Work Order Signature Document

EZIQC Contract No.: GA-A09-040820-LIY

[X] **New Work Order** [ ] **Modify an Existing Work Order**

Work Order Number: 125331.00 Work Order Date: 02/09/2024

Work Order Title: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting

Owner Name:	Dekalb County	Contractor Name:	Lichty Commercial Construction, Inc.
Contact:	Jabari Jackson	Contact:	Josh Cauthen
Phone:	404-917-4328	Phone:	678-732-9221

Work to be Performed

Work to be performed as per the Final Detailed Scope of Work Attached and as per the terms and conditions of EZIQC Contract No GA-A09-040820-LIY.

Brief Work Order Description:

Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting

Time of Performance ***See Schedule Section of the Detailed Scope of Work***

Liquidated Damages Will apply: [ ] Will not apply: [X]

Work Order Firm Fixed Price: $2,668,230.45

Owner Purchase Order Number:

Approvals

Owner Date

Contractor Date

Detailed Scope of Work

To: Josh Cauthen
Lichty Commercial Construction, Inc.
3445 Buffington Ctr
Atlanta, GA 30349
678-732-9221

From: Jabari Jackson
Dekalb County

404-917-4328

Date Printed: February 09, 2024

Work Order Number: 125331.00

Work Order Title: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation &

Brief Scope: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting

☐ **Preliminary**	☐ **Revised**	☒ **Final**

The following items detail the scope of work as discussed at the site. All requirements necessary to accomplish the items set forth below shall be considered part of this scope of work.

see attached detailed scope of work.

Contractor _____ Date _____

Owner _____ Date _____

Contractor's Price Proposal - Summary

Date: February 09, 2024

IQC Master Contract #: GA-A09-040820-LIY
Work Order Number: 125331.00
Owner PO #:
Work Order Title: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting
Contractor: Lichty Commercial Construction, Inc.
Proposal Name: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting
Proposal Value: $2,668,230.45

01 - General Requirements	**$1,293,206.96**
02 - Site Work	**$3,201.52**
03 - Concrete	**$423,450.34**
05 - Metals	**$146,439.93**
09 - Finishes	**$653,764.38**
10 - Specialties	**$1,442.50**
23 - Heating, Ventilating, And Air-Conditioning (HVAC)	**$41,455.76**
26 - Electrical	**$11,134.48**
33 - Utilities	**$83,062.05**
46 - Water and Wastewater Equipment	**$11,072.53**
Proposal Total	**$2,668,230.45**

This total represents the correct total for the proposal. Any discrepancy between line totals, sub-totals and the proposal total is due to rounding.

The Percentage of NPP on this Proposal: %

Contractor's Price Proposal - Detail

Date: February 09, 2024

IQC Master Contract #: GA-A09-040820-LIY
Work Order Number: 125331.00
Owner PO #:
Work Order Title: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting
Contractor: Lichty Commercial Construction, Inc.
Proposal Name: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting
Proposal Value: $2,668,230.45

	Sect.	Item	Modifer.	UOM	Description	Line Total
Labor	**Equip.**	**Material**	**(Excluded if marked with an X)**			

01 - General Requirements

1 01 22 16 00 0002 — EA — Reimbursable FeesReimbursable Fees will be paid to the contractor for eligible costs as directed by Owner. Insert the appropriate quantity to adjust the base cost to the actual Reimbursable Fee. If there are multiple Reimbursable Fees, list each one separately and add a comment in the "note" block to identify the Reimbursable Fee (e.g. sidewalk closure, road cut, various permits, extended warranty, expedited shipping costs, etc.). A copy of each receipt, invoice, or proof of payment shall be submitted with the Price Proposal. — $330,000.00

	Quantity		Unit Price		Factor	=	Total
Installation	300,000.00	x	1.00	x	1.1000	=	330,000.00

Owner Contingency

2 01 22 16 00 0002 — EA — Reimbursable FeesReimbursable Fees will be paid to the contractor for eligible costs as directed by Owner. Insert the appropriate quantity to adjust the base cost to the actual Reimbursable Fee. If there are multiple Reimbursable Fees, list each one separately and add a comment in the "note" block to identify the Reimbursable Fee (e.g. sidewalk closure, road cut, various permits, extended warranty, expedited shipping costs, etc.). A copy of each receipt, invoice, or proof of payment shall be submitted with the Price Proposal. — $63,580.00

	Quantity		Unit Price		Factor	=	Total
Installation	57,800.00	x	1.00	x	1.1000	=	63,580.00

Bonding

3 01 22 16 00 0002 — EA — Reimbursable FeesReimbursable Fees will be paid to the contractor for eligible costs as directed by Owner. Insert the appropriate quantity to adjust the base cost to the actual Reimbursable Fee. If there are multiple Reimbursable Fees, list each one separately and add a comment in the "note" block to identify the Reimbursable Fee (e.g. sidewalk closure, road cut, various permits, extended warranty, expedited shipping costs, etc.). A copy of each receipt, invoice, or proof of payment shall be submitted with the Price Proposal. — $9,945.60

