



ADDENDUM # 3

BID # FY 2017-2018-017 CITY OF HALLANDALE BEACH WATER TREATMENT PLANT HIGH SERVICE PUMPS REPLACEMENT PROJECT

Please ensure you check the City's website for the latest addendum released for this project. Below find the link to the City's website: www.cohb.org/solicitations.

Firm must provide this form signed by an authorized officer of your Firm to acknowledge receipt of ADDENDUM # 3 and provide with your Firm's response.

PLEASE NOTE: PLEASE DISCARD, DO NOT USE EXHIBIT A – TECHNICAL SPECIFICATIONS, SECTION 09900 - PAINTING, PAGE 323 -338.

PLEASE NOTE: REVISED AS OF 10/4/2018 - EXHIBIT A - TECHNICAL SPECIFICATIONS, SECTION 09900 - PAINTING.

SECTION 09900 - PAINTING

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall furnish all labor, tools, materials, supervision and equipment necessary to do all the work specified herein and as required for a complete installation, including surface preparation, priming and painting of Contractor furnished equipment, materials, and structures.

1.02 GENERAL INFORMATION AND DESCRIPTION

- A. The term "paint," as used herein, includes emulsions, enamels, paints, stains, varnishes, sealers, cement filler, cement-latex filler and other coatings, whether used as prime, intermediate, or finish coats.
- B. All paint for concrete and metal surfaces shall be especially adapted for use around water treatment plants and shall be applied in conformance with the manufacturer's published specifications and as identified herein.
- C. All paint for final coats shall be fume resistant, compounded with pigments suitable for exposure to gases, especially to hydrogen sulfide and to carbon dioxide. Pigments shall be materials which do not tend to darken, discolor, or fade due to the action of sewage gases. If a paint manufacturer proposes use of paint which is not designated "fume resistant" in its literature, it shall furnish full information concerning the pigments used in this paint.
- D. Coatings used in conjunction with potable water supply systems shall have U.S. Environmental Protection Agency (EPA), National Science Foundation (NSF), and Food and Drug Administration (FDA) approval for use with potable water and shall not impart a taste or odor to the water.
- E. All building, facilities, structures, and appurtenances, as indicated on the Drawings and as specified herein, shall be painted with not less than one shop coat and two field coats, or one prime coat and two finish coats of the appropriate paint. Items to be painted include, but are not limited to exterior and interior concrete, structural steel, miscellaneous metals, steel and aluminum doors and frames, concrete block, ductwork, sluice gates, operators, pipe fittings, valves, mechanical equipment, motors, conduit, and all other work which is obviously required to be painted unless otherwise specified.
- F. Baked-on enamel finishes and items with standard shop finishes such as graphic panels, electrical equipment, toilet partitions, lockers, instrumentation, etc., shall not be field painted unless the finish is damaged during shipment or installation. Aluminum, stainless steel, fiberglass and bronze work shall not be painted unless color coding and marking is required or otherwise specified. A list of surfaces not to be coated is included in Article 1.09 of this Section.
- G. The Contractor shall obtain all permits, licenses and inspections and shall comply with all laws, codes, ordinances, rules and regulations promulgated by authorities having jurisdiction which may bear on the work. This compliance will include Federal Public Law 91-596 more commonly known as the "Occupational Safety and Health Act of 1970".

1.03 MANUFACTURERS

- A. All painting materials shall be as manufactured by Tnemec, Carboline, Sherwin Williams, or approved equal.

1.04 SUBMITTALS

- A. The Contractor shall submit paint manufacturer's data sheets, application instructions, and samples of each finish and color to the Engineer for review, before any work is started in accordance with the Section entitled, "Submittals."
- B. Submitted samples of each finish and color shall be prepared in a step-down format so that the area of each sample indicates the appearance of the various coats. For example, where a three-coat system is specified, the sample shall be divided into three areas indicating one coat only, two coats and all three coats. The Engineer will provide written authorization constituting a standard, as to color and finish only, for each coating system.
- C. The Contractor shall prepare a complete schedule of surfaces to be coated and shall identify the surface preparation and paint system it proposes to use. The Paint Schedule shall be in conformance with Article 3.03 of this Section. The schedule shall contain the name of the paint manufacturer, and the name, address and telephone number of the manufacturer's representative that will inspect the Work. The schedule shall be submitted to the Engineer for review as soon as possible following the Notice to Proceed so that the schedule may be used to identify colors and to specify shop painting systems on order for fabricated equipment.
- D. Name and detailed qualifications of the protective coatings applicator or subcontractor. Qualifications shall include, but not be limited to, five (5) references which show that the painting applicator or subcontractor has previous successful experience with the specified or comparable coating systems, a list of installations that are currently in service and documentation that applicator or subcontractor is currently a qualified applicator or the proposed coatings by the manufacturer.

1.05 SERVICES OF MANUFACTURER'S REPRESENTATIVE

- A. The Contractor shall purchase paint from an acceptable manufacturer. The manufacturer shall assign a representative to inspect the application of its product both in the shop and field. The Contractor, through the manufacturer's representative, shall submit its report to the Engineer at the completion of its Work identifying the products used and verifying that said products were properly applied and that the paint systems were proper for the exposure and service.
- B. Services shall also include, but not be limited to, inspecting prior coatings of paint, determination of best means of surface preparation, inspection of complete work, and re-inspection of painted work to be performed six months after the job is completed.

1.06 MANUFACTURER'S INSTRUCTIONS

- A. The manufacturer's published instructions for use as a guide in specifying and applying the manufacturers proposed paint shall be submitted to the Engineer. Paint shall not be delivered to the job before acceptance of the manufacturer's instructions is given by the Engineer.

