

October 4, 2018

ADDENDUM NO. 4

FILTER MEDIA REPLACEMENT

Notice is hereby given that the following additional information and changes shall become part of the specifications of the above referenced contract. You are to acknowledge the addenda on the Proposal Sheet.

1. Addition of Section 03 01 30 Maintenance of Cast-In-Place Concrete Specifications.
2. Addition of Section 09 97 13.11.02 Containment – Rigid Frame System
3. Addition of Section 09 97 23.10 Concrete Coating Surface Preparation
4. Addition of Section 09 97 23.13.08 Concrete Coating – Interior Resurfacer and One Coat Epoxy
5. Addition of Section 00 43 73 Schedule of Values

END OF ADDENDUM

SECTION 03 01 30
MAINTENANCE OF CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Repair of deteriorated and damaged concrete.

1.02 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.03 REFERENCES

- A. Codes, specifications, and standards referred to by number or title shall form a part of this specification to the extent required by the references thereto. Latest revisions shall apply in all cases.
 - 1. “Building Code Requirements for Structural Concrete (ACI 318) and Commentary (ACI 318R),” American Concrete Institute.

1.04 WORK INCLUDED

- A. Repair cracks
- B. Repair spalls.

1.05 UNIT PRICES

- A. Work of this Section is per unit prices specified in Section 00 43 73 Schedule of Values.
 - 1. Unit prices apply to authorized work covered by estimated quantities.
 - 2. Unit prices apply to authorized additions to and deletions from the Work as authorized by Change Orders.

1.06 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to concrete maintenance including, but not limited to, the following:
 - a. Verify concrete-maintenance specialist's personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Materials, material application, sequencing, tolerances, and required clearances.
 - c. Quality-control program.

1.07 SUBMITTALS

- A. Submit the following ten (10) days prior to the preconstruction meeting:
1. Safety Data Sheets (SDS) and Product Data Sheets:
 - a. Furnish from all suppliers Safety Data Sheets and product data sheets for all applicable materials including, but not limited to, concrete, grouts admixtures, sealers.
 - b. Provide for employees one (1) copy of all data sheets at the job site for employee access.
 - c. Provide one (1) hard copy and an electronic copy to the engineer.
 - d. No work may commence without the complete filing. All SDS shall conform to requirements of SARA (EPCRA) Right-to-Know Act.
 2. Concrete-Maintenance Specialist: Three similar projects including the scope and references.
 3. Include construction details, material descriptions, chemical composition, physical properties, test data, and mixing, preparation, and application instructions.
 4. Material Certificates: For each type of portland cement and aggregate supplied for mixing or adding to products at Project site.
 5. Product Test Reports: For each manufactured bonding agent, cementitious patching mortar, crack-injection adhesive, for tests performed by manufacturer and witnessed by a qualified testing agency.
 6. Quality-Control Program: Submit before work begins.

1.08 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Each manufacturer shall employ factory-authorized service representatives who are available for consultation and Project-site inspection and on-site assistance.
- B. Concrete-Maintenance Specialist Qualifications: Installers and supervisors who are trained and approved by manufacturer to apply materials necessary to perform work of this Section. Installers shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience in only installing or patching new concrete is insufficient experience for concrete-maintenance work.
1. Field Supervision: Concrete-maintenance specialist firm shall maintain experienced full-time supervisors on Project site during times that concrete-maintenance work is in progress.
- C. Quality-Control Program: Prepare a written plan for concrete maintenance to systematically demonstrate the ability of personnel to properly perform maintenance work, including each phase or process, protection of surrounding materials during operations, and control of debris and runoff during the Work. Describe in detail

materials, methods, equipment, and sequence of operations to be used for each phase of the Work.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Comply with manufacturer's written instructions for minimum and maximum temperature requirements and other conditions for storage.
- B. Store cementitious materials off the ground, under cover, and in a dry location.
- C. Store aggregates covered and in a dry location; maintain grading and other required characteristics and prevent contamination.
- D. Promptly remove damaged or unsuitable products from the job site. Replace products with undamaged, suitable products.