	Quantity		Unit Price		Factor	=	Total
Installation	8,000.00	x	1.00	x	1.2432	=	9,945.60

Ladder safety devices

4 01 22 20 00 0057 — HR — Principal Engineer — $6,614.93

	Quantity		Unit Price		Factor	=	Total
Installation	25.00	x	222.50	x	1.1892	=	6,614.93

API Inspection and Reporting

5 01 22 20 00 0058 — HR — Senior Engineer — $10,256.85

	Quantity		Unit Price		Factor	=	Total
Installation	50.00	x	172.50	x	1.1892	=	10,256.85

API Inspection and Reporting

6 01 22 20 00 0059 — HR — Engineer — $16,054.20

	Quantity		Unit Price		Factor	=	Total
Installation	100.00	x	135.00	x	1.1892	=	16,054.20

API Inspection and Reporting

Contractor's Price Proposal - Detail Continues..

Work Order Number: 125331.00
Work Order Title: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting

Proposal Name: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting
Proposal Value: $2,668,230.45

	Sect.	Item	Modifer.	UOM	Description	Line Total
Labor	**Equip.**	**Material**	**(Excluded if marked with an X)**			

01 - General Requirements

7	01 22 23 00 0994		MO	20 To 25 Ton Lift, Truck Mounted Hydraulic Crane With Full-Time Operator		$90,338.10
				Quantity x Unit Price x Factor = Total		
			Installation	4.00 x 18,991.36 x 1.1892 = 90,338.10		
8	01 22 23 00 0994	0034	MOD	For Equipment Without Operator, Deduct		-$54,692.35
				Quantity x Unit Price x Factor = Total		
			Installation	4.00 x -11,497.72 x 1.1892 = -54,692.35		
9	01 22 23 00 1065		MO	10,000 LB Telescopic Boom, Hi-Reach, Rough Terrain Construction Forklift With Full-Time Operator		$382,455.85
				Quantity x Unit Price x Factor = Total		
			Installation	24.00 x 13,400.32 x 1.1892 = 382,455.85		
10	01 22 23 00 1065	0034	MOD	For Equipment Without Operator, Deduct		-$250,720.65
				Quantity x Unit Price x Factor = Total		
			Installation	24.00 x -8,784.64 x 1.1892 = -250,720.65		
11	01 54 23 00 0005		CCF	Scaffolding With Bracing Accessories - Area Based On 3' Wide Sections (CCF / Month)		$347,626.94
				Quantity x Unit Price x Factor = Total		
			Installation	5,800.00 x 50.40 x 1.1892 = 347,626.94		
12	01 54 23 00 0009		CCF	>40' To 60' Height Scaffolding Initial Erection And Final Dismantling, Per CCF Of Scaffolding And Accessories		$260,996.10
				Quantity x Unit Price x Factor = Total		
			Installation	5,800.00 x 37.84 x 1.1892 = 260,996.10		
13	01 54 26 00 0002		MO	7' Swing Stage, Electric Operated		$13,566.82
				Quantity x Unit Price x Factor = Total		
			Installation	4.00 x 2,852.09 x 1.1892 = 13,566.82		
14	01 54 26 00 0012		EA	Swing Stage Platform And Temporary Roof Mounted Outrigger System Erection And DismantlingIncludes both initial erection and final dismantling of temporary roof mounted outrigger system.		$3,015.01
				Quantity x Unit Price x Factor = Total		
			Installation	1.00 x 2,535.33 x 1.1892 = 3,015.01		
15	01 54 26 00 0014		EA	Move Swing Stage Platform and Temporary Roof Mounted Outrigger System To Different Location At Same Roof		$12,712.07
				Quantity x Unit Price x Factor = Total		
			Installation	8.00 x 1,336.20 x 1.1892 = 12,712.07		
16	01 56 16 00 0010		SF	10 Mil, Fire Retardant, Reinforced, Plastic Sheeting, Applied To Scaffolding		$33,963.55
				Quantity x Unit Price x Factor = Total		
			Installation	51,000.00 x 0.56 x 1.1892 = 33,963.55		
17	01 71 13 00 0003		EA	Equipment Delivery, Pickup, Mobilization And Demobilization Using A Tractor Trailer With Up To 53' BedIncludes loading, tie-down of equipment, delivery of equipment, off loading on site, rigging, dismantling, loading for return and transporting away. For equipment such as bulldozers, motor scrapers, hydraulic excavators, gradalls, road graders, loader-backhoes, heavy duty construction loaders, tractors, pavers, rollers, bridge finishers, straight mast construction forklifts, telescoping boom rough terrain construction forklifts, telescoping and articulating boom man lifts with >40' boom lengths, etc.		$6,313.03
				Quantity x Unit Price x Factor = Total		
			Installation	4.00 x 1,327.16 x 1.1892 = 6,313.03		

Contractor's Price Proposal - Detail Continues..