- B. A manufacturer's paint will not be considered for use unless that manufacturer's published instructions meets the following requirements:
1. The instructions must have been written and published by the manufacturer for the purpose and with the intent of giving complete instruction for the use and application of the proposed paint in the locality and for the conditions for which the paint is specified or shown to be applied under this Contract.
 2. All limitations, precautions, and requirements that may adversely affect the paint; that may cause unsatisfactory results after the painting application; or that may cause the paint not to serve the purpose for which it was intended; that is, to protect the covered material from corrosion, shall be clearly and completely stated in the instructions. These limitations and requirements shall, if they exist, include, but not be limited to the following:
 - a. Methods of application
 - b. Number of coats
 - c. Thickness of each coat
 - d. Total thickness
 - e. Drying time of each coat, including primer
 - f. Primer required to be used
 - g. Primers not permitted
 - h. Use of a primer
 - i. Thinner and use of thinner
 - j. Temperature and relative humidity limitations during application and after application
 - k. Time allowed between coats
 - l. Protection from sun
 - m. Physical properties of paint including solids content and ingredient analysis
 - n. Surface preparation
 - o. Touch up requirements and limitations
- C. Concrete surfaces specified by the paint manufacturer to be acid etched shall be etched in accordance with the manufacturer's instructions. The surface shall then be thoroughly scrubbed with clean water, rinsed, and allowed to dry. The surface shall be tested with a moisture meter to determine when dry before coating.

1.07 QUALITY ASSURANCE

- A. The Contractor shall give the Engineer a minimum of three days advance notice of the start of any field surface preparation work of coating application work.

- B. All such Work shall be performed only in the presence of the Engineer, unless the Engineer has specifically allowed the performance of such Work in its absence.
- C. Review by the Engineer, or the waiver of review of any particular portion of the work, shall not relieve the Contractor of its responsibility to perform the Work in accordance with these Specifications.
- D. The Contractor shall provide five references which show previous successful experience with the specified or comparable coating systems. If the coating is to be performed by a subcontractor, said subcontractor shall provide five references which show previous successful experience with the specified or comparable coating systems. Include the name, address, and the telephone number for the City of each installation for which the Contractor or subcontractor provided the protective coating.

1.08 SAFETY AND HEALTH REQUIREMENTS

- A. In accordance with requirements of OSHA Safety and Health Standards for Construction (29CFR1926) and the applicable requirements of regulatory agencies having jurisdiction, as well as manufacturer's printed instructions, appropriate technical bulletins, manuals, and material safety data sheets, the Contractor shall provide and require use of personnel protective and safety equipment for persons working in or about the project site.
- B. All paints must comply with the requirements of the National Ambient Air Quality Standards.

1.09 SURFACES NOT TO BE COATED

- A. The following items shall not be coated unless otherwise noted:
 1. Encased piping or conduit.
 2. Stainless steel work.
 3. Clear PVC secondary containment piping.
 4. Galvanized checkered plate.
 5. Aluminum handrails, walkways, windows, louvers, grating and checkered plate.
 6. Flexible couplings, lubricated bearing surfaces and insulation.
 7. Packing glands and other adjustable parts of mechanical equipment.
 8. Finish hardware.
 9. Steel encased in concrete or masonry
 10. Plastic switch plates and receptacle plates.
 11. Signs and nameplates.
 12. Any code-required labels, such as Underwriters' Laboratories and Factory Mutual, or any equipment identification, performance rating, name or nomenclature plates.

13. Any moving parts of operating units, mechanical and electrical parts, such as valve and damper operators, linkages, sensing devices, motor and fan shafts, unless otherwise indicated.

1.10 QUALITY WORKMANSHIP

- A. The Contractor shall be responsible for the cleanliness of its painting operations and shall use covers and masking tape to protect the work whenever such covering is necessary, or if so requested by the Owner any unwanted paint shall be carefully removed without damage to any finished paint or surface. If damage does occur, the entire surface, adjacent to and including the damaged area, shall be repainted without visible lapmarks and without additional cost to the Owner.
- B. The Contractor shall provide covers made of plywood or other acceptable material to protect Filters in operation while painting work is ongoing in off-line filter.

1.11 ADDITIONAL PAINT

- A. At the end of the project, the Contractor shall turn over to the Owner a one gallon can (single component material) or small kit (multi component material – minimum of one gallon yield) of each type and color of paint, primer, thinner or other coating used in the field painting. The material shall be delivered in unopened, labeled cans as it comes from the factory. The manufacturer's literature describing the materials and giving directions for their use shall be furnished in three bound copies. A type-written inventory list shall be furnished at the time of delivery.

1.12 SHIPPING, HANDLING AND STORAGE

- A. All painting materials shall be brought to the job site in the original sealed labeled containers of the paint manufacturer and shall be subject to review by the Engineer. Where thinning is necessary, only the product of the manufacturer furnishing the paint shall be used. All such thinning shall be done strictly in accordance with the manufacturer's instructions, and with the full knowledge of the Engineer.
- B. Materials and their storage shall be in full compliance with the requirements of pertinent codes and fire regulations. Receptacles shall be placed outside buildings for paint gates and containers. Paint waste shall not be disposed of in plumbing fixtures, process drains or other plant systems or process units.

PART 2 -- PRODUCTS

2.01 MATERIALS

- A. Table 09900-1 depicts the coatings referenced in Article 3.03 of this Section entitled, "Paint Schedule". Table 09900-1 lists Tnemec products as a reference. Equivalent products by the manufacturers listed in Article 1.03 of this Section may be submitted for review.

