ADDENDUM NO. 3                        DATE: June 9, 2020

REVISIONS TO:
Request for Bids Specification No. PG20-0140F
Mayfield Water System and Road Realignment

NOTICE TO ALL Bidders:

This addendum is issued to clarify, revise, add to or delete from, the original specification documents for the above project. This addendum, as integrated with the original specification documents, shall form the specification documents. The noted revisions shall take precedence over previously issued specification documents and addenda and shall become part of this contract. Bidders are hereby notified that they shall make necessary adjustments in their estimates as a result this addendum.

REVISIONS TO THE BIDDERS CHECKLIST:
Replace Bidders Checklist with new pages provided.

REVISIONS TO THE TECHNICAL PROVISIONS:
Replace entire Section 09900-Painting with new pages provided.

REVISIONS TO THE PROPOSAL PAGES:
Replace Proposal Page 8 with new Proposal Page correcting the quantities of Trench Backfill.

NOTE: Acknowledge receipt of this addendum by initialing the corresponding space as indicated on the signature page. Vendors who have already submitted their bid/proposal may contact the Purchasing Division at 253-502-8468 and request return of their bid/proposal for acknowledgment and re-submittal. Or, a letter acknowledging receipt of this addendum may be submitted in an envelope marked Requests for Bids Specification No. PG20-0140F Addendum No. 3. The City reserves the right to reject any and all bids, including, in certain circumstances, for failure to appropriately acknowledge this addendum.

Patsy Best, Procurement and Payables Manager
Finance/Purchasing Division

Cc: Jason Henry, Project Lead, Generation/Plant Engineering & Construction Services
    Terry Ryan, Assistant Generation Manager, Generation/Plant Engineering & Const Srvcs
BIDDER’S CHECKLIST

The bidder’s attention is especially called to the following forms which must be submitted with your bid:

(a) Schedule of bid price.

   The unit/lump sum prices bid must be shown in the space provided.

(b) Signature page.

   To be completed and signed by the bidder.

(c) Certification of Compliance with Wage Payment Statutes

(d) Proposal data sheets (required when included in the proposal).

(e) Contractor’s Record of Prior Contracts (required/not required).

(f) List of Equipment (required/not required).

(g) State Responsibility and Reciprocal Bid Preference Form (required/not required).

(h) Retainage Options

(i) Bid bond or certified check (for construction contracts only).

   Each bid must be accompanied by a certified or cashier’s check for 5-percent of the total amount bid, or an approved bid bond by a surety company authorized to do business in the State of Washington. See General Provisions 1.04.

(j) Subcontractor List (applicable only for construction contracts of $1,000,000 and over).

(k) CONSTRUCTION CONTRACTS: Bid proposals for contractor labor must include fully completed “SBE Utilization Form”, “Prime Contractors Pre-Work Form”, and “Subcontractors Pre-Work Form”.

   NON-CONSTRUCTION CONTRACTS: Bid proposals for material and services must include fully completed “Prime Contractor Pre-Work Form”.

(l) “Submittals Required with Bid” as are listed in the Special Provisions Section – Submittals and Shop Drawings (for construction contracts) or Submittals Section (for supply contracts).

The following forms are to be executed after the contract is awarded:

(a) Contract

   This agreement is to be executed by the successful bidder.

(b) Performance and Payment Bonds (required/not required).

   To be executed by the successful bidder and his surety company, and countersigned by a local resident agent of said surety company.

(c) Contractor’s Work Hazard Analysis Report (for construction contracts only)

(d) General Release to the City of Tacoma (for construction contracts only).

   To be executed by the successful bidder upon completion of work and prior to the receipt of the final payment.
LETTERS AND CALLS

All information requested prior to the bid opening is subject to the limitations in Paragraph 1.02 of the General Provisions.

Address all letters to the Department of Public Utilities, P. O. Box 11007, Tacoma, Washington 98411.

For questions regarding General Provisions, Special or Technical Provisions, direct attention to Samol Hefley, Senior Buyer, shefley@cityoftacoma.org.