Work Order Number: 125331.00
Work Order Title: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting

Proposal Name: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting
Proposal Value: $2,668,230.45

	Sect.	Item	Modifer.	UOM	Description	Line Total
Labor	**Equip.**	**Material**	**(Excluded if marked with an X)**			

01 - General Requirements

18 01 74 19 00 0015 — EA — 30 CY Dumpster (4 Ton) "Construction Debris"Includes delivery of dumpster, rental cost, pick-up cost, hauling, and disposal fee. Non-hazardous material. — $11,035.21

	Quantity		Unit Price		Factor	=	Total
Installation	16.00	x	579.97	x	1.1892	=	11,035.21

19 01 74 19 00 0034 — CY — Hazardous Materials And Rubbish Landfill Dump FeeIncludes regulated waste such as paint cans, refrigerators/freezers, air conditioners, smoke detectors, batteries, etc. — $145.70

	Quantity		Unit Price		Factor	=	Total
Installation	4.00	x	30.63	x	1.1892	=	145.70

Subtotal for 01 - General Requirements **$1,293,206.96**

02 - Site Work

20 02 41 19 13 0023 — EA — Torch Cutting Minimum ChargeFor projects where the total torch cutting charge is less than the minimum charge, use this task exclusively. This task should not be used in conjunction with any other tasks in this section. — $3,201.52

	Quantity		Unit Price		Factor	=	Total
Installation	4.00	x	673.04	x	1.1892	=	3,201.52

Subtotal for 02 - Site Work **$3,201.52**

03 - Concrete

21 03 01 30 71 0027 — SF — Spall Concrete Repair, >1-1/2" To 3" Deep On Vertical/Overhead Surfaces — $423,450.34

	Quantity		Unit Price		Factor	=	Total
Installation	4,000.00	x	89.02	x	1.1892	=	423,450.34

Subtotal for 03 - Concrete **$423,450.34**

05 - Metals

22 05 05 21 00 0011 — LF — 1/4" Vertical Fillet Weld — $1,513.85

	Quantity		Unit Price		Factor	=	Total
Installation	100.00	x	12.73	x	1.1892	=	1,513.85

23 05 12 23 00 0043 — TON — 1/2" To 5" Diameter Standard Weight Pipe — $9,124.86

	Quantity		Unit Price		Factor	=	Total
Installation	1.00	x	7,673.11	x	1.1892	=	9,124.86

24 05 12 23 00 0777 — SF — 1/2" Thick Flat Steel Plate — $678.13

	Quantity		Unit Price		Factor	=	Total
Installation	16.00	x	30.63	x	1.1892	=	582.80
Demolition	16.00	x	5.01	x	1.1892	=	95.33

25 05 51 33 13 0005 — VLF — 24" Wide Vertical Steel Caged Ladder Primed — $135,123.09

	Quantity		Unit Price		Factor	=	Total
Installation	520.00	x	207.18	x	1.1892	=	128,116.80
Demolition	520.00	x	11.33	x	1.1892	=	7,006.29

Subtotal for 05 - Metals **$146,439.93**

Contractor's Price Proposal - Detail Continues..

Work Order Number: 125331.00
Work Order Title: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting

Proposal Name: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting
Proposal Value: $2,668,230.45

	Sect.	Item	Modifer.	UOM	Description	Line Total
Labor	**Equip.**	**Material**	**(Excluded if marked with an X)**			