TABLE 09900-1
PRODUCT LISTING

<u>Ref. No.</u>	<u>Description</u>	<u>MANUFACTURER'S REFERENCE</u>
		<u>Tnemec</u>
102	Inorganic Water-based Epoxy	1254 Epoxoblock WB
103	Vinyl Acrylic Filler	54 – Masonry Filler
105	Polyamidoamine Epoxy	N69 – Hi Build Epoxoline II
106	Acrylic Emulsion	181 – W.B. Tneme-Crete
110	Acrylic Polyurethane	1074U Endurashield
114	Waterborne Polyamide Epoxy	151 - Elasto-Grip
115	Aromatic Urethane, Zinc Rich	90-97 Tneme Zinc
116	Cementitious Repair Mortar	217 Mortarcrete
117	Modified Polyamine Epoxy	215 Surfacing Epoxy
129	Polyamide Epoxy Coal Tar	46H-413 Hi Build Tneme Tar
130	Polyurethane Modified Concrete	Ultra-tred S / Series 245

2.02 TRAFFIC PAINT

- A. Paint for marking the parking lots shall be Sherwin-Williams PRO-MAR traffic marking paint, or equal. Color shall be white. Paint shall be applied in accordance with the manufacturer's recommendations. Striped areas shall be as indicated on the Plans.

PART 3 – EXECUTION

3.01 SURFACE PREPARATION

- A. Surfaces to be painted shall be clean and dry, and free of dust, rust, scale and all foreign matter. No solvent cleaning, power or hand tool cleaning shall be permitted unless acceptable to the Engineer or specified herein.
- B. Except as otherwise provided, all preparation of metal surfaces shall be in accordance with Specifications SP-1 through SP-10 of the Steel Structures Painting Council (SSPC). Where Steel Structures Painting Specifications are referred to in these Contract Documents, the corresponding Pictorial Surfaces Preparation Standard shall be used to define the minimum final surface conditions to be supplied. Grease and oil shall be removed and the surface prepared by hand tool cleaning, power tool cleaning or blast cleaning in accordance with the appropriate Specification SP-1 through SP-10.
- C. Weld flux, weld spatter and excessive rust scale shall be removed by power tool cleaning as per SSPC-SP-3-63.
- D. Threaded portions of valve and gate stems, machined surfaces which are limited for sliding contact, surfaces which are to be assembled against gaskets, surfaces or shafting

on which sprockets are to fit, or which are intended to fit into bearings, machined surfaces of bronze trim on slide gates and similar surfaces shall be masked off to protect them from the blast cleaning of adjacent surfaces. Cadmium-plated or galvanized items shall not blast cleaned unless hereinafter specified, except that cadmium-plated, zinc-plated, or sherardized fasteners used in assembly of equipment to the blast cleaned shall be blast cleaned in the same manner as the unprotected metal. All installed equipment, mechanical drives, and adjacent painted equipment shall be protected from blast cleaned. Protection shall prevent any sand or dust from entering the mechanical drive units or equipment where damage could be caused.

- E. Hardware accessories, machined surfaces, plates, lighting fixtures and similar items in place prior to cleaning and painting, and not intended to be painted, shall be protected or removed during painting operations and repositioned upon completion of painting operations.
- F. Any abraded areas of shop or field applied coating shall be touched up with the same type of shop or field applied coating, even to the extent of applying an entire coating, if necessary. Touch-up coating and surface preparations shall be in addition to and not considered as the first field coat.
- G. Sand from sandblasting shall be thoroughly removed, using a vacuum cleaner if necessary. No surface which has been sandblasted shall be painted until inspected by the Engineer.
- H. Exposed Pipe
 - 1. Bituminous coated pipe shall not be used in exposed locations. Pipe which shall be exposed after project completion shall be primed in accordance with the requirements herein. Any bituminous coated ferrous pipe which is inadvertently installed in exposed locations shall be blast cleaned to SSPC-SP-5 White Metal before priming and painting.
 - 2. After installation and prior to finish painting, all exterior, exposed flanged joints shall have the gap between adjoining flanges and gaps between the pipe wall and threaded-on flanges sealed with a single component Thiokol caulking to prevent rust stains.
- I. Ferrous Metal Surfaces
 - 1. All ferrous metal surfaces not required to be galvanized shall be cleaned of all oil grease, dirt, rust and tight and loose mill scale by blasting in accordance with the following: SSPC-SP-5, White Metal Blast Cleaning and comply with the visual standard NACE 1, for shop prepared and shop primed metal to be submerged. SSPC-SP-10 Near White Metal Blast Cleaning, and comply with the visual standard NACE 2 for field prepared metal to be submerged, SSPC-SP6 and comply with the visual standard NACE 3, for field prepared metal in all other locations. Pickling, complying with SSPC-SP-8, may be substituted for Near White Blast in areas as determined by the Engineer. Priming shall follow blast cleaning before any evidence of corrosion occurs, before nightfall and before any moisture is on the surface.

