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Drawings:
  o A100–Guard Rail Details for Hatboro Station

DATE: January 2017

PROJECT: Hatboro Station Improvements
SECTION 01010
SUMMARY OF WORK

PART 1 – GENERAL

1.01 Description of Work

A. The Work of this Contract shall include fabrication, and delivery of custom fabricated guard rails.

B. The Contractor shall submit a price for each item on the schedule to be held for the duration of the contract.

1.02 Related Sections

A. Section 01300 – Submittals

B. Section 05090 – Miscellaneous Fasteners

C. Section 05501 – Custom Mild Steel Fabrications

D. Section 09960 – High-Performance Coatings – Galvanizing and Powder Coating

1.03 Submittals

A. All submittals shall be provided under the provisions of Section 01300 Submittals.

PART 2 – NOT USED

PART 3 – EXECUTION

3.01 Packing and Shipping

A. All components shall be packaged and shipped so as to protect the integrity and finish from any damage whatsoever.

B. Label and Key all components to the installation drawings.

C. The Contractor shall be responsible for any applications/fees/paperwork associated with any necessary approvals or permits required for roadway access.

3.02 Delivery

A. Delivery shall be made to SEPTA’s work site only when the site is ready with suitable space for storage and provisions to protect materials during construction.

B. SEPTA shall be given 72 hour notice prior to shipping.
3.03 Installation

A. Site installation shall be done by SEPTA work forces.

END OF SECTION
PART 1 – GENERAL

1.01 Description

A. This section covers all submittals including shop drawing submission and concurrence requirements, along with installation drawings and further complements the requirements of the Agreement. Make submittals required by the Contract Documents, (utilizing the attached transmittal form) and revise and resubmit as necessary to establish compliance with the specified requirements.

B. Submittals that are not required will not be reviewed by SEPTA.

C. The Contractor may require subcontractors to provide drawings, installation diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and the subcontractors and will not be reviewed by SEPTA unless it is required by other pertinent sections of the Specifications.

1.02 Related Work

A. Section 01010 – Summary of Work
B. Section 05090 – Miscellaneous Fasteners
C. Section 05501 – Custom Mild Steel Fabrications
D. Section 09960 – High-Performance Coatings – Galvanizing and Powder Coating

1.03 Quality Assurance

A. Coordination and Submittals
   1. Prior to making each submittal, the Contractor shall carefully review and coordinate all aspects of each item being submitted. Shop drawings of systems containing closely related items and components must be submitted as a single submission showing the interrelationship of the components required for that system.
   2. The Contractor shall verify prior to submission that each shop drawing is well-prepared and that the submittal conforms in all respects with the specified requirements. The drawings shall provide complete information regarding proper fabrication and installation.
   3. The Contractor shall sign each submittal and affix a stamp with specific written indication that the Contractor has satisfied all responsibilities under the Contract Documents with respect to review of the submission.
   4. Shop drawings shall be tailored to the specific project need including coordination of various trades and should include material descriptions, quantities, dimensions, design criteria and similar data to enable SEPTA to review information as required. The shop drawings must show clear and complete information for the fabrication and installation of materials.
5. Orient the plan(s) on the shop drawing(s) in the same manner as the plans on the Contract Drawings.
6. Shop drawings with reproduction(s) of the Contract Drawings will not be accepted.

B. Responsibility: The Contractor is solely responsible and accountable for:
   1. Means, methods, techniques, sequences and procedures, construction including fabrication, assembly, installation/erection, safety precautions and programs incidental to any submittal reviewed and approved by SEPTA.
   2. Accuracy of all submittals and shop drawings and final installation.
   3. Arranging submittals and shop drawing standards meetings with SEPTA and/or the Project Manager.
   4. Numbering all submittals. Architectural product numbers shall be preceded with an “A”, likewise Structural products with an “S”. All re-submittals shall have an “R” and the number of the resubmission at the end. Example: A001, A-001-R01.