For letters and calls regarding the EIC Program, direct attention to the EIC Program Coordinator at 253-591-5224 for calls, and to EIC/Community & Economic Development, Tacoma Municipal Building, 747 Market Street, Tacoma, Washington 98402, for letters.

For letters and calls regarding the LEAP Program, direct attention to the LEAP Coordinator at 253-594-7933 for calls, and to LEAP/ Community & Economic Development, Tacoma Municipal Building, 747 Market Street, Tacoma, Washington 98402, for letters.

All letters shall indicate the title and specification number (prior to award) or title and contract number (following award).
| ITEM 38 | Quarry Spalls | 200 TON | $___________ | $___________ |
| ITEM 39 | Furnish and Install Pipe Zone Bedding Material | 10,300 TON | $___________ | $___________ |
| ITEM 40 | Trench Backfill | ___ TON | $___________ | $___________ |
| ITEM 41 | Furnish and Install, Crushed Surfacing Base Course, In Place | 400 TON | $___________ | $___________ |
| ITEM 42 | Furnish and Install, Crushed Surfacing Top Course, In Place | 400 TON | $___________ | $___________ |
| ITEM 43 | Secondary Sawcutting | 2000 LF | $___________ | $___________ |
| ITEM 44 | Hot Mixed Asphalt (HMA) Class1/2 PG58H-22, 3-Inches Thick, In Place | 350 TON | $___________ | $___________ |
| ITEM 45 | Hot Mixed Asphalt (HMA) Class 1/2 PG58H-22 Patch | 250 TON | $___________ | $___________ |
| ITEM 46 | Culvert | 130 LF | $___________ | $___________ |

**ADDITIVE BID ITEM #1**
60,000 Gallon Water Tank LS $___________

**ADDITIVE BID ITEM #2**
Reinforced Concrete Foundation 64 CY $___________ $___________

**ADDITIVE BID ITEM #3**
Demolition and Disposal of Existing Water Tank, Tank Foundation, et al Assoc LS $___________
PART 1  GENERAL

1.1  SECTION INCLUDES

The work under this section includes protective coatings, complete and in place, in accordance with the contract documents. In general, this section includes coating requirements for the interior and exterior of the new 60,000-gallon steel water storage tank and conveyance piping; including the inlet and outlet piping, inner riser piping and overflow piping; ladder, supports, braces, brackets, safety guard and any other miscellaneous items associated with the new water tank construction.

1.2  RELATED SECTIONS

A.  Section 01300 – Submittal and Shop Drawing Procedures
B.  Section 01400 – Quality Control and Assurance
C.  Section 02675 – Disinfection of Water Supply and Distribution Systems
D.  Section 13209 – Water Storage Tank

1.3  REFERENCES, CODES, AND STANDARDS

A. References to “SSPC Specifications” or “SPCC” shall mean the publish standards of the Steel Structures Painting Council.
B. References to “NACE” shall mean the publish standards of the National Association of Corrosions Engineers.
C.  SSPC-SP1-Solvent Cleaning: Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rage and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation. Follow manufacturer’s safety recommendations when using solvent. For complete instructions, refer to Steel Structures Paint Council Surface Preparation Specification No. 1.
D.  SSC-SP10/NACE 2 – Near While Blast Cleaning: A Near White Blast Cleaning surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except staining. Staining shall be limited to no more than five percent of each unit area of surface, approximately 9-inch square or 3 inch x 3 inch area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains or previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
E.  SSPC-PA 1 Paint Application Specification No. 1
F.  SSPC-PA 2 Procedure for Determining Conformance to Dry Coating Thickness Requirements.
H. All painting operations, including preparation, shall be in accordance with the recommended practices of Steel Structures Painting Council (SSPC) and these specifications.


1.4 DEFINITIONS

A. TERMS

1. The term “paint,” “coatings,” or “finishes” as used herein, shall include surface treatments, emulsions, enamels, paints, epoxy resins, and all other protective coatings, excepting galvanizing or anodizing, whether used as a pretreatment, primer, intermediate coat, or finish coat.