- J. Field surface preparation of small, isolated areas such as field welds, repair of scratches, abrasions or other marks to the shop prime or finish shall be cleaned by power tools in accordance with SSPC-SP-3, or in difficult and otherwise inaccessible areas by hand cleaning in accordance with SSPC-SP-2 and spot primed.
- K. Primed or Coated Surfaces and Non-Ferrous Surfaces
 - 1. All coated surfaces shall be cleaned prior to application of successive coats. All non-ferrous metals not to be coated shall be cleaned. This cleaning shall be done in accordance with SSPC-SP-1, Solvent Cleaning.
- L. Shop Finished Surfaces
 - 1. All shop-coated surfaces shall be protected from damage and corrosion before and after installation by treating damaged areas immediately upon detection. Abraded or corroded spots on shop-coated surfaces shall be prepared in accordance with SSPC-SP-2, Hand Tool Cleaning and then touched up with the same materials as the shop coat.
 - 2. All shop coated surfaces which are faded, discolored, or which require more than minor touch-up, in the opinion of the Engineer, shall be repainted. Cut edges of galvanized sheets, electrical conduit, and metal pipe sleeves, not to be finish painted, shall be cleaned in accordance with SSPC-SP-1, Solvent Cleaning and primed with zinc dust-zinc oxide metal primer.
- M. Galvanized and Copper Alloy Surfaces
 - 1. All copper or galvanized metal surfaces shall be brush blasted and given one coat of epoxy primer.
- N. Concrete and Masonry Surfaces
 - 1. Concrete and masonry surfaces to be painted shall be prepared by removing efflorescence, chalk, dust, dirt, grease, oil, form coating, tar and by roughening to remove glaze. All surfaces shall be repaired prior to commencement of the coating operation.
 - 2. Concrete and masonry surfaces are to be cured for at least 28 days prior to coating them.
- O. New concrete immersion surfaces that are to be coated shall be brush blasted per SSPC-SP13 to produce the necessary "sandpaper texture" surface required for satisfactory adherence of the paint. Refer to manufacturer's recommendation for specific coating being applied and adhere to ICRI Concrete Surface Preparation Profiles (CSP 1-9) when reviewing concrete surface preparation. Areas of concrete which contain bug holes or voids shall be filled with the manufacturer's approved filler material.
- P. Existing Painted Concrete and Masonry Surfaces
 - 1. Existing painted concrete and masonry surfaces requiring paint as identified herein shall be prepared by applying a minimum 3500 psi high pressure water blast to the existing painted surface to remove all loose paint, chalk, dust, dirt, grease, oil,

latents, and other foreign materials. Cracks, chips or voids in the existing concrete shall be repaired in accordance with paint manufacturer recommendations.

Q. PVC Pipe Surfaces

1. All pipe surfaces shall be lightly sanded before painting.

3.02 SHOP PAINTING

- A. All fabricated steel work and equipment shall receive at the factory at least one shop coat of prime paint compatible with the paint system required by these Specifications. The Contractor shall coordinate all shop priming to ensure compatibility with paint system specified. Surface preparation prior to shop painting shall be as specified. Finish coats may be applied in the shop if acceptable to the Engineer. All shop painted items shall be properly packaged and stored until they are incorporated in the Work. Any painted surfaces that are damaged during handling, transporting, storage or installation shall be cleaned, scraped, and patched before field painting begins so that Work shall be equal to the original painting received at the shop. Equipment or steel Work that is to be assembled on the site shall likewise receive a minimum of one shop coat of paint at the factory. Surfaces of exposed members that will be inaccessible after erection shall be prepared and painted before erection.
- B. The Contractor shall specify the shop paints to be applied when ordering equipment in order to assure compatibility of shop paints with field paints. The paints and surface preparation used for shop coating shall be identified on shop drawings submitted to the Engineer for review. Shop paint shop drawings will not be reviewed until the final project paint system has been submitted by the Contractor and reviewed by the Engineer.
- C. Shop finish coats may be the standard finish as ordinarily applied by the manufacturer if it can be demonstrated to the Engineer that the paint system is equal to and compatible with the paint system specified. However, all pumps, motors and other equipment shall receive at least one field applied finish coat after installation.

3.03 PAINT SCHEDULE

- A. The Contractor shall adhere to this paint schedule, providing those paints named or equal. DFT shall mean the minimum dry film thickness per application measured in mils. Products are referenced by numbers listed in Table 09900-1 of this Section entitled "Product Listing." The paint schedule identifies the minimum DFT required per coat. If the Contractor does not achieve the specified DFT range in a single coat, it shall provide additional coats as necessary at no additional cost to the Owner.
- B. Metal Surfaces, Atmospheric (Exterior) Exposure
 1. Existing and proposed Metal surfaces exposed to the atmosphere, and that do not come into contact with wastewater or corrosive atmosphere, including the following types of surfaces shall be painted as described below:
 - a. Pumps, motors, process equipment, machinery, etc.
 - b. Above ground piping, valves, and pipe supports
 - c. Miscellaneous steel shapes, angles, etc.

- d. Exposed non-factory painted surfaces of electric panels, conduit, ventilation fans, air conditioning units, duct work, etc.
 - e. Piping and valves (excluding ductile iron) inside below valve vaults.
2. Surface Preparation: Blast clean in accordance with SSPC-SP6
 3. Coating System

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
First -1 coat	115	Aromatic Urethane Zinc Rich	2.0 - 4.0
Second – 1 coat	105	Polyamidoamine Epoxy	4.0 - 6.0
Finish - 1 coat	110	Acrylic Polyurethane	<u>2.0 - 3.0</u>
Min. Total			10.0 Mils

C. Metal Surfaces, Interior Exposure

1. Existing and proposed interior metal surfaces (non-submerged) that do not come in contact with water or the corrosive atmosphere including the following types of surfaces shall be painted as follows:
 - a. Pumps, motors, process equipment, machinery, etc.
 - b. Piping and valves (excluding ductile iron)
 - c. Miscellaneous steel shapes, angles, rails, etc.
 - d. Exposed surfaces of conduit, ductwork, etc.
2. Surface Preparation: Blast clean in accordance with SSPC-SP6