09 - Finishes

26	09 91 13	00 0329		LF	1 Coat Primer, 2" To 3-1/2" Diameter, Paint Conduit Or Steel Pipe								$17.01
						Quantity		Unit Price		Factor	=	Total	
				Installation		10.00	x	1.43	x	1.1892	=	17.01	
27	09 91 13	00 0332		LF	1 Coat Primer, 10" To 12" Diameter, Paint Steel Pipes								$303.25
						Quantity		Unit Price		Factor	=	Total	
				Installation		100.00	x	2.55	x	1.1892	=	303.25	
28	09 91 13	00 0339		LF	2 Coats Paint, 2" To 3-1/2" Diameter, Paint Conduit Or Steel Pipe								$34.13
						Quantity		Unit Price		Factor	=	Total	
				Installation		10.00	x	2.87	x	1.1892	=	34.13	
29	09 91 13	00 0342		LF	2 Coats Paint, 10" To 12" Diameter, Paint Steel Pipes								$575.57
						Quantity		Unit Price		Factor	=	Total	
				Installation		100.00	x	4.84	x	1.1892	=	575.57	
30	09 91 13	00 0349		LF	1 Coat Alkyd Primer, Brush/Roller Work, Paint Ladders								$1,780.95
						Quantity		Unit Price		Factor	=	Total	
				Installation		520.00	x	2.88	x	1.1892	=	1,780.95	
31	09 91 13	00 0351		LF	2 Coats Alkyd Enamel Paint, Brush/Roller Work, Paint Ladders								$3,889.64
						Quantity		Unit Price		Factor	=	Total	
				Installation		520.00	x	6.29	x	1.1892	=	3,889.64	
32	09 91 23	00 0353		SF	Complex Design, Paint Logo								$109,288.67
						Quantity		Unit Price		Factor	=	Total	
				Installation		2,900.00	x	31.69	x	1.1892	=	109,288.67	
33	09 97 13	24 0004		SF	Large Vessel/Tank SP2/3 Hand Or Power Tool Cleaning Surface Preparation								$3,282.19
						Quantity		Unit Price		Factor	=	Total	
				Installation		3,000.00	x	0.92	x	1.1892	=	3,282.19	
34	09 97 13	24 0012		SF	Large Vessel/Tank SP6 Commercial Blast Cleaning Surface Preparation								$215,102.50
						Quantity		Unit Price		Factor	=	Total	
				Installation		133,000.00	x	1.36	x	1.1892	=	215,102.50	
35	09 97 13	24 0063		SF	Spray Large Vessel/Tank 2 Mil Prime And Two 6 Mil High Build Epoxy Finish Coats								$319,490.47
						Quantity		Unit Price		Factor	=	Total	
				Installation		133,000.00	x	2.02	x	1.1892	=	319,490.47	

Subtotal for 09 - Finishes **$653,764.38**

10 - Specialties

36	10 14 16	00 0017		SF	Cast Aluminum Nameplate Plaque Including Emblem Size 1-4 SF Each								$1,442.50
						Quantity		Unit Price		Factor	=	Total	
				Installation		5.00	x	242.60	x	1.1892	=	1,442.50	

Subtotal for 10 - Specialties **$1,442.50**

23 - Heating, Ventilating, And Air-Conditioning (HVAC)

Contractor's Price Proposal - Detail Continues..

Work Order Number: 125331.00
Work Order Title: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting

Proposal Name: Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting
Proposal Value: $2,668,230.45

	Sect.	Item	Modifer.	UOM	Description	Line Total
Labor	Equip.	Material	(Excluded if marked with an X)			

23 - Heating, Ventilating, And Air-Conditioning (HVAC)

37	23	13	33	00 0005		EA	Tank Manway With Cover, Steel						$41,455.76
							Quantity		Unit Price		Factor		Total
					Installation		7.00	x	4,980.03	x	1.1892	=	41,455.76

Subtotal for 23 - Heating, Ventilating, And Air-Conditioning (HVAC) **$41,455.76**

26 - Electrical

38	26	56	19	00 0238		EA	77 Watt, Post Top Mount, Acorn Style LED Area Fixture (Cooper Lighting Invue® MSA-CO3)						$11,134.48
							Quantity		Unit Price		Factor		Total
					Installation		4.00	x	2,240.16	x	1.1892	=	10,655.99
					Demolition		4.00	x	100.59	x	1.1892	=	478.49

Subtotal for 26 - Electrical **$11,134.48**

33 - Utilities

39	33	14	13	36 0004		LF	8" Diameter, 3/16" Wall Thickness Welded, Plain End, Uncoated Steel Pipe						$9,380.41
							Quantity		Unit Price		Factor		Total
					Installation		100.00	x	78.88	x	1.1892	=	9,380.41
40	33	14	13	36 0017		LF	12" Diameter, 5/16" Wall Thickness Welded, Plain End, Uncoated Steel Pipe						$73,681.64
							Quantity		Unit Price		Factor		Total
					Installation		300.00	x	171.45	x	1.1892	=	61,166.50
					Demolition		300.00	x	35.08	x	1.1892	=	12,515.14

Subtotal for 33 - Utilities **$83,062.05**

46 - Water and Wastewater Equipment

41	46	82	76	00 0151		EA	18" Replacement Flax Gasket For 220 Manway (Varec R9000273-18)						$11,072.53
							Quantity		Unit Price		Factor		Total
					Installation		7.00	x	1,330.13	x	1.1892	=	11,072.53

Subtotal for 46 - Water and Wastewater Equipment **$11,072.53**

Proposal Total **$2,668,230.45**

This total represents the correct total for the proposal. Any discrepancy between line totals, sub-totals and the proposal total is due to rounding.