2. The term “DFT” means minimum dry film thickness.

B. FIELD COATINGS

1. Field coating shall be the applied coatings to the interior and exterior of the new water storage tank, conveyance piping; including the inlet and outlet piping, inner riser piping and overflow piping; ladder, supports, braces, brackets, safety guard and any other miscellaneous items associated with the new water tank construction.

C. SHOP COATINGS

1. All coatings shall be applied coatings in a controlled shop environment in compliance with the specified requirement herein and manufacturer’s written recommendations.

2. Shop coating items may include conveyance piping; including the inlet and outlet piping, inner riser piping and overflow piping; ladder, supports, braces, brackets, safety guard and any other miscellaneous items associated with the new water tank construction.

1.5 CONTRACTOR’S SUBMITTALS

A. GENERAL

1. Submit in accordance with Section 01300 – Submittals and Shop Drawings.

B. PAINT MANUFACTURER’S INFORMATION

1. Paint manufacturer’s data sheet for each product proposed, including statements on the suitability of the material for the intended use.

2. Technical and performance information that demonstrates compliance with the system performance, SSPC, and material requirements.

3. Paint manufacturer’s instructions and recommendations on surface preparation and application.

4. Methods of preparation, detailing the methods to contain blast particles.

5. Colors available for each product (where applicable).

6. Compatibility of shop and field applied coatings (where applicable).

7. Material Safety Data Sheet (MSDS) for each product used.

8. Written two (2) year warranty (see below).
C. SAMPLES
1. A single set of the manufacturer's standard color guide for each coating system requiring a color selection.

1.6 WARRANTY
A. The contractor shall furnish to the engineer prior to starting work a written two (2) year warranty covering all deficient workmanship.

B. A warranty inspection may be conducted during the eleventh month following completion of all coating and painting work. The contractor and a representative of the coating material manufacturer shall attend this inspection. All defective work shall be repaired in accordance with these specifications and to the satisfaction of the City. The City may, by written notice to the contractor, reschedule the warranty inspection to another date within the one-year correction period, or may cancel the warranty inspection all together. If warranty inspection in not held, the contractor is not relieved of its responsibilities under the contract documents.

C. Warrant work to be in accordance with specifications, standards, and requirements incorporated in referenced ASM.

1.7 DELIVERY, STORAGE AND HANDLING
A. Deliver in unopened containers, bearing manufacturer's original labels.

B. Store in accordance with manufacturer's instructions and as required by governing codes and ordinances.

1. Store and mix material outside building.

C. Toxic and explosive materials: Take appropriate safety precautions conforming to manufacturer's instructions, codes and ordinances, SSPC, and other applicable industry standards.

1. To prevent fire hazards and spontaneous combustion, place cotton waste, cloths, and other hazardous materials in containers. Remove daily from site.

1.8 PROJECT SITE CONDITIONS
A. Environmental requirements: Do no work under this section when surface or air temperatures are below 40º F or below manufacturer's recommended temperatures for conditions of installation.

B. Ventilation: Verify adequate continuous ventilation as recommended/required by the manufacturer.

C. Illumination: Temporary lighting to attain lighting level of 80 foot candles measured at mid-height at substrate surfaces.

1.9 QUALIFICATIONS
A. APPLICATOR

1. Employ only qualified journeymen. Apprentices may be employed to work under direction of qualified journeymen, in accordance with trade regulations.

2. Maintain a full competent crew.

3. Contractor shall be NACE certified
B. MANUFACTURERES AND MATERIALS

1. Listed by ASM, except as otherwise scheduled. Use approved product numbers and finish system codes specified and listed by ASM for each manufacturer. Do not substitute without engineer’s written approval.

1.10 QUALIFICATIONS

Leave a minimum of one (1) unused gallon of each type and color of paint and other coating products for maintenance purposes.

A. Label for positive identification with minimum 1/2-inch press type, tape over with clear tape, and include color number and name.