3. Coating System

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
First - 1 coat	115	Aromatic Urethane Zinc Rich	2.0 - 4.0
Second - 1 coat	105	Polyamidoamine Epoxy	4.0 - 6.0
Finish – 1 coat	110	Acrylic Polyurethane	<u>2.0 - 3.0</u>
Min. Total			10.0 Mils

D. Ductile Iron Pipe, Exterior or Interior Exposure

1. Ductile iron pipe exterior or interior exposure shall receive the following types of paint:
2. Surface Preparation: Blast clean in accordance with SSPC-SP6
3. Coating System

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
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Prime – 1 coat	115	Aromatic Urethane Zinc Rich	2.0 - 4.0
Second - 1 coat	105	Polyamidoamine Epoxy	4.0 - 6.0
Finish – 1 coat	110	Acrylic Polyurethane	<u>2.0 - 3.0</u>
		Min. Total	10.0 Mils

E. PVC Pipes, Exterior or Interior Exposure

1. PVC pipes, valves, and accessories, shall receive the following types of paint:
2. Surface Preparation: Light sanding
3. Coating System

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
First - 1 coat	105	Polyamidoamine Epoxy	2.0 - 3.0
Finish - 1 coat	110	Acrylic Polyurethane	<u>2.0 - 3.0</u>
		Min. Total	4.0 Mils

F. Concrete Surfaces, Buried Exposure

1. The cast-in-place concrete walls and pre-cast concrete structures including the exterior of new manholes, below grade clearwell, the interior and exterior electrical pull boxes and footings of structures, shall be painted as follows. (Exterior surfaces shall be coated from the footing up to six inches below finished grade):

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
First – 1 coat	129	Polyamide Epoxy-Coal Tar	<u>14.0</u>
		Min. Total	14.0 Mils

G. Concrete and Masonry Walls, Existing Painted Exterior

1. Exterior of existing walls shall be painted as described below:
Surface Preparation: Remove unsound paint, excess mortar, laitance, and efflorescence. Pressure wash with TSP/Chlorine solution and fresh water rinse.

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
Surfacer (*)	116	Cementitious Repair Mortar	As req'd
Surfacer (**)	117	Modified Polyamine Epoxy	As req'd
First - 1 coat	114	Waterborne Polyamide Epoxy	1.0 - 2.0
Finish - 1 coat	106	Acrylic Emulsion	<u>7.0 - 9.0</u>
		Min. Total	10.0 Mils

(*) Surfacer to be applied to fill voids >1/4-inch deep

(**) Surfacer to be applied to fill voids < ¼-inch deep

~~H. Concrete and Masonry Walls, Existing Painted Interior~~

- ~~1. Interior existing masonry and concrete walls shall be painted as described below:~~

~~Surface Preparation: Remove unsound paint, excess mortar, laitance, and efflorescence. Pressure wash with TSP/Chlorine solution and fresh water rinse.~~

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
First - 1 coat	105	Hi-Build Epoxoline II	4.0 - 6.0
Finish - 1 coat	105	Hi-Build Epoxoline II	4.0 - 6.0
		Min. Total	10.0 Mils

H. Existing Concrete and Masonry Walls, Beams, and Ceiling, Interior Exposure

- Interior existing masonry and concrete walls, beams, and ceiling shall be painted as described below:

Surface Preparation: Remove unsound paint, excess mortar, laitance, and efflorescence. Pressure wash with TSP/Chlorine solution and fresh water rinse.

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
First - 1 coat	105	Hi-Build Epoxoline II	4.0 - 6.0
Finish - 1 coat	105	Hi-Build Epoxoline II	<u>4.0 - 6.0</u>
		Min. Total	10.0 Mils

I. Existing Concrete Floors, Interior Exposure

- Interior concrete floors of the high service pump room and VFD room shall be as described below:

Surface Preparation: Prepare surfaces in accordance with NACE No. 6 / SSPC-SP13.

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>Thickness</u>
Surfacer	130	Polyurethane Modified Concrete	Extend with aggregate
Finish - 1 coat	130	Polyurethane Modified Concrete	<u>1/4-inch</u>
		Min. Total	1/4-inch

J. New Concrete, Stucco and Masonry Surfaces, Exterior exposure of non-water bearing structures

- The exterior above grade surfaces of all new non-water bearing structures and new surfaces at existing non-water bearing structure shall receive the following:

Surface Preparation: Surface shall be clean and dry. Allow concrete to cure for 28 days.

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
Block Filler (*)	103	Water Based Epoxy	80 - 100 SF/Gal
First - 1 coat	106	Acrylic Emulsion	4.0 - 6.0

Finish - 1 coat	106	Acrylic Emulsion	<u>4.0 – 6.0</u>
		Min. Total	10.0 MILS

(*) Block filler only to be used on new masonry CMU / formed concrete.

K. New Concrete and Masonry Surfaces, Interior Exposure

1. Interior exposed masonry and concrete surfaces of all new non-water retaining structures shall be painted as described below:

Surface Preparation: Surface shall be clean and dry. Allow concrete to cure for 28 days.

<u>Application</u>	<u>No.</u>	<u>Description</u>	<u>DFT</u>
Block Filler (*)	102	Water Based Epoxy	100 -150 SF/Gal
First - 1 coat	105	Hi-Build Epoxoline II	4.0 - 6.0
Finish - 1 coat	105	Hi-Build Epoxoline II	<u>4.0 - 6.0</u>
		Min. Total	10.0 MILS

(*) Block filler only to be used on new masonry CMU and formed concrete.