1.10 FIELD CONDITIONS

- A. Cold-Weather Requirements for Cementitious Materials: Do not apply unless concrete-surface and air temperatures are above 40 deg F (5 deg C) and will remain so for at least 48 hours after completion of Work.
- B. Hot-Weather Requirements for Cementitious Materials: Protect repair work when temperature and humidity conditions produce excessive evaporation of water from patching materials. Use cooled materials as required. Do not apply to substrates with temperatures of 90 deg F (32 deg C) and above.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Source Limitations: For repair products, obtain each color, grade, finish, type, and variety of product from single source and from single manufacturer with resources to provide products of consistent quality in appearance and physical properties.

2.02 BONDING AGENTS

- A. Mortar Scrub Coat: Mix consisting of 1 part portland cement and 1 part fine aggregate complying with ASTM C 144 except 100 percent passing a No. 16 (1.18-mm) sieve.

2.03 PATCHING MORTAR

- A. Patching Mortar Requirements:
 - 1. Only use patching mortars that are recommended by manufacturer for each applicable horizontal, vertical, or overhead use orientation.
 - 2. Coarse Aggregate for Patching Mortar: ASTM C 33/C 33M, washed aggregate, Size No. 8, Class 5S. Add to patching-mortar mix only as permitted by patching-mortar manufacturer.

- B. Cementitious Patching Mortar: Packaged, dry mix for repair of concrete.
 - 1. Approved material is Sika Repair SHB as manufactured by Sika Corp. or approved equal.

2.04 EPOXY CRACK-INJECTION MATERIALS

- A. Epoxy Crack-Injection Adhesive: ASTM C 881/C 881M, bonding system Type I.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. [BASF Construction Chemicals - Construction Systems.](#)
 - b. [ChemCo Systems.](#)
 - c. [Dayton Superior.](#)
 - d. [Euclid Chemical Company \(The\); an RPM company.](#)
 - e. [Fyfe Co. LLC.](#)
 - f. [Kaufman Products, Inc.](#)
 - g. [Sika Corporation.](#)
 - h. [Sto Corp.](#)
 - i. [US SPEC; Division of US MIX Company.](#)
 - j. [W.R. Meadows, Inc.](#)
 - 2. Capping Adhesive: Product manufactured for use with crack-injection adhesive by same manufacturer.

2.05 MISCELLANEOUS MATERIALS

- A. Water: Potable.

2.06 MIXES

- A. General: Mix products, in clean containers, according to manufacturer's written instructions.
 - 1. Do not add water, thinners, or additives unless recommended by manufacturer.
 - 2. When practical, use manufacturer's premeasured packages to ensure that materials are mixed in proper proportions. When premeasured packages are not used, measure ingredients using graduated measuring containers; do not estimate quantities or use shovel or trowel as unit of measure.
 - 3. Do not mix more materials than can be used within time limits recommended by manufacturer. Discard materials that have begun to set.
- B. Mortar Scrub Coat: Mix dry ingredients with enough water to provide consistency of thick cream.

PART 3 – EXECUTION

3.01 CONCRETE MAINTENANCE

- A. Concrete-maintenance work is to be performed only by qualified concrete-maintenance specialists.
- B. Comply with manufacturers' written instructions for surface preparation and product application.
- C. Spall repairs to be completed with patching mortar and/or new concrete placement as determined by the contractor.

3.02 EXAMINATION

- A. Notify Engineer seven days in advance of dates when areas of deteriorated or delaminated concrete and deteriorated reinforcing bars will be located.
- B. Locate areas of deteriorated or delaminated concrete using hammer or chain-drag sounding and mark boundaries. Mark areas for removal by simplifying and squaring off boundaries. At columns and walls make boundaries level and plumb unless otherwise indicated.
- C. Perform surveys as the Work progresses to detect hazards resulting from concrete-maintenance work.

3.03 PREPARATION

- A. Ensure that supervisory personnel are on-site and on duty when concrete maintenance work begins and during its progress.
- B. Protect persons, equipment and surrounding surfaces of the structure being repaired from harm resulting from concrete maintenance work.
 - 1. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
 - 2. Use only proven protection methods appropriate to each area and surface being protected.
 - 3. Provide temporary barricades, barriers, and directional signage to exclude public from areas where concrete maintenance work is being performed.
 - 4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of concrete maintenance work.
 - 5. Contain dust and debris generated by concrete maintenance work and prevent it from reaching the public or adjacent surfaces.
 - 6. Use water-mist sprinkling and other wet methods to control dust only with adequate, approved procedures and equipment that ensure that such water will not create a hazard or adversely affect other areas or materials.
 - 7. Protect floors and other surfaces along haul routes from damage, wear, and staining.