1.04 Substitutions

A. “Or Equal” Substitutions
   1. Restricted Items: Where items of equipment and/or materials are specifically identified in the Specifications or on the Drawings by a manufacturer’s name, model or catalogue number, only such specific items may be used. When several materials are specified by name for one use, the Contractor may select any of those specified. Materials specified by manufacturer’s trade name shall comply with the manufacturer's printed Specifications and data.
   2. Equals Considered: Whenever a material or article required is specified or shown on the plans by using the name of the proprietary product or of a particular manufacturer or vendor, any material or article which will, in the opinion of SEPTA’s Project Manager, perform adequately the duties imposed by general design will be considered equal and satisfactory provided material or article so proposed is of equal substance and function in SEPTA's Project Manager's opinion. It shall not be purchased or installed without SEPTA's Project Manager's written approval. "Or Equal" requests will be considered only when substantiated by the Contractor's submittal of data documenting the "or equal" nature of material or article within ten (10) calendar days after the date of receipt of Notice to Proceed.

B. Substitutions for Unavailability
   1. Substitutions (may) be considered when a Product becomes unavailable through no fault of the Contractor. The Contractor shall document each request with complete data substantiating compliance of proposed Substitution with Contract Documents, or there is a clear benefit to SEPTA including cost. A request constitutes a representation that the Contractor:
      a. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
      b. Shall provide the same warranty for the substitution as for the specified product.
      c. Shall coordinate installation and make changes to other work which may be required for the Work to be complete with no additional cost to SEPTA.
      d. Shall waive claims for additional costs or time extension which may subsequently become apparent.
      e. Shall reimburse SEPTA for review or redesign services associated with re-approval by SEPTA.
1.05 Submittals

A. SEPTA’s action for submittals will be indicated as follows:
   NO EXCEPTIONS TAKEN
   PROCEED AS NOTED: REVISE AND RESUBMIT FOR RECORD
   DO NOT PROCEED: REVISE AND RESUBMIT
   REJECTED
   NOT APPLICABLE

B. Contractor shall submit shop drawings, installation drawings, catalog cuts, samples and substitution(s) for SEPTA review and approval. The Contractor shall coordinate between the contractor/Fabricator/Detailer and SEPTA and the Project Manager for each complex submittal requiring detailed coordination.

C. Submittals will be reviewed by SEPTA.

D. Submittals not in compliance with the Contract will be returned to the Contractor for revision. Any loss of time and additional costs associated with re-submittal(s) will the Contractor's responsibility.

E. Each submission and re-submission shall give specific written notice on the transmittal of each variation that the shop drawings or samples may have from the requirements of the Contract Documents and, in addition, shall cause a specific notation to be made on each shop drawing submitted for review and approval of each such variation.

F. Each re-submission(s) shall clearly identify and make specific notation(s) on each shop drawing concerning the:
   1. Changes that are made as a result of SEPTA’s Project Manager comments on the previous submittal(s).
   2. Changes that are not made, but commented on by SEPTA’s Project Manager on the previous submittal(s). The Contractor shall provide detailed explanation and justification as to why SEPTA’s Project Manager's comments are not addressed.
   3. Changes that are solely made by the Contractor, but not commented on by SEPTA’s Project Manager on the previous submittal(s). The Contractor shall provide a detailed explanation and justification for such changes.
   4. Each item being resubmitted shall have an “R” placed at the end of the submission number and shall also include what resubmission this is, such as 01, 02, etc.

G. Submittals that are "Proceed as Noted" by SEPTA’s Project Manager are for the purpose of expediting the fabrication of the intended work. The Contractor shall incorporate all corrections and resubmit to SEPTA the required copies of drawings within 10 days of the "Proceed as Noted" action.

1.06 Delivery, Storage and Handling

A. Delivery and Handling: Transport and handle units and their associated components, and other products specified herein, in a manner recommended by their respective manufacturers to prevent damage and defects of whatever nature.
B. Storage: Store units and components in accordance with their manufacturer’s recommendations to prevent joint damage and joint contamination. Exercise such care in storage of other specified products as recommended by their respective manufacturers.

**PART 2 – PRODUCTS**

2.01 Shop Drawings

A. Scale and measurements: Shop drawings shall be made accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.

B. Types of prints required:
   1. Shop drawings shall be submitted in the form of (4) black line prints of each sheet.
   2. Blueprints will not be acceptable
   3. Xerox copies or PDF files will not be accepted.

C. Review comments will be shown on one set of the drawings and will be returned to the Contractor. The Contractor may make and distribute such copies as are required for its purposes.