B. Store where directed.

C. Turn over to City at job site and obtain signed receipt.

D. Include MSDS (material safety data sheets) with each container of product to City.

PART 2 PRODUCTS

2.1 INDUSTRIAL PROTECTIVE COATINGS

A. EXCEPTABLE PRODUCTS

1. The industrial coatings specified for this project are, but are not limited to manufacturers of Tnemic, or Sherwin-Williams.

2. The product manufacturer’s representative shall submit for review an applicable coating system for both the interior and exterior water tank surfaces and the interior and exterior water tank conveyance piping and miscellaneous items.

3. All interior coating products that are in contact with potable water shall be classified by UL to ANSI/NSF 61 as a lining for potable water (PW) including interior walls, floors, ceilings, piping as well as all associated items, etc.

4. The interior and exterior coatings shall be supplied by the same manufacturer.

2.2 PAINT MATERIALS - GENERAL

A. SUITABILITY

1. The contactor shall use suitable coating materials as recommended by the manufacturer.

B. MATERIAL SOURCES

1. Where manufactures and product numbers are listed, it is to show the type and quality of coatings that are required. If a named product does not comply with VOC limits in effect at the time of bid opening, that product will not be accepted, and the Contractor shall propose a substitution product of equal quality that does comply. Unless indicated otherwise, proposed substitute materials will be considered as indicated above. Coating materials shall be materials that have a record of satisfactory performance in industrial plants, manufacturing facilities, and water and wastewater treatment plants.
C. COMPATIBILITY

1. In any coating system only compatible materials from a single manufacturer shall be used in the Work. Particular attention shall be directed to compatibility of primers, intermediate and finish coats.

D. CONTAINERS

1. Coating materials shall be sealed in containers that plainly show the designated name, formula or specification number, batch number, color, date of manufacture, and name of manufacturer, all of which shall be plainly legible at the time of use.

E. COLORS

1. All colors and shades of colors of all coats of paint shall be as indicated or selected by the City. Each coat shall be of a visibly contrasting, to facilitate inspection of surface coverage of each coat. Finish colors shall be as selected from the manufacturer’s standard color samples by the Engineer.

F. SUBSTITUTE "OR APPROVED EQUAL" PRODUCTS

1. To establish equality under Section 01600 – Material and Handling, the Contractor shall furnish satisfactory documentation from the manufacturer of the proposed substitute “or approved equal” product that the material meets the indicated requirements and is equivalent or better in the following properties:
   a. Quality
   b. Durability
   c. Resistance to abrasion and physical damage
   d. Life expectancy
   e. Ability to recoat in future
   f. Solids content by volume
   g. Dry film thickness per coat
   h. Compatibility with other coatings.
   i. Suitability for the intended service
   j. Resistance to chemical attack
   k. Temperature limitations in service and during application
   l. Type and quality of recommended undercoats and topcoats.
   m. Ease of application
   n. Ease of repairing damaged areas
   o. Stability of colors

2. Protective coating materials shall be standard products produced by recognized manufacturers who are regularly engaged in production of such materials for essentially identical service conditions. Where requested, the Contractor shall provide the Engineer with the names of not less than 10 successful applications of the proposed manufacturer’s products that comply with these requirements.
3. If a proposed substitution requires changes in the Work, the Contractor shall bear all such costs involved as part of the Work

PART 3 EXECUTION

3.1 EXAMINATION

A. The contractor shall require the coating manufacturer to furnish a qualified technical representative to visit the Site for technical support as may be necessary to resolve field problems attributable to or associated with the manufacturer's products.

B. The contractor shall provide protection while cleaning, blasting and painting to all surrounding vehicles, structures, grounds, etc., and shall be fully responsible for all contingencies that may arise as a result of the coating operations. All costs in association with proper protection shall be borne by the contractor and shall be understood to be fully included in the bid price.

C. The contractor shall provide and arrange for all required lighting, temporary heating, dehumidification and ventilation. All costs in connection with proper lighting, temporary heating, dehumidification and ventilation equipment shall be borne by the contractor and shall be understood to be fully included in the bid price.