3.04 PAINTING

- A. All paint shall be applied by experienced painters with brushes or other applicators acceptable to the Engineer.
- B. Paint shall be applied without runs, sags, thin spots, or unacceptable marks. Paints shall be applied at the rate specified by the manufacturer to achieve the minimum dry mil thickness required. Additional coats of paint shall be applied, if necessary, to obtain thickness specified.
- C. Paint shall be applied with spraying equipment only on those surfaces approved by the Engineer. If the material has thickened or must be diluted for application by spray gun, each coat shall be built up to the same film thickness achieved with undiluted brushed-on material. Where thinning is necessary, only the products of the particular manufacturer furnishing the paint shall be used; and all such thinning shall be done in strict accordance with the manufacturer's instructions, as well as with the full knowledge of the Engineer.
- D. Surfaces not accessible to brushes or rollers may be painted by spray by dauber or sheepskins and paint mitt. If any of these methods is to be used, it shall be done in strict accordance with the manufacturer's instructions, as well as with the full knowledge of the Engineer.
- E. Drying Time
 1. A minimum of twenty-four hours drying time shall elapse between applications of any two coats of paint on a particular surface unless shorter time periods are a requirement of the manufacturer or specified herein. Longer drying times shall be required for abnormal conditions as defined by the manufacturer.
- F. Weather Restrictions

1. No painting whatsoever shall be accomplished in rainy or excessively damp weather when the relative humidity exceeds 85 percent, or when the general air temperature cannot be maintained at 50 degrees Fahrenheit or above throughout the entire drying period. No paint shall be applied when it is expected that the relative humidity will exceed 85 percent or that the air temperature will drop below 50 degrees Fahrenheit within 18 hours after the application of the paint.
2. Dew or moisture condensation should be anticipated; and if such conditions are prevalent, painting shall be delayed until midmorning to be certain the surfaces are dry. The day's painting shall be completed well in advance of the probable time-of-day when condensation will occur.

G. Inspection of Surfaces

1. Each and every field coat of priming and finishing paint shall be inspected by the Engineer or its authorized representative before the succeeding coat is applied. The Contractor shall follow a system of tinting successive paint coats so that no two coats for a given surface are exactly the same color. Areas to receive black protective coatings shall in such cases be tick marked with white or actually gauged as to thickness when finished.

H. Before application of the prime coat and each succeeding coat, any defects or deficiencies in the prime coat or succeeding coat shall be corrected by the Contractor before application of any subsequent coating.

I. Samples of surface preparation and of painting systems shall be furnished by the Contractor to be used as a standard throughout the job, unless omitted by the Engineer.

J. When any appreciable time has elapsed between coatings, previously coated areas shall be carefully inspected by the Engineer, and where, in its opinion, surfaces are damaged or contaminated, they shall be cleaned and recoated at the Contractor's expense. Recoating times of manufacturer's printed instructions shall be adhered to.

K. Coating thickness shall be determined by the use of a properly calibrated "Nordson-Mikrotest" (or equal) dry mil thickness gauge.

L. The Contractor shall provide free of charge to the Engineer two new "Nordson-Mikrotest" dry film gauges to be used to inspect coating by Engineer and Contractor. One gauge may be used by Contractor and returned each day to the Engineer. Engineer will return gauges to Contractor at completion of job.

M. Special Areas

1. All surfaces which are to be installed against concrete, masonry etc., and will not be accessible for field priming and/or painting shall be back primed and painted as specified herein, before erection. Anchor bolts shall be painted before the erection of equipment and then the accessible surfaces repainted when the equipment is painted.

N. Special attention shall be given to insure that edges, corners, crevices, welds and rivets receive a film thickness equivalent to that of the adjacent painted surfaces.

O. Safety

1. Respirators shall be worn by persons engaged or assisting in spray painting. The Contractor shall provide ventilating equipment and all necessary safety equipment for the protection of the workmen and the Work.

P. Quality Workmanship

1. The Contractor shall be responsible for the cleanliness of its painting operations and shall use covers and masking tape to protect the Work whenever such covering is necessary, or if so requested by the Owner. Any unwanted paint shall be carefully removed without damage to any finished paint or surface. If damage does occur, the entire surface, adjacent to and including the damaged area, shall be repainted without visible lapmarks and without additional cost to the Owner.

- Q. Painting found defective shall be scraped or blast cleaned off and repainted as the Engineer may direct. Before final acceptance of the Work, damaged surfaces of paint shall be cleaned and repainted as directed by the Engineer.

- R. Any pipe scheduled to be painted and having received a coating of a tar or asphalt compound shall be painted with two coats of "Intertol Tar Stop", "Tnemec Tar Bar" or equal before successive coats are applied in accordance with the paint schedule.

3.05 SCHEDULE OF COLORS

- A. All colors shall be as designated by the Engineer at the shop drawing review. The Contractor shall submit color samples including custom color choices as required to the Engineer as specified in Article 1.04 of this Section. The Contractor shall submit suitable samples of all colors and finishes for the surfaces to be painted, or on portable surfaces when required by the Engineer. The Engineer shall decide upon the choice of colors and other finishes when alternates exist. No variation shall be made in colors without the acceptance from the Owner. Color names and/or numbers shall be identified according to the appropriate color chart issued by the manufacturer of the particular product in question.

3.06 ANSI AND OSHA SAFETY COLORS

- A. Items specified in the following subsections shall be safety color coated as specified. ANSI colors shall conform to (OSHA) ANSI Z53.1 and latest revisions. Materials shall be compatible with the system specified for the equipment, concrete, etc. Where a coating system is not specified and safety colors are required, the items shall be coated with a primer and two coats Glid-Guard Alkyd Industrial Enamel, or equal.