The Percentage of NPP on this Proposal: **%**

Sourcewell

GORDIAN®

Client - Dekalb County

Detailed Scope of Work

Print Date:	February 09, 2024
Work Order Number:	125331.00
Work Order Title:	Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting
Contractor:	GA-A09-040820-LIY - Lichty Commercial Construction, Inc.
Brief Scope:	Dekalb County Government (Watershed Management Dept.) - Water Towers Rehabilitation & Painting

To: Josh Cauthen
Lichty Commercial Construction, Inc.
3445 Buffington Ctr
Atlanta, GA 30349
678-732-9221

From: Jabari Jackson
Dekalb County

404-917-4328

The following items detail the scope of work as discussed at the site. All requirements necessary to accomplish the items set forth below shall be considered part of this scope of work.

Detailed Scope:

see attached detailed scope of work.

Owner _____ Date _____

Contractor _____ **Date** _____

Detailed Scope of Work

Lichty Commercial Construction, Inc. (LCCI)
Rehabilitation and Painting of Water Storage Tanks
DeKalb County
1000 Halsey Ave.
Marietta, GA 30060

Summary Scope

LCCI proposes the following detailed scope to perform a rehabilitation and painting of water storage tanks.

Drawings and Specifications

1. Exhibit 1 – Technical specifications with LCCI mark ups.
2. Exhibit 2 – Inspection Report and Guide Drawings.
3. Exhibit 3 – Logo Requirements.
4. Scope of work – revised 5-22-23 with LCCI mark ups.

Description of Work

A. The project will consist of the following general scope:
    i. Rehabilitation and painting of water storage tanks
B. Provide all materials, equipment (including lifting and rigging equipment), tools, and labor necessary, incidental and as reasonably inferred, to perform work as outlined in this scope for a complete and operational system.
C. Leave work areas clean and dispose of demoed debris. Contractor will be responsible for legally disposing of debris and de-installed items unless noted otherwise.
D. The contractor is responsible for obtaining, delivery, and removal of construction dumpster(s), if any.
E. All dimensions to be field verified by contractor.
F. Contractor is responsible for providing security for all tools, equipment, materials and installed work.
G. New work related to this project shall meet all applicable building codes.
H. No work beyond the specified scope shall be performed without written permission by the Contract Specialist and an official approved Change Order.

Specific Scope

Columbia 3MG Concrete Tank

1. Mobilization
2. Inspection
3. Miscellaneous Items (Ladder Safety Devices and LED Aviation Light Unit)
4. Access Roof Hatch Replacement
5. Vent Replacement (vent, pipe, flange)
6. Replace Manway Gaskets (min 3/8-inch thick)
7. Exterior Ladder Replacement
8. Exterior Surface Preparation (Sandblast) and Coating
9. Interior Concrete Wall, Base and Floor Repairs

10. Interior Ladder Replacement
11. Interior Overflow Pipe and Overflow Screen Replacements

Whites Mill 3MG Concrete Tank

1. Mobilization
2. Inspection
3. Miscellaneous Items (Ladder Safety Devices, Manway, Float System Removal, Pump Actuator, and Name Plate)
4. Access Roof Hatch Replacement
5. Vent Replacement
6. Manhole Gaskets (min 3/8-inch thick)
7. Exterior Ladder Replacement
8. Exterior Surface Preparation (sandblast) and Coating
9. Interior Concrete Wall, Base and Floor Repairs
10. Interior Ladder Replacement
11. Interior Overflow Pipe and Overflow Screen Replacement
12. Valve Pit Restoration

Dunwoody Elevated 500,000GAL Steel Tank

1. Mobilization
2. Inspection
3. Miscellaneous Items (New Name Plate, Aviation Light Unit, Target System, Ladder Safety Devices, 24” Manway, 2”x36” Antenna Remounting Piping, ¾” Drain Holes, and Pressure Gauge)
4. 30" Access Roof Hatch and Frame Relocation and Replacement
5. Remove existing vent screen, cap and pipe. Install 48” diameter x 3/8” plate, Install one 30” Aluminum Roof Vent with pipe and flange
6. Replace Gaskets (min 3/8-inch thick) at each manhole, hatch, flanged joint
7. Exterior Ladder Replacement
8. Exterior Surface Preparation and Coating
9. Concrete Base and Floor Repairs
10. Interior Ladder Replacement
11. Interior Surface Preparation and Coating
12. Internal Overflow Pipe, Conical Weir, and Overflow Screen Replacements

Dunwoody 1MG Concrete Tank

1. Mobilization
2. Inspection
3. Miscellaneous Items (Ladder Safety Devices, Manway, Float System Removal, Pump Actuator, and Name Plate)
4. Access Roof Hatch Replacement
5. Vent Replacement
6. Manway Gaskets (min 3/8-inch thick)
7. Exterior Ladder Replacement
8. Exterior Surface, Preparation (sandblast) and Coating
9. Interior Concrete Wall, Base and Floor Repairs
10. Interior Ladder Replacement
11. Interior Overflow Pipe and Overflow Screen Replacements