3.2 WORKMANSHIP

A. LABOR

1. Skilled craftsmen and experienced supervision shall be used on all Work. Where protective coatings are to be performed by a subcontractor, the subcontractor shall possess a valid state license as required for performance of the painting and coating work called for in this specification and shall provide five (5) references which show that the painting subcontractor has previous successful experience with the indicated or comparable coating systems. Include the name, address, and the telephone number for the City of each installation for which the painting subcontractor provided the coating system.

B. APPEARANCE

1. Coating shall be done in a workmanlike manner so as to produce an even film of uniform thickness. Edges, corners, crevices, and joints shall receive special attention to insure thorough cleaning and an adequate thickness of coating material. The finished surfaces shall be free from runs, drops, ridges, waves, laps, brush marks, and variations in color, texture, and finish.

2. The hiding shall be so complete that the addition of another coat would not increase the hiding. Special attention shall be given to insure that edges, corners, crevices, welds, and similar areas receive a film thickness equivalent to adjacent areas, and installations shall be protected by the use of drop cloths or other precautionary measures.

C. REPAIRS

1. All damage to surfaces resulting from the work shall be cleaned, repaired, and refinshed to original condition in accordance with the coating manufacturer's recommendations.
3.3 STORAGE, MIXING, AND THINNING OF MATERIALS

A. MANUFACTURER’S RECOMMENDATIONS

1. Unless otherwise indicated, the coating manufacturer’s printed recommendations and instructions for thinning, mixing, handling, applying, and protecting its coating materials, for preparation of surfaces for coating, and for all other procedures relative to coating shall be strictly observed. All protective coating materials shall be used within the manufacturer’s recommended shelf life.

B. STORAGE AND MIXING.

1. Coating materials shall be stored under the conditions recommended by the Material Safety Data Sheets, and shall be thoroughly stirred, strained, and kept at a uniform consistency during application. Coatings of different manufacturers shall not be mixed together.

2. The contractor shall exercise extreme care to prevent the spilling of paint or thinning products on to ground surfaces. Spills will require immediate cleanup operations by the contractor.

3.4 REFUELING OF EQUIPMENT

A. The contractor shall exercise extreme care to prevent the spilling of fuel or petroleum products on to ground surfaces. Maintain drip pans and oil absorbent pads beneath equipment as required.

3.5 SITE CLEANUP

A. All areas impacted by the contractor shall be cleaned of all evidence of occupation by the contractor and approved by the engineer.

3.6 PREPARATION FOR COATING

A. GENERAL

1. All surfaces to receive protective coatings shall be cleaned as indicated prior to application of coatings. The Contractor shall examine all surfaces to be coated, and shall correct all surface defects before application of any coating material. All marred or abraded spots on shop-primed and on factory-finished surfaces shall receive touch-up restoration prior to any coating application. Surfaces to be coated shall be dry and free of visible dust.

B. PROTECTION OF SURFACES NOT TO BE COATED

1. Surfaces that are not to receive protective coatings shall be protected during surface preparation, cleaning, and coating operations. Drop cloths shall be provided to prevent coating materials from falling on or marring adjacent surfaces. Care shall be exercised not to damage adjacent work during blast cleaning operations. Spray painting shall be conducted under carefully controlled conditions. The Contractor shall be fully responsible for and shall promptly repair any and all damage to adjacent work or adjoining property occurring from blast cleaning or coating operations.
C. PROTECTION OF PAINTED SURFACES

1. All surfaces to receive protective coatings shall be cleaned as indicated prior to application of coatings. The contractor shall examine all surfaces to be coated, and shall correct all surface defects before application of any coating material. All marred or abraded spots on shop-primed and on factory-finished surfaces shall receive touch-up restoration prior to any coating application.

3.7 APPLICATION

A. GENERAL APPLICATION

1. At time of application the surfaces to be coated shall be dry, cleaned, free of grease, dirt, mill scale, dust or any other contaminates that interfere with adhesion and manufacturer’s environmental condition requirements shall be met, held during application and maintained during cure.

2. The application of protection coatings to steel substrates shall be in accordance with SSPC PA1 – Paint Application Specification No. 1.