8. Protect adjacent surfaces and equipment by covering them with heavy polyethylene film and waterproof masking tape. If practical, remove items, store, and reinstall after potentially damaging operations are complete.
 9. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
- C. Preparation for Concrete Removal: Examine construction to be repaired to determine best methods to safely and effectively perform concrete maintenance work. Examine adjacent work to determine what protective measures will be necessary. Make explorations, probes, and inquiries as necessary to determine condition of construction to be removed in the course of repair.
1. Verify that affected utilities have been disconnected and capped.
 2. Inventory and record the condition of items to be removed for reinstallation or salvage.
 3. Provide and maintain shoring, bracing, and temporary structural supports as required to preserve stability and prevent unexpected or uncontrolled movement, settlement, or collapse of construction being demolished and construction and finishes to remain. Strengthen or add new supports when required during progress of removal work.
- D. Reinforcing-Bar Preparation: Remove loose and flaking rust from exposed reinforcing bars by abrasive blast cleaning until only tightly adhered light rust remains.
1. Where section loss of reinforcing bar is more than 25 percent, or 20 percent in two or more adjacent bars, cut bars and remove and replace as indicated on Drawings.
 2. Remove additional concrete as necessary to provide at least 1 ½ inch clearance around existing and replacement bars.
 3. Splice replacement bars to existing bars according to ACI 318 (ACI 318M) by lapping or using mechanical couplings.

3.04 CONCRETE REMOVAL

- A. Saw-cut perimeter of areas indicated for removal to a depth of at least 1/2 inch (13 mm). Make cuts perpendicular to concrete surfaces and no deeper than cover on reinforcement.
- B. Remove deteriorated and delaminated concrete by breaking up and dislodging from reinforcement.
- C. Remove additional concrete if necessary to provide a depth of removal of at least 1/2 inch (13 mm) over entire removal area.
- D. Where half or more of the perimeter of reinforcing bar is exposed, bond between reinforcing bar and surrounding concrete is broken, or reinforcing bar is corroded, remove concrete from entire perimeter of bar and to provide at least 1 ½ inch clearance around bar.

- E. Test areas where concrete has been removed by tapping with hammer and remove additional concrete until unsound and disbonded concrete is completely removed.
- F. Provide surfaces with a fractured profile of at least 1/8 inch (3 mm) that are approximately perpendicular or parallel to original concrete surfaces. Restore original profile unless otherwise directed.
- G. Thoroughly clean removal areas of loose concrete, dust, and debris.

3.05 BONDING AGENT APPLICATION

- A. Mortar Scrub Coat for Job-Mixed Patching Mortar and Concrete: Dampen repair area and surrounding concrete 6 inches (150 mm) beyond repair area. Remove standing water and apply scrub coat with a brush, scrubbing it into surface and thoroughly coating repair area. If scrub coat dries, recoat before placing patching mortar or concrete.
- B. Slurry Coat for Cementitious Patching Mortar: Wet substrate thoroughly and then remove standing water. Scrub a slurry of neat patching mortar into substrate, filling pores and voids.

3.06 PATCHING MORTAR APPLICATION

- A. Place patching mortar as specified in this article unless otherwise recommended in writing by manufacturer.
 - 1. Provide forms where necessary to confine patch to required shape.
 - 2. Wet substrate and forms thoroughly and then remove standing water.
- B. Pretreatment: Apply specified slurry coat.
- C. General Placement: Place patching mortar by troweling toward edges of patch to force intimate contact with edge surfaces. For large patches, fill edges first and then work toward center, always troweling toward edges of patch.
- D. Vertical Patching: Place material in lifts of not more than 1 inch (25 mm). Do not feather edge.
- E. Overhead Patching: Place material in lifts of not more than 1 inch (25 mm). Do not feather edge.
- F. Consolidation: After each lift is placed, consolidate material and screed surface.
- G. Multiple Lifts: Where multiple lifts are used, score surface of lifts to provide a rough surface for placing subsequent lifts. Allow each lift to reach final set before placing subsequent lifts.
- H. Finishing: Allow surfaces of lifts that are to remain exposed to become firm and then finish to a surface matching adjacent concrete.
- I. Curing: Wet-cure cementitious patching materials, including polymer-modified cementitious patching materials, for not less than seven days by water-fog spray or water-saturated absorptive cover.