Owners Directed Allowance

1. Owners directed allowance of $300,000.00

Surface Preparation and Coating System: Concrete Tanks:

Exterior Surfaces: Includes 100% ground cover with partial containment

Surface preparation: SSPC-SP13 (Wet Brush Blast)

Primer: 151 0.7 – 3.0 mils DFT
Stripe: 156 4.0 – 8.0 mils DFT
Intermediate: 156 4.0 – 8.0 mils DFT
Finish: 156 4.0 – 8.0 mils DFT

Logo ("DEKALB COUNTY WATER SYSTEM" & Dekalb County Emblem): One Side

1st Coat: 156 2.0 – 3.0 mils DFT

Surface Preparation and Coating System: Elevated Steel Tank:

Interior Wet Surfaces

Surface preparation: SSPC-SP10 Near-White Blast Cleaning
Primer: 91 H2O 2.5 – 3.5 mils DFT
Stripe: L140 4.0 – 6.0 mils DFT
Finish: 21 14.0 – 16.0 mils DFT

Exterior Tank Surfaces: Includes full shroud containment

Surface preparation: SSPC-SP6 Commercial Blast Cleaning
Primer: 91 H2O 2.5 – 3.5 mils DFT
Stripe: N140 4.0 – 6.0 mils DFT
Intermediate: 1095 2.5 – 3.0 mils DFT
Finish: 700 2.5 – 3.0 mils DFT

Logo ("DEKALB COUNTY WATER SYSTEM" & Dekalb County Emblem): One Side

1st Coat: 700 2.5 – 3.0 mils DFT

Items INCLUDED in pricing:

- Lump sum billing based on agreed upon schedule of values.
- Net 30 payment terms
- Tank Painting of exteriors of three concrete ground storage tanks
- Tank Painting of interior and exterior of one elevated steal tank
- Sterilization of tank (Method 3)
- 1 Year Warranty starting the date of completion.
- Inspection of each tank
- Five days of interior repair work is figured for each concrete ground storage tank, including set up and tear down.
- Replacement of internal overflows of each of the ground storage tanks are to be replaced in kind, NO reconfiguration of existing overflows.
- Three phases
- 830 day duration

Items EXCLUDED in pricing:

- Full shroud containment of ground storage tanks, we will use ground cover and partial containment with wet blasting to eliminate dust and debris from blasting.
- New penetrations of concrete tanks for any repairs
- Prevailing Wages
- Dust Collection

- Dehumidification equipment
- Heating equipment
- Anniversary Inspection
- Obtaining water samples or arrangement of testing lab
- Bac-T testing
- Hiring of an industrial hygienist or safety firm
- Purchasing inspection equipment to supply to others
- Third party coatings inspection or any cost associated with paint representative inspection
- The supply, installation, or maintenance of construction fences, barriers, barricades, traffic signs or any traffic controlling methods
- Wetland protection requirements of any kind
- Liquidated damages

Contractors Use of the Site and Premises

1. Prior to the commencement of work, the contractor will provide a list of all employees involved in this scope to the Project Manager. Project Manager will coordinate access with facility.

Owner Occupancy

A. Cooperate with the owner to minimize disruptions to the owner's operations.
B. All work must be completed in accordance with project schedule provided at pre-construction meeting or as mutually agreed to prior to Notice to Proceed.

Notifications

A. Completion of this project will be determined upon inspection by the owner.
B. All work will be performed in a safe manner protecting personnel and equipment.
C. Final Inspection: Contractor is required to notify the owner in writing a minimum of 48 hours in advance of the requested final inspection date.

Warranty Agreement

A. Contractor shall furnish a 1 year labor warranty agreement, 1 year parts warranty from date of completion of each tank.

Project Duration

A. The project duration is 830 consecutive calendar days.

Close Out

A. Clean entire work area
B. Meet all close-out submittal requirements as identified in the contract documents.
C. Promptly remove from equipment from site.

Details that Apply to All Work Areas:

1. Contractor shall utilize the latest issue of the Sourcewell Specifications for all work.
2. Submittals are to be provided to the Owner as part of the submittal process prior to installation by the contractor.
3. Maintain clean work areas at all times. Remove and dispose of all demolished materials and construction debris. Site must be cleaned every day at the completion of work. Contractor shall take extra precautions to pick up all debris, nails and fasteners

from the ground and all surrounding area, and finishing with magnetic pickup to insure safety and cleanliness.