- B. Red: Items listed in ANSI Z53.1, Section 2.1 shall be painted ANSI Red. In general, these items shall include fire protection equipment and apparatus; wall mounted breathing apparatus, danger signs and locations; and stop bars, buttons or switches. In addition, all hose valves and riser pipes, fire protection piping and sprinkler systems, and electrical stop switches shall be painted ANSI Red.

- C. Orange: Items listed in ANSI Z53.1, Section 2.2 shall be painted ANSI Orange. ANSI Orange shall be used as a basic color for designating dangerous parts of machines or energized equipment which may cut, crush, shock, or otherwise injure and to emphasize such hazards when enclosure doors are open or when gear belt or other guards around moving equipment are open or removed, exposing unguarded hazards. In addition,

moving machinery having a linear or peripheral speed in excess of 10 feet per minute, which is either inadequately guarded due to physical problems or may be operated with the guard removed, rims or sprockets, gears, pulleys, etc.; crossheads of large engines and compressors; and flywheels shall be coated ANSI Orange.

- D. Yellow: Items listed in ANSI Z53.1, Section 2.3 shall be painted ANSI Yellow. Yellow shall be the basic color for designating caution and for marking physical hazards such as striking against, stumbling, falling, tripping, and "caught in between". In addition, an 8-inch wide strip on the top and bottom tread of stairways shall be coated.
- E. Green: Items listed in ANSI Z53.1, Section 2.4 shall be painted ANSI Green. Green shall be the basic color for designating safety and the location of first-aid equipment. In general, gas masks, first-aid kits, eye wash facilities, and safety deluge showers shall be coated with ANSI Green.
- F. Blue: Blue shall be used for designating caution, limited to warning against the starting, the use of, or the movement of equipment under repair or being worked upon.
- G. Purple: Items listed in ANSI Z53.1, Section 2.5 shall be painted ANSI Purple. In general, atomic sludge density meters shall be coated ANSI Purple.

3.07 WORK IN CONFINED SPACES

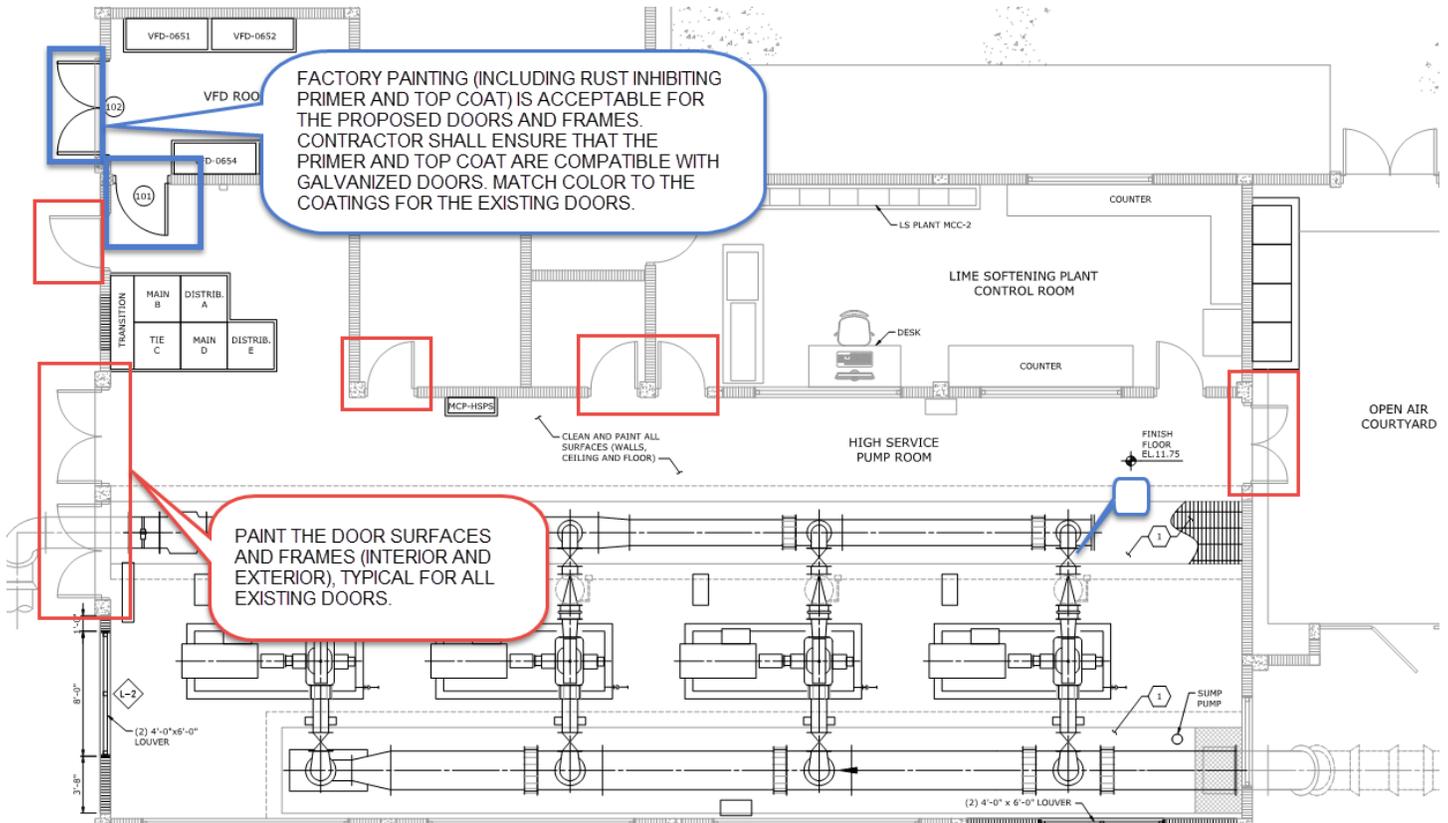
- A. The Contractor shall provide and maintain safe working conditions for all employees. Fresh air shall be supplied continuously to confined spaces through the combined use of existing openings, forced-draft fans, or by direct air supply to individual workers. Paint fumes shall be exhausted to the outside from the lowest level in the contained space.
- B. Electrical fan motors shall be explosion proof if in contact with fumes. No smoking or open fires will be permitted in, or near, confined spaces where painting is being done.