3.07 EPOXY CRACK INJECTION

- A. Clean cracks with oil-free compressed air or low-pressure water to remove loose particles.
- B. Clean areas to receive capping adhesive of oil, dirt, and other substances that would interfere with bond.
- C. Place injection ports as recommended by epoxy manufacturer, spacing no farther apart than thickness of member being injected. Seal injection ports in place with capping adhesive.
- D. Seal cracks at exposed surfaces with a ribbon of capping adhesive at least 1/4 inch (6 mm) thick by 1 inch (25 mm) wider than crack.
- E. Inject cracks wider than 0.003 inch (0.075 mm) to a depth of 8 inches (200 mm).
- F. Inject epoxy adhesive, beginning at widest part of crack and working toward narrower parts. Inject adhesive into ports to refusal, capping adjacent ports when they extrude epoxy. Cap injected ports and inject through adjacent ports until crack is filled.
- G. After epoxy adhesive has set, remove injection ports and grind surfaces smooth.

SECTION 09 97 13.11.02
CONTAINMENT – RIGID FRAME SYSTEM

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Rigid Frame Containment System Requirements.

1.02 REFERENCES

- A. SSPC Guides:
 - 1. Guide 6 – Containing Debris Generated During Paint Removal Operations.

1.03 SUBMITTALS

- A. Containment plan, including detailed scaffolding design.

1.04 PAYMENT

- A. Payment for Section 09 97 13.11.02 Containment is incidental to exterior painting unless otherwise stated in these specifications.

PART 2 – PRODUCTS

2.01 DUST COLLECTORS – AIR FILTRATION UNITS

- A. Furnish and use a dust collector during all blasting work.
- B. Units to be equal in filtration capacity to Eagle Industries dust collectors. Other units may be used, but their substitution will be evaluated on efficiency at 0.5 micron size and airflow movement.
- C. Use 10,000 cfm minimum for all blast work.
- D. Substitution of steel grit blasting may decrease the requirements of above. New requirements will be defined by the engineer based on the efficiency of the contractor's equipment.
- E. Furnish HEPA filters for dust collection.
- F. Number of dust collectors shall be sufficient to supply a 50 ft./minute downward draft at most areas. An average may be considered. Determination of actual containment plan will be the deciding factor. Calculations of airflow shall be included in the containment submittal.
- G. Use only new filters or filters certified clean.

2.02 CONTAINMENT SYSTEM FRAME - RIGID

- A. Design scaffold to support all loading.
- B. Dead loads include weight of scaffold, planks, rails, and containment tarps.

- C. Live load – design for the maximum load possible, consider number of workers on a section at the same time and all blasting loads (dynamic load of blasting nozzle). Post a sign limiting the number of people on any one section and enforce. Minimum design live load is two (2) workers, and inspector and a foreman during inspections.

2.03 CONTAINMENT SHROUDS

- A. All shroud material and superstructure shall be non-penetrating, nylon rip-stop material manufactured by Eagle Industries, or approved equal. Approval of alternate material will be based on density, weight, support strength, stitching, reinforcement, home office experience, and staff assistance.
- B. Solid plywood can replace any shrouds.

PART 3 – EXECUTION

3.01 DUST CONTAINMENT – EXTERIOR

- A. Do everything within industry standards to minimize dust as a nuisance. Required procedures include: angle of abrasive impact, direction of nozzle spray, orifice pressure, and work stoppage due to wind speed or direction.
- B. Complete any additional measures required in these specifications. There will be no negotiations for extra compensation for nuisance complaints and corrective measures.
- C. Fully inspect the area, land use, and other pertinent local conditions prior to bidding exterior work.
- D. Do not permit dust, abrasive, or paint chips outside the containment system perimeter or ground cover.
- E. Do not permit any visual dust release when transferring abrasive from the interior of the structure to the dumpsters. Suppress dust with tarps or water, or other preapproved method.