5. Contractor shall verify all new and existing conditions and dimensions at job site prior to the proposed process start of construction, and during construction.
6. The Contractor shall perform all work, make all deliveries and have access to work areas between 7:30 A.M. and 5:00 P.M. Monday through Friday and, upon written permission of the Owner, may make deliveries and have access to work areas at any hour of any day, but shall bear without any contribution from the Owner, any extra expense and responsibility for doing so, including, without limitation, its own overtime expense. Contractor shall coordinate inspections as required.
7. Parking will be made available for the Contractor by the Owner and the Contractor shall coordinate all parking with the Owner prior to beginning work.
8. Contractor shall obtain approvals in advance for all lay down and storage areas.
9. All salvageable materials remain the property of the Owner.
10. Contractor shall coordinate inspections as required.
12. Prior to any shut-down of any system (electrical, mechanical, etc.), Contractor shall supply, not less than five (5) working days notice to the Architect with a copy to the Owner. No shutdown of any system shall occur until the Contractor has received permission from the Owner in writing.
14. Final clean up and disposal: Remove debris, rubbish, and waste material from the property of the Owner on a daily basis. Upon completion of work, all construction areas shall be left clean and free from debris. Clean all dust, dirt, stains, hand marks, paint spots, droppings, and other blemishes.
15. Contractor shall not be required to pay Davis Bacon Wage Rates.

Exclusions:

- Any and all work associated with hazardous materials including asbestos, lead, and mold is excluded from this scope of work. If at any time hazardous materials are uncovered, work will stop until the appropriate method of abatement or removal is determined. Method of removal may initiate a contract modification.
- Full shroud containment of ground storage tanks, we will use ground cover and partial containment with wet blasting to eliminate dust and debris from blasting.
- New penetrations of concrete tanks for any repairs
- Prevailing Wages
- Dust Collection
- Dehumidification equipment
- Heating equipment
- Anniversary Inspection
- Obtaining water samples or arrangement of testing lab
- Bac-T testing
- Hiring of an industrial hygienist or safety firm
- Purchasing inspection equipment to supply to others.
- Third party coatings inspection or any cost associated with paint representative inspection.
- The supply, installation, or maintenance of construction fences, barriers, barricades, traffic signs or any traffic controlling methods.
- Wetland protection requirements of any kind
- Liquidated damages

Submittals:

1. Coating system

Permitting:
At the time of issuance of a Purchase Order for this Work, it is understood that permits are not required for this Work. If this changes, the Contractor will be responsible for obtaining such applicable permits and the Owner will be responsible for compensating the Contractor for permit fees and any design necessary to obtain such permits or related approvals as described in the EZIQC master contract documents (i.e. permit fees are dollar for dollar reimbursable and professional design and engineering fees are paid for at hourly rates published in the Construction Task Catalog).

Owner Responsibilities
1. Provide access to the worksite during normal working hours.

Contract Document Order of Precedence:
Contract documents shall govern in the order first listed below:
1. This Detailed Scope of Work
2. Owner issued Contract Documents
    a. Specifications, Drawings, and Sketches.
    b. Other documents referenced immediately above.
3. EZIQC master contract document

(Revised May 23, 2023)

EXHIBIT 1 – TECHNICAL SPECIFICATION

SECTION 01210

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.SCOPE

1.Work includes furnishing all plant, labor, equipment, tools, materials, and performing all operations required to complete the Work satisfactorily.

2.All costs of required items of work and incidentals necessary for the satisfactory completion of the Work shall be considered as included in the Total Bid. The cost of work not directly covered by the pay items shall be considered incidental to the contract and no additional compensation shall be allowed.

3.The **Contractor** shall take no advantage of any apparent error or omission on the Drawings or Specifications, and the **County** shall be permitted to make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.

2.SUBMITTALS

1.The **Contractor** shall submit to the **County** for approval, in the form directed or acceptable to the **County**, a complete schedule of values of the various portions of the Work, including quantities and unit prices, aggregating the Contract Price. An unbalanced breakdown providing for overpayment to the **Contractor** on items of Work, which would be performed first, will not be approved.

2.The **Contractor** shall submit application for payment on a form approved by the **County** showing allowances, lump sum schedule of value items, and unit price items in accordance with **Section 01310 – Construction Schedule**.

3.**UNIT PRICE ITEMS**

1.Payment for all work shall be in accordance with the unit price bid items in the Bid Schedule and shall be full compensation for all labor, materials, and equipment required to furnish, install, construct, and test the Work covered under the unit price bid item. Work for which there is no price schedule item will be considered incidental to the Work and no additional compensation shall be allowed.

2.Payment shall be made only for the actual quantities of work performed in compliance with the Drawings and Specifications. The **Contractor** shall be paid an amount equal to the approved quantity times the applicable unit price. Any unused balance of the unit price work shall revert to the **County** upon completion of the project.

3.All unit price work shall be considered as part of the Work to be performed within the time limits specified elsewhere for Substantial Completion and Project Completion. No increase in contract time will be allowed for increases in quantities of unit price work performed beyond the quantities shown in the Bid Schedule, unless it can be demonstrated that the additional Work performed under the unit price item is on the critical path of the Project Schedule and has produced an increase in time to the contract.