2.02 Installation Drawings

A. Installation Drawings shall depict the various shelter components and how they are to be erected / installed.
   1. The drawings shall be keyed to the component packaging.
   2. The drawings shall call out type, quantity and spacing of all fasteners to be used and where.
   3. The drawings shall call out the type of backer rod, caulk, sealant, etc. to be used and where.
   4. Drawings notes shall be clear, descriptive and reference the components and packaging keying.
   5. Provide a phone number and contact on the drawings for SEPTA installers to call for support if needed.
   6. Reproductions of the shop drawings will not be accepted.

2.03 Manufacturer’s Literature (Including Catalog Cuts)

A. The Contractor shall submit only the original printed literature and product data sheets available from the manufacturer(s).

B. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, the Contractor shall clearly show which portions of the contents are being submitted for review, if not clearly shown, the submittal shall be returned.

C. The Contractor shall submit the number of copies, which are required to be returned, plus 3 copies for SEPTA’s use and distribution.

2.04 Samples
A. The Contractor shall provide sample(s) identical to the precise article proposed to be provided. Identify as described under "Identification of submittals" below.

B. Number of samples required:
   1. Unless otherwise specified, the Contractor shall submit samples in the quantity which is required to be returned, plus one which will be retained by SEPTA.
   2. By pre-arrangement in specific cases a single sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by SEPTA.

PART 3 – EXECUTION

3.01 Identification of Submittals

A. The Contractor shall consecutively number all submittals under "Transmittal".  
(The Contractor shall use attached submission transmittal for all submissions.)
   1. When re-submittal(s) is made for any reason, the Contractor shall transmit under a new letter of transmittal with a new transmittal number.
   2. On re-submittals, the Contractor shall cite the prior transmittal number(s) under "submission number".

B. The Contractor shall maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times. The Contractor shall make the submittal log available to SEPTA for review upon request.

3.02 Grouping of Submittals

A. Unless otherwise specified, partial submittals shall not be permitted. The entire package shall be numbered, grouped and submitted under one transmittal.

B. Partial and poorly prepared submittals will be rejected by SEPTA’s Project Manager as not complying with the requirements of the Contract. The Contractor will be liable for delays so occasioned.

3.03 Timing of Submittals

A. The Contractor shall package and send submittals within 30 days of the “Notice to Proceed”.

B. In scheduling, the Contractor shall allow 10 calendar days for review and processing by SEPTA’s Project Manager following its receipt of the submittal. This review time will be increased for the submittal(s) that are so extensive 10 calendar days of turn around period is unreasonable as determined by SEPTA and the Project Manager. This determination shall be binding on the Contractor.

C. Continued submission of material and repetitious submittals which clearly fail to meet the requirements of the Contract Documents which may cause delays in the completion of the Contract and any such delays be the sole responsibility of the Contractor.
3.04 SEPTA’s Review

A. Review and Processing by SEPTA shall not relieve the Contractor from responsibility for errors, which may exist in the submitted data.

B. Revisions:
   1. The Contractor shall make required revisions as noted on initial submittal.

2. If the Contractor considers any required revision to be a change, it shall so notify SEPTA as provided for in the "Agreement". Such notification shall be made no later than 10 calendar days from the date of return of such submittals by SEPTA or its Project Manager to the Contractor.

3. The review of the shop drawings waives the original contract requirements of the Contract Documents only if the Contractor clearly states and highlights the proposed deviation in a prominent fashion on the shop drawing itself, and only as specially stated in writing by SEPTA, that the Contract Document requirements are waived.

END OF SECTION
SUBMISSION TRANSMITTAL

Transmittal #: ______________________ Submission #: ______________________

Project Name: ______________________ SEPTA Project #: __________

Contract #: ______________________

Contractor's Authorized Signature ______________________ Date: __________

Submission Description:

Shop Dwg. #: ______________________ Ref. Spec. Sec.: ______________________

Ref. Dwg. #: ______________________ Ref. Spec. Sec.: ______________________

Names of Subcontractor/Supplier/Installer: ______________________

Indicate if this is a substitution:

☐ NO EXCEPTIONS TAKEN

☐ PROCEED AS NOTED; REVISE AND RESUBMIT FOR RECORD

☐ DO NOT PROCEED; REVISE AND RESUBMIT

☐ REJECTED

☐ NOT APPLICABLE

Date ___________ Action ______________ Reviewer ___________ Date ___________

Final Action: ______________________ Name of Authority: ______________________

Name of Individual: ______________________ Signature: ______________________

Comments: (If additional space is needed, use reverse side of this form)

Copy to: ______________________ Signature: ______________________
SECTION 05090
MISCELLANEOUS FASTENERS

PART 1 – GENERAL

1.01 Description

A. This section includes the manufacture and delivery of fasteners and related accessories as shown on the contract drawings and specified herein.