B. MIXING, STORAGE AND CLEANUP

1. Store the unopened containers off the ground and in a dry protected location at temperatures between 40°-100°.

2. Use power agitator to thoroughly mix the coating for three (3) minutes or completely homogenous or as per manufacturers recommendations.

3. Thinning: Use manufacturers recommended reducers for thinning of product.

4. Clean up: Use manufacturers approved solvent.

3.8 COATING SYSTEMS

A. INTERIOR STEEL/FERROUS METAL (TANK AND PIPING)

Provide the following finish systems over interior steel/ferrous metal for potable water.

1. Brush applied Primer stripe coat, 3-5 mils DFT, of Tnemec Series 94H20 Hydro-Zinc or Sherwin-Williams Macropoxy 646 PW Potable Water Epoxy, or with an approved equal.

2. Primer coat, 3-5 mils DFT, of Tnemec Series 94H20 Hydro-Zinc or Sherwin-Williams Macropoxy 646 PW Potable Water Epoxy, or with an approved equal.

3. Intermediate coat, 3-5 mils DFT, of Tnemec Series 20/FC20 PotaPox or Sherwin-Williams Macropoxy 646 PW Potable Water Epoxy, or with an approved equal.

4. Finish coat, 3-5 mils DFT, of Tnemec Series 20/FC20 PotaPox or Sherwin-Williams Macropoxy 646 PW Potable Water Epoxy, or with an approved equal.

NOTE: Minimum dry film thickness shall be 12.0 mils.

NOTE: Brush applied stripe coat, all welds, edges, crevices, nuts, bolts, rivets, etc.

NOTE: Provide contrasting colors between all coats.

NOTE: Interior Pipe Coating: Manufacturer’s may submit an approved equal.

B. EXTERIOR STEEL/FERROUS METAL (TANK AND SHOP APPLIED)

Provide the following finish systems over exterior steel/ferrous metal.
1. Primer Coat, 3-5 mils DFT, of Tnemec Series 1 Omnithane, MC MicroZinc or Sherwin-Williams Macropoxy 267.

2. Primer coat, 3-5 mils DFT, of Tnemec Series 27 Typoxy, Polyamide Epoxy or Sherwin-Williams Macropoxy 267.

3. Finish coat, 3-5 mils DFT, of Tnemec Series 1095 EnduraShield, MC Urethane or Sherwin-Williams SHER-LOXANE 800 Gloss Industrial Finish Coat.

NOTE: Minimum dry film thickness shall be 9.0 mils.

NOTE: Brush applied stripe coat, all welds, edges, crevices, nuts, bolts, rivets, etc.

NOTE: Provide contrasting colors between all coats.

NOTE: Exterior Pipe Coating: Manufacturer's may submit an approved equal.

3.9 SHOP COATING REQUIREMENTS

A. GENERAL

1. All items including steel structures, equipment frames, and equipment, or parts of equipment shall be shop primed and shop finish coated with the indicated or selected color. The methods, materials, application equipment and all other details of shop painting shall comply with this Section.

B. PROTECTION OF COATINGS

1. Shop painted surfaces shall be protected during shipment and handling by suitable provisions including padding, blocking, and the use of canvas or nylon slings. Damage to shop-applied coatings shall be repaired in accordance with this Section and the coating manufacturer’s printed instructions.

3.10 SURFACE PREPARATION

A. SURFACE PREPARATION STANDARDS AND TEST PATCHES

1. Prior to full commencement of the surface preparation, the contractor shall provide a test area(s) of reasonable size to perform a surface preparation and coating adhesion test.

2. The prepared test area(s) shall be visually inspected by the engineer or city inspector prior to application of any coating.

B. SURFACE PREPARATION USING ABRASIVE BLASTING MEDIA

1. Compressed air used for abrasive blasting shall be dry and free of all contaminates per ASTM D 4285.

2. All steel surfaces shall be prepared to a Near White Blast Cleaning (SSPC SP-10) type surface with a 2.0 to 3.0 angular mil surface blast profile. Contractor shall allow City to verify surface preparations using SSPC-VIS 1 Guide and Reference Photographs for Steel Surface Prepared by Dry Abrasive Blasting Cleaning.