3.08 CLEANING

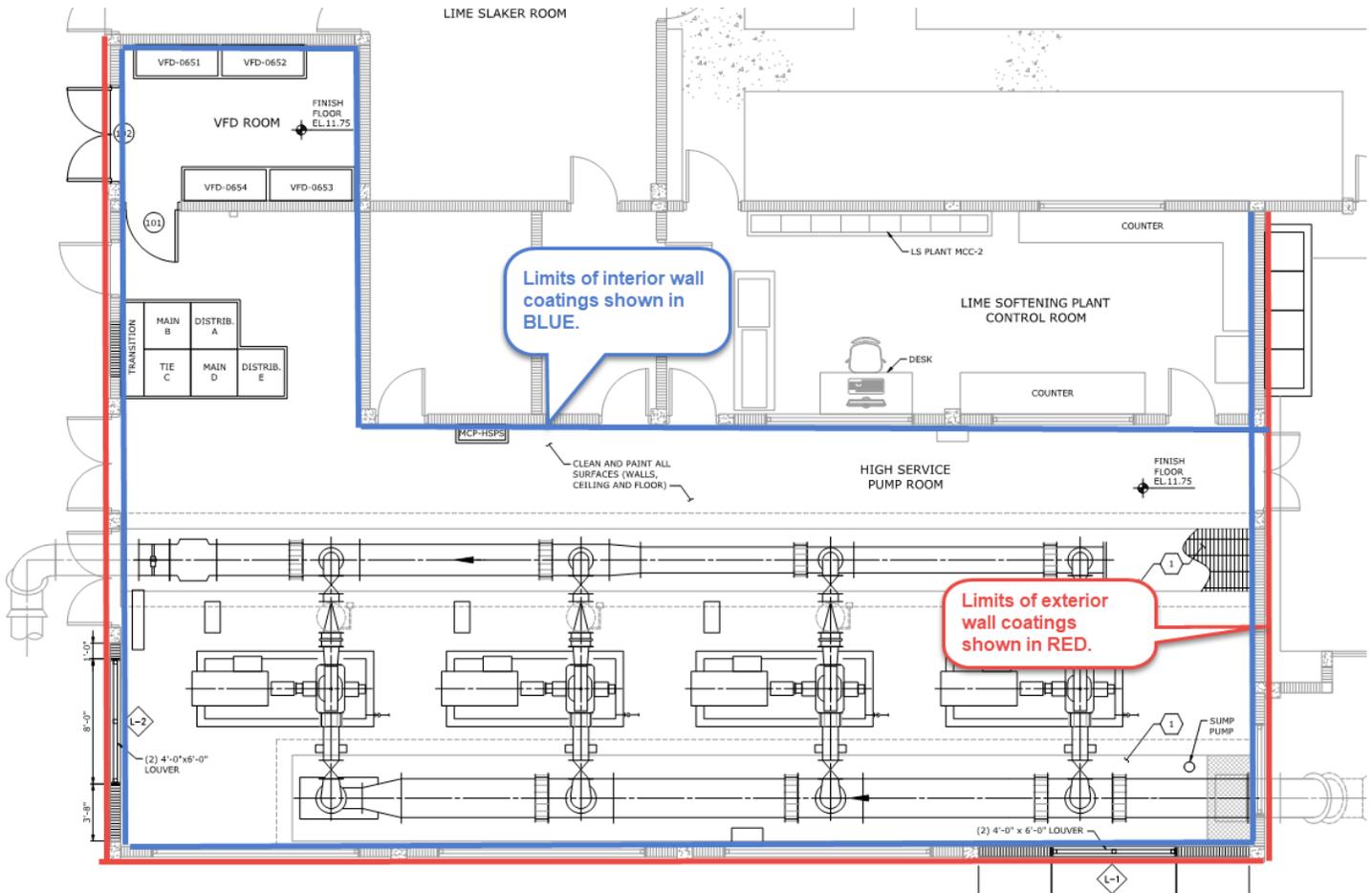
- A. The buildings and all other Work area shall be at all times kept free from accumulation of waste material and rubbish caused by the Work. At the completion of the painting, all tools, equipment, scaffolding, surplus materials, and all rubbish around the inside the buildings shall be removed and the Work left broom clean unless otherwise specified.

- END OF SECTION -

RELATIVE TO DOOR COATINGS, SEE THE GRAPHIC BELOW FOR CLARIFICATION:



THE IMAGE BELOW CLAIRIFIES THE LIMITS OF PAINTING.



ADDENDUM #3

PLEASE NOTE RECEIPT OF ADDENDUM # 3 BY SIGNING BELOW AND INCLUDE WITH YOUR FIRM'S SUBMISSION.

I ACKNOWLEDGE RECEIPT OF ADDENDUM # 3:

Company	
Name	
Title	
Signature	
Date	

Sincerely,



Andrea Lues, Director, Procurement Department