a method as recommended by the coating manufacturer and approved by the Engineer. All surfaces shall be thoroughly clean, dry and free of dust that might prevent penetration of the coating. New concrete should be thoroughly cured before application of the coating. Concrete surfaces shall be properly sealed according to the manufacturer's recommendations so that application of the system does not produce any noticeable long term change in the color of the surfaces being treated. A technical representative of the manufacturer shall be present to approve surface preparation and application of the anti-graffiti protection system as necessary.*