3. Work shall include establishing necessary containment performing the blasting operations. All costs associated with blast and environmental containment shall be understood to be fully included in the bid price.
4. All blasted substrate is to be coated within eight (8) hours of blasting or cleaning. Any blasted substrate that is not coated during that time period shall be re-blasted. If the substrate suffers from flash rusting or any other contamination before coating, it must be decontaminated and re-blasted. The cleaned surfaces shall be inspected for adequate surface prep by the field inspector.

5. In order to avoid moisture contamination of the steel substrate surfaces, the temperature of the substrate surface must be 5° degrees F above the dew point temperature during the blasting and application process of the coating material. High humidity may cause surface condensation in the form of dew or frost, which will affect bonding of the coating. Therefore, the applicator shall exercise caution if the relative humidity exceeds 85%. Dehumidification of the surfaces may be required. The coating shall be applied to the steel between 40° degrees F and 85° degrees F. All costs in connection with proper lighting, temporary heating, dehumidification and ventilation equipment shall be borne by the contractor and shall be understood to be fully included in the bid price.

6. Profile and appearance. The depth of the surface profile shall be determined by using replica tape.

7. Frequency of measurements. The profile, color, % dust, humidity and dew point measurements shall be made at the beginning and end of each shift and every four (4) hours in-between. It is the option of the coating applicator to make more frequent measurements during the shift if desired.

8. Rejection. If any measurement of the shift shows inadequate profile or blast color, all of the plate blasted and coated after the last acceptable tests for the day shall be inspected and rejected if found to be inadequate.

### 3.11 SHOP AND FIELD INSPECTION AND TESTING

#### A. NOTIFICATION

1. The Contractor shall give the Engineer a minimum of three (3) days advance notice of the start of any field surface preparation work or coating application work, and a minimum of seven (7) days advance notice of the start of any shop surface preparation work to inspect the surface preparation prior to coating and the coating prior to shipping

#### B. INSPECTION

1. All such work shall be performed only in the presence of the Engineer, unless the Engineer has granted prior approval to perform such Work in its absence. Inspection by the Engineer, or the waiver of inspection of any particular portion of the work, shall not relieve the Contractor of its responsibility to perform the work in accordance with these Specifications. At the City’s discretion, a third party NACE inspector may be contracted to perform all surface preparations and coating inspections.

#### C. ACCESS

1. Contractor shall provide all necessary equipment and personnel as requested by the Engineer to facilitate inspection. Additional illumination shall be furnished to cover all areas to be inspected.
D. INSPECTION DEVICES

1. The Contractor shall furnish, until final acceptance of such coatings, inspection devices in good working condition for the detection of holidays and measurement of dry-film thicknesses of protective coatings. Dry-film thickness gauges shall be made available for the Engineer’s use at all times while coating is being done, until final acceptance of such coatings. The Contractor shall furnish the services of a trained operator of the holiday detection devices until the final acceptance of such coatings. Holiday detection devices shall be operated only in the presence of the Engineer or the City’s field inspector.

E. HOLIDAY TESTING

1. The Contractor shall holiday test all coated ferrous surfaces inside a steel reservoir, other surfaces which will be submerged in water or other liquids, or surfaces which are enclosed in a vapor space in such structures and surfaces coated with any of the submerged and severe service coating systems. Areas that contain holidays shall be marked and repaired or recoated in accordance with the coating manufacturer’s printed instructions and then retested.

   a. Coatings: Contractor shall perform holiday testing in accordance with NACE SP0188. Holiday detection unit will be in good working order with current sticker of calibration. Holiday detection devices shall be operated only in the presence of the Engineer or the City’s field inspector.

F. FILM THICKNESS TESTING

1. On ferrous metals, the dry film coating thickness shall be measured in accordance with the SSPC “Paint Application Specification No. 2” using a magnetic-type dry film thickness gauge such as Mikrotest model FM, Elcometer model 111/1EZ, or approved equal.

END OF SECTION