1.02 References

A. General Fasteners
   1. American Society for Testing & Materials (ASTM)
      a. ASTM A 967 Specification for Chemical Passivation Treatments for Stainless Steel Parts
      b. ASTM C1513 - 04 Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections
      c. ASTM F593 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws and Studs

1.03 Related Work

A. Section 01010 – Summary of Work
B. Section 01300 – Submittals
C. Contract Drawings

1.04 Submittals

A. Provide manufacturer's catalog cuts and product literature for every fastener and fastener accessory (nuts, washers, etc.) to be used for the shelter installation.
B. Key fasteners, type and quantity to installation drawings.

1.05 Quality Assurance

A. All fasteners and associated hardware shall be from the same manufacturer to assure coordination.

1.06 Delivery, Storage and Handling

A. Label each bundle of fasteners to be delivered and separate by type delivery phase.

1.07 Warranty

A. The manufacturer shall provide manufacturers’ standard warranties for all products.
PART 2 – PRODUCTS

2.01 General

A. Bolts, screws and other fastening devices shall be of approved types as required for the strength of the connections and shall be suitable for the conditions encountered. Washers shall be of the same metals as the fasteners.

B. Exposed fasteners shall be 316 series stainless steel and shall utilize stainless steel washers with neoprene seals.

C. Exposed fasteners shall be of a vandal resistant design, requiring specialized tools for assembly.

D. Concealed fasteners shall be stainless steel (per ASTM F593 & F594).

E. All fasteners shall be supplied by the fabricator/supplier.

PART 3 – EXECUTION

3.01 Installation

A. Installation shall be by SEPTA work forces.
SECTION 05501
CUSTOM MILD STEEL FABRICATIONS

PART 1 – GENERAL

1.01 Description

A. The work of this section consists of the fabrication and delivery of steel fabrications as shown and in the quantities as specified herein.

B. The Contractor shall be responsible for all materials, labor and transportation required for delivery of complete assemblies to a location(s) designated elsewhere in the Contract Documents.

C. SEPTA shall be responsible for final field installation.

1.02 Related Work

A. Section 09960 – High-Performance Coatings – Galvanizing and Powder Coating

1.03 References


B. ASTM - American Society for Testing and Materials
   1. ASTM A36 - Standard Specification for Carbon Structural Steel
   2. ASTM A450/450M - General Requirements for Carbon, Ferritic Alloy and Austenitic Alloy Steel Tubes
   3. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
   4. ASTM A781/781M - Castings, Steel and Alloy Common Requirements for General Industrial Use

C. AWS - American Welding Society
   1. AWS D1.1 Structural Welding Code - Steel
   2. AWS D1.3 Structural Welding Code - Sheet Steel

D. NAAMM – National Association of Architectural Metal Manufacturers
   1. Metal Finishes Manual; Code of Standard Practice for the Architectural Metal Industry


1.04 Submittals

A. The Contractor shall provide (3) copies of the following:
   1. Scaled shop drawings of each fabrication. Include plans, sections and details of connections. Shop drawings shall include materials schedule, hardware installation details, weld sizes & symbols, finishes, notes and dimensions of all components.
2. Welding procedure qualifications.
4. Manufacturer’s technical data (cut-sheets)
5. Mill certifications.

B. The Contractor shall provide one (1) 12” square sample which will show adequately the quality of fabrication, welding and finish. This sample shall include a mitered corner weld. This sample should be combined with the galvanizing and powder coating samples as described in Section 09960. This sample shall be used as a quality acceptance baseline for the finished product.

1.05 Quality Control

A. Certify that each welder has satisfactorily passed AWS qualification testing for welding processes involved and possesses current certification.

B. Comply with applicable provisions of AWS Structural Welding Code.

C. SEPTA reserves the right to shop inspect at any time during the fabrication and finishing processes.

D. The contractor must notify SEPTA (5) days prior to beginning fabrication and finishing, to determine if SEPTA shall require a shop inspection prior to allowing the product to move forward to the next phase.

1.06 Delivery, Storage and Handling

A. Delivery and Handling: Transport and handle units and their associated components, and other products specified herein, in a manner recommended by their respective manufacturers to prevent damage and defects of whatever nature.