3.02 CONTAINMENT during ABRASIVE BLAST CLEANING – SSPC-GUIDE 6 – CLASS 1A – RIGID FRAME

- A. Furnish and install a rigid frame containment system during all dust generating work, including housekeeping.
- B. This containment shall remain in place and fully shrouded until the completion of all blasting and housekeeping.
- C. Immediately replace/repair damaged shrouds or wrap material. Discontinue blast operations and cleanup to minimize any potential dust release until damaged shrouds or wrap is repaired or replaced.
- D. Provide a resealable entryway which allows entry while standing. Crawling or sliding entry is not permitted.
- E. All joints shall be sealed. Use one section of scaffold as resealable entryway.

SECTION 09 97 23.10

CONCRETE COATING SURFACE PREPARATION

PART 1 – GENERAL

1.01 REFERENCES

- A. AWWA/SSPC/NACE Standards:
 - 1. SSPC-SP13: Surface preparation of concrete.
- A. ICRI – CSP: Surface profile of concrete.

1.02 WORK INCLUDED – SURFACE PREPARATION

- A. Wet Interior: Abrasive blast clean the interior walls to remove all loose and deteriorated coating and scarify all intact coating.
- B. Wet Interior - Alternate: Abrasive blast clean the interior walls to remove all coating.

1.03 SUBMITTALS

- A. Submit the following with your annual prequalification:
 - 1. Occupational Safety and Health Programs and certification that all site personnel have been trained as required by law.
- B. Submit the following ten (10) days prior to the preconstruction meeting:
 - 1. Safety Data Sheets (SDS) and Product Data Sheets:
 - a. Furnish from all suppliers Safety Data Sheets for all applicable materials including, but not limited to, cleaners, paints, thinners, and abrasive materials.
 - b. Provide for employees one (1) copy of all data sheets at the job site for employee access.
 - c. Provide one (1) hard copy and an electronic copy to the engineer.
 - d. No work may commence without the complete filing. All sheets shall conform to requirements of SARA (EPCRA) Right-to-Know Act.
 - 2. Fall Prevention Plan and Site Specific Fall Hazard Evaluation.
 - a. Site specific plan to contain a generic drawing of the existing structure and appurtenances of this tank and reflect safety changes specified for this project.
 - b. Certifications for all spiders, scaffolding, stages, etc. to be used on the project. All certifications to be current, less than one (1) year old.
- C. Submit the following at the preconstruction meeting:
 - 1. Designated OSHA Competent Person and qualifications, if not previously submitted.
 - 2. Waste hauler and disposal facility.
 - 3. Submit all power tools and attachments to be used during the project.
- D. Submit:
 - 1. Waste manifest.

2. Waivers of lien.
3. Copies of any formal worker safety or environmental citations received on the project.

1.04 DELIVERY and STORAGE of MATERIAL

- A. Submit manufacturer's invoice, with or without paint cost, to the engineer for review. The submittal will be used to identify the quantity of paint recommended by the manufacturer for a job of this size and design, and will be used to check the quantity actually delivered to the project.
- B. Cover bulk materials subject to deterioration because of dampness, weather, or contamination, and protect while in storage.
- C. Maintain materials in original, sealed containers, unopened and with labels plainly indicating the manufacturer's name, brand, type, grade of material, and batch numbers.
- D. Remove from the work site containers that are broken, opened, water marked, and/or contain caked, lumpy, or otherwise damaged materials - they are unacceptable.
- E. Store the materials in a climate controlled designated area where the temperature will not exceed the manufacturer's storage recommendations. Heat the storage area to the manufacturer's recommended minimum mixing temperature.
- F. Keep equipment stored outdoors from contact with the ground, away from areas subject to flooding, and covered with weatherproof plastic sheeting or tarpaulins.
- G. Store all painting materials in a location outside the tank.
- H. Do not store or have on-site unapproved material, material from different manufacturers, or materials from different projects.