B. Storage: Store units and components in accordance with their manufacturer’s recommendations to prevent joint damage and joint contamination. Exercise such care in storage of other specified products as recommended by their respective manufacturers.

1.07 Warranty

A. The Contractor shall provide a one-year warranty on all fabrications against fabrication and finish failure, mill scale, rusting, corrosion, rust stains, and / or discoloration.

PART 2 – PRODUCTS

2.01 Materials

A. Steel section plates, shapes and bars: ASTM A36.

B. Steel Square & rectangular steel HSS: ASTM A500, grade B.
C. Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled: ASTM A1018 / A1018M - 10


2.02 Fabrication

A. Form fabrications from material of size, thickness and shapes indicated, but not less than that needed to comply with the performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of material indicated or specified for various components of each metal fabrication.

B. Shear, punch, and laser cut metals cleanly and accurately. Remove burrs, sharp and rough areas on exposed surfaces.

C. Weld corners and seams continuously to comply with the following:
   1. Use materials and methods that minimize distortion and resist corrosion of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove welding flux immediately.

D. Form exposed connections with hairline joints, flush and smooth using concealed fasteners wherever possible. Miter all corners

E. Fabricate components with joints tightly fitted and secured.

F. Grind exposed joints and welds flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush and hairline.

G. Form exposed edges to small uniform radius.

H. Exposed sheet edges shall be hemmed.

I. Cut, reinforce, drill and tap metal fabrications to receive finish hardware, screws and similar items.

J. Exposed surfaces of all products shall be clean and free from surface blemishes, scratches or tool marks.

K. All mill seams and marks shall be concealed or located out of prevalent field of vision.

L. All welds shall be fully restrained. Close off all open tube ends with steel plates, except the bottoms of vertical members that shall receive vent holes.

M. Hermetically seal all joints so as to exclude water, or provide weep holes where water may accumulate.

N. Fabrication Tolerances:
   1. Maximum bow - 1/4 inch per 4 feet
2. Maximum out of plane - 1/16 inch per 4 feet
3. Maximum misalignment - 1/8 inch per 4 feet

O. Finish
  1. Refer to Schedule on Cover Sheet of Specification and corresponding technical section.

PART 3 – EXECUTION

3.01 Not Used

END OF SECTION
PART 1 – GENERAL

1.01 Description

A. The Contractor shall be responsible for galvanizing and powder coating the mild steel fabrication(s) as shown on the drawings and described herein.

B. The Contractor shall be responsible to assure that all metal is free of all contaminants, and has been properly prepared for powder coating process.

C. The Contractor shall be responsible for all materials, labor, and shipping costs as required for a complete finished system.

1.02 Related Work

A. Section 13000 – Submittals

B. Section 05501 – Custom Mild Steel Fabrications

1.03 References

A. American Society for Testing and Materials (ASTM)
   2. ASTM B-117 – Standard Practice for Operating Salt Spray Apparatus
   5. ASTM D-3359 – Standard Test Methods for Measuring Adhesion by Tape Test
   6. ASTM D-3363 – Standard Test Method for Film Hardness by Pencil Test
   8. ASTM D-6386 – Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Painting

1.04 Submittals

A. The Contractor shall be responsible for supplying all manufacturer’s technical data and MSDS (Material Safety Data Sheets) sheets on all preparation, galvanizing and powder coating products used.

B. The Contractor shall include, in steel fabrication shop drawings, vent hole layout which indicates vent hole spacing and sizes required for a complete galvanized product both inside and out. Vent
holes shall be placed so as not to be visible on the finished product; typically on a surface that faces downwards or is covered or set tight against another object once assembled. Vent holes shall be closed off after the galvanizing process has been completed and prior to painting. Vent holes shall be capped with nylon plugs.

C. The Contractor shall provide samples of both the galvanizing and then the powder coat over galvanizing finishes. The sample(s) shall be a minimum of 6” in length and include a mitered corner and vent hole location and closure. One if not both of these samples should be combined with the required metal fabrication sample located elsewhere in this specification. This sample shall be used as a quality acceptance baseline for the finished product.

D. The Contractor shall submit a letter of certification which outlines and identifies the process and standards to which the fabrication was galvanized and then powder coated to. It shall be the Contractor’s responsibility to assure that Subcontractors (fabricator, galvanizer, and powder coater) satisfy the specification requirements.

1.05 Quality Control

A. The Contractor shall be responsible for coordinating all component finishes, and shall assure that the components / fabrications are packaged and shipped properly to assure that the finish is not damaged while in storage and / or in transit. Damage shall be repaired by the Contractor at no additional cost to the Authority.

B. The Prime Contractor shall assure that final finishing shall not be permitted on contaminated and / or blemished surfaces. In particular the Contractor shall assure that all galvanized steel to be finished shall not be quenched. All galvanized metal shall be free of drips, runs and splatters. The galvanizing finish shall meet ASTM D6386 standards to the satisfaction of the Authority or be rejected and replaced at no additional cost to the Authority.

C. If different Sub-Contractors are required for varying finishes (i.e. galvanizing), the Prime Contractor shall be responsible to assure a complete and coordinated finish.

D. During the drying process the unit shall be protected from damage by individually hanging, bracing, laying, and / or standing the fabrication to assure that the surfaces are not marred and that surfaces do not stick to adjacent surfaces. All items shall be dried for a period long enough to assure that the surface can withstand stacking prior to bundling. All items shall have spacers placed between adjacent components to assure damage does not occur during storage and / or shipping. If items must be strapped, the use of protective pads must be utilized where the strapping may mar the finish.

PART 2 – PRODUCTS

2.01 Hot Dip Galvanizing System

A. Galvanizing system shall be suitable for powder coat finish work and shall meet ASTM A123 and ASTM D6386 standards. Visible drips, splatters, and runs shall not be acceptable. The
The galvanizing process shall not warp, twist, or deform material/assemblies/fabrications/members. Adequate measures shall be taken to prevent warping, twisting, or deformations such as, providing adequate vent holes, controlling temperatures, and providing reinforcing. If the Contractor has concerns that the material may deform during the galvanizing process the concern shall be brought to the attention of the Authority prior to fabrication. The Contractor assumes sole responsibility of the process by proceeding with fabrication and galvanizing process without notification.

D. The Contractor shall be responsible for proper handling of the material / fabrication throughout the entire fabrication process until final delivery and acceptance of finished product by the Authority.

E. Certification of galvanization shall be provided to the Authority prior to delivery, see Submittals Section 01300.

2.01 Powder Coat Finish

A. Steel Surface Preparation
   1. Sandblast to a white finish to remove all surface contaminants.
   2. Clean steel of any surface dirt or grease with Alkali Cleaner (40°C to 70°C for 1 minute)
   3. Cold Water Rinse (Room Temperature for 1 minute )
   4. Hot Water Rinse (50°C to 60°C for 1 minute)
   5. Zinc Phosphate Conversion Coating (60°C to 70°C for 1-2 minutes)
   6. (2) Cold Water Rinses (Room Temperature for 1 minute)
   7. Water/Chromate Pass (55°C to 65°C for 1 minute)
   8. Dry Off in Oven (140°C to 150°C for 4-5 minutes)

B. Primer
   1. Zinc Rich Epoxy Primer
      a. Provide EAS6C000 Gray Primer, Powdura Epoxy Powder Coating as manufactured by Sherwin Williams.
      i. Primer shall meet or exceed the following standards:
         01. American Society for Testing and Materials (ASTM)
            - ASTM D-3359 – Standard Test Methods for Measuring Adhesion by Tape Test
            - ASTM D-3363 – Standard Test Method for Film Hardness by Pencil Test
2. Coverage Thickness
   a. Dry: 2 - 3 Mils
3. Apply and cure according to manufacturer's instructions.

C. Color Top Coat
1. Provide Powdura TCIC Powder Coating as manufactured by Sherwin Williams.
   i. Coating shall meet or exceed the following standards:
      01. American Society for Testing and Materials (ASTM)
          • ASTM B-117 – Standard Practice for Operating Salt Spray Apparatus
          • ASTM D-522 – Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings
          • ASTM D-3359 – Standard Test Methods for Measuring Adhesion by Tape Test
          • ASTM D-3363 – Standard Test Method for Film Hardness by Pencil Test
   2. Coverage Thickness
      a. 2 - 3 Mils
3. Apply via Electrostatic Spray and cure according to manufacturer’s instructions.
4. Sheen: Glossy
   a. Color to be Custom Sherwin Williams Color Bainbridge Green.

PART 3 – EXECUTION

3.01 Not Used

END OF SECTION