1.05 ACCESS and INSPECTOR SAFETY

- A. Provide access to all portions of the project where work is being completed. Access must be close enough and secure enough to allow inspector to use inspection equipment without extensions.
- B. Provide personnel to assist with access and to ensure contractor's access equipment is safely used.
- C. Provide separate fall protection for owner and inspectors. Limit fall to 5 ft. vertically.

1.06 INSPECTION and TESTING

- A. Prior to the scheduled inspection, remove all dust, spent abrasive, and foreign material from the surface to be coated.
- B. Furnish an instrument for measuring the wet film thickness.
- C. Certify to the owner that the specified paint has been applied at the paint manufacturer's recommended coverage, and to the specified thickness required. Also, certify that the paint has been applied in accordance with this contract.

- D. The owner and engineer reserve the right to perform destructive testing under conditions deemed necessary. Testing may include, but is not limited to, the Tooke thickness test and adhesion testing. Any damage caused by these tests will be corrected to specifications at the contractor's expense.

1.07 CLIMATIC CONDITIONS

- A. Do not apply paint when the temperature is below the manufacturer's required ambient and surface temperatures.
- B. Do not apply paint to wet or damp surfaces.
- C. Do not apply paint when it is expected the relative humidity will exceed 85%, or the surface temperature is less than 5° above dew point, or the air temperature will drop below the manufacturer's requirements for proper cure. Anticipate dew or moisture condensation, and if such conditions are prevalent, delay painting until the owner is satisfied the surfaces are dry.

1.08 APPLICATION

- A. Complete all painting and surface preparation in strict accordance with these specifications, approved paint manufacturer's specifications, and good painting practices per SSPC.
- B. Apply each coat at the rate and in the manner specified by the manufacturer. Check the wet film thickness every 200 sq. ft. to ensure each coat applied meets the dry film thickness range requirements.
- C. Allow sufficient time for each coat of paint to dry or cure. Allow a minimum of twenty-four (24) hours between coats.
- D. Apply exterior coating by brush and roller only. Spray application is not permitted without prior approval of the engineer. Even with prior approval, responsibility for damage still remains with the contractor.
- E. Painting or abrasive blast cleaning may be delayed because of poor coverage, the possibility of the paint drying too rapidly, or the potential damage from overspray and/or dry spray resulting from wind. In all cases, responsibility for damage rests with the contractor.
- F. The contractor is responsible for the appearance of the finished product, and is warned to prevent contact with any freshly applied coating. Removal of rigging shall be completed so not to mar or damage the coating.
- G. Coatings shall be applied using methods to eliminate roller or spray marks in the finished product on the exterior.
- H. Additional coats required for coverage or to eliminate roller or spray marks are the responsibility of the contractor at no additional cost to the owner.
- I. Use of pole extension on spray guns is prohibited for exterior and interior application.

PART 2 – PRODUCTS

2.01 SUBSTITUTIONS

- A. All coatings specified and approved herein have met or exceeded a specified list of ASTM standards. The materials specified are the standard to which all others shall be compared.
- B. The purpose is to establish a standard of design and quality, and not to limit competition. All ASTM tests were performed in the presence of a representative of Dixon Engineering, Inc.
- C. Other manufacturers wishing to have their products approved have also had their coatings tested using the same representative of Dixon Engineering, Inc., and the same test methods. The manufacturers of those systems that have met all ASTM Standards have been given a letter of acceptance as an equal coating. Any bidder wishing to use materials other than those specified shall verify with the manufacturer if he has a letter of acceptance by Dixon Engineering, Inc. The engineer will have on file a list of approved coating products and manufacturers for specified applications.
- D. Approval by ANSI/NSF Standard 61 is also a requirement for potable water contact coatings.
- E. The selection of coatings also has taken into consideration the manufacturer's current and past performance on availability, stocking, and shipping capabilities, ability to resolve disputes, and any applicable warranties.

2.02 HAND WASH FACILITY

- A. Provide a hand and face wash facility with soap and disposable towels.
- B. After testing, properly dispose of wash water.

2.03 EQUIPMENT COVERING

- A. Use material that is 8 – 10 mils thick, and 100% impermeable to cover controls, motors, uncoated surfaces, fiberglass troughs, stainless steel and steel piping, and other vulnerable equipment.
- B. Use material resistant to tear and/or rip by mechanical action from abrasive blasting during blasting operations.
- C. Make coverings airtight by use of duct tape at the openings, or other suitable measures.
- D. Meet with the owner to verify covering will not damage equipment. Damage is contractor's responsibility.

PART 3 – EXECUTION

3.01 PRE-SURFACE PREPARATION

- A. Low pressure water clean at 4,000 psi all surfaces and appurtenances to remove sediment, minerals, soot, and other contaminants.
- B. Staining may remain in place prior to abrasive blast cleaning, engineer to approve cleanliness.

3.02 CONCRETE ABRASIVE BLAST CLEAN SURFACE PREPARATION – BASE BID

- A. Abrasive blast clean all interior concrete surfaces to a SSPC-SP13/NACE 6 finish. Intent is to remove all loose and deteriorated coating and scarify all intact coating.
- B. Produce a surface suitable for paint application. Remove burrs, sharp edges, fins, and concrete spatter during blasting procedures.
- C. Repair only spalls, cracks, and unsound concrete discovered by abrasive blast cleaning per these specifications.

3.03 CONCRETE ABRASIVE BLAST CLEAN SURFACE PREPARATION – ALTERNATE BID

- A. Abrasive blast clean all interior concrete surfaces to a SSPC-SP13/NACE 6 finish. Intent is to remove all coatings and create a profile in the concrete.
- B. Produce a surface suitable for paint application. Remove burrs, sharp edges, fins, and concrete spatter during blasting procedures.
- C. Repair only spalls, cracks, and unsound concrete discovered by abrasive blast cleaning per these specifications.
- D. Maintain a profile per ICRI – CSP3.

SECTION 09 97 23.13.08
CONCRETE COATING – INTERIOR RESURFACER and ONE COAT EPOXY

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Painting of concrete structure.

1.02 WORK INCLUDED

- A. Application of a resurfacer and one (1) coat epoxy.

PART 2 – PRODUCTS

2.01 RESURFACER and EPOXY – 1 COAT SYSTEM

- A. Resurfacer and a one (1) coat epoxy system.
- B. Approved suppliers and manufacturers:

| <u>Manufacturer</u> | <u>System</u> |
|---------------------|---------------|
| Tnemec | 215/22 |

PART 3 – EXECUTION

3.01 EPOXY – RESURFACER and 1 COAT SYSTEM

- A. Apply to all prepared areas a resurfacer, plus a one (1) coat epoxy system.
- B. Apply each coat at the following rates:

| <u>Coat</u> | <u>Minimum</u> | <u>Maximum</u> |
|-------------|----------------------------------|----------------------|
| | <u>D.F.T. (mils)</u> | <u>D.F.T. (mils)</u> |
| Resurfacer | As needed (estimated 10 sq. ft.) | |
| Topcoat | 16.0 | 20.0 |
- C. Apply in a uniform color and sheen without streaks, laps, runs, sags, cloudy, or missed areas. Correct all defects before application of the successive coat.
- D. Additional cure time may be necessary if low temperatures require an increase in the necessary cure time.
- E. MAINTAIN FORCED VENTILATION A MINIMUM OF SEVEN (7) DAYS AFTER TOPCOAT APPLICATION, time required for cure is dependent on the coating manufacturer and temperature. Record variations of the standard procedures (roof hatch closure because of rain, etc.), and submit to the engineer. Heat is required if, in the opinion of the engineer, the integrity of the coating is endangered by cold weather, or if additional cure time will delay the project beyond the substantial completion date.

SECTION 00 43 73
SCHEDULE of VALUES

1.01 PART 1

A. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 03 01 30:

1. SPALL REPAIR – 2 SQ. FT. AT 1 IN. DEEP
_____ \$

2. CRACK REPAIR – EPOXY INJECTION – 10 LINEAL FEET
_____ \$

B. Bidder agrees to perform all work in the following sections as described in the Contract Documents, including all labor and material for the following Schedule of Values – Section 09 97 23.10:

1. WET INTERIOR REPAINT (BRUSH BLAST) – BASE BID
_____ \$

2. WET INTERIOR REPAINT (FULL BLAST) – ALTERNATE BID
_____ \$

3. RESURFACER – 10 SQ. FT.
_____ \$