4.**MEASUREMENT OF QUANTITIES**

1.Final payment quantities shall be determined from the record drawings. The record drawing lengths, dimensions, quantities, etc. shall be determined by a survey after completion of all required work. The precision of final payment quantities shall match the precision shown for that item in the Bid Schedule. Measurements will be taken according to the United States standard measurements and in the manner as specified in these Specifications.

2.Measurement Devices

1.Scales shall be inspected, tested, and certified by the applicable Weights and Measures Department within the past year and shall be of sufficient size.

2.Metering devices shall be inspected, tested, and certified by the applicable department within the past year.

3.Volume shall be determined by cubic dimension by multiplying mean length by mean width by mean height or thickness.

4.Area shall be determined by square dimension by multiplying mean length by mean width or height.

5.Linear measurement shall be measured by linear dimension, along the item centerline or mean chord.

6.Stipulated price measurement shall include items measured by number, weight, volume area, length or combination thereof as appropriate.

Item		**Method of Measurement**
AC		Acre—Field Measure
AL		Allowance
CY		Cubic Yard—Field Measure within limits specified or shown, or measured in vehicle by volume, as specified
EA		Each—Field Count
GAL		Gallon—Field Measure
HR		Hour
LB		Pound(s)—Weight Measure by Scale
LF		Linear Foot—Field Measure
LS		Lump Sum—Unit is one; no measurement will be made
SF		Square Foot
SY		Square Yard
TON		Ton—Weight Measure by Scale (2,000 pounds)
VF		Vertical Foot —Field Measure

SECTION 1 – UNIT PRICE BID ITEMS

Part A: Owner Directed Allowance

1.**Owner Directed Allowance**

1.The Owner's Directed Allowance is to be capped at $300,000.

Part B: Columbia 3MG Concrete Tank

1.**Mobilization**

1.The fixed unit price for each bid item shall constitute full compensation for labor and materials required for mobilization, demobilization and closeout. Mobilization and demobilization includes cost of bonds, insurance, temporary utilities, project management and administration, and all other costs related to mobilization and demobilization. Closeout includes the completion of approved as-builts/record drawings, certifications, warranties, all test reports, videos, and final acceptance of the project and property owner signoff.

2.**Inspection**

1.Perform API 653 visual Inspection with the purpose of the assessing the current condition of tank coatings, ancillary repair items, and concrete structure. Provide an updated assessment report detailing recommendations for coating system, repair items, and structure repair items.

3.**Miscellaneous Items (Ladder Safety Devices and LED Aviation Light Unit)**

1.Remove all existing ladder safety devices on the interior and exterior of the tank. Provide and install new ladder safety devices on all interior and exterior ladders at the completion of painting.

2.Remove old existing aviation light and conduit. Provide and install new LED Aviation Light Units

4.**Access Roof Hatch Replacement**

1.Remove access roof hatch. Provide and install new access roof hatch at the completion of painting.

5.**Vent Replacement (vent, pipe, flange)**

1.Remove existing vent screens and replace all vent screens, including pipe and flange.

6.**Replace Manway Gaskets (min 3/8-inch thick)**

1.Replace manhole gaskets with minimum 3/8" thick gasket as required. Install at completion of painting.

7.**Exterior Ladder Replacement**

1.Remove existing exterior ladder. Provide and install new exterior ladder.

8.**Exterior Surface Preparation (sandblast) and coating**

1.Sandblast exterior wall to remove existing coating system.

2.Prepare exterior surface in accordance with approved exterior coating system recommendations to include primers, surface coating fillers, lime removal, etc.

3.Provide and complete application of approved exterior coating system in accordance to coating manufacture's recommendations. Number of coats applied must meet the minimum coating manufacture's recommendations.

4.All non-stainless steel and aluminum items are to be coated, including but not limited to ladders, railings, manways, hatches, pipes, flanges, etc.)

5.Application of Tank Logo. Exact text, color, size and font are provided in Exhibit 4 – Logo Requirements.

9.**Interior Concrete Wall, Base and Floor Repairs**

1.Repairs are to be performed on all walls, bases and floors.

2.Repair all cracks, holes, gouges, exposed rebars, spalling, etc.

10.**Interior Ladder Replacement**

1.Remove existing interior ladder. Provide and install new interior ladder.

11.**Interior Overflow Pipe and Overflow Screen Replacements**

1.Remove interior overflow pipe. Provide and install new interior overflow pipe.

2.Provide and install overflow screen replacements.

Part C: Whites Mill 3MG Concrete Tank

1.**Mobilization**

1.The fixed unit price for each bid item shall constitute full compensation for labor and materials required for mobilization, demobilization and closeout. Mobilization and demobilization includes cost of bonds, insurance, temporary utilities, project management and administration, and all other costs related to mobilization and demobilization. Closeout includes the completion of approved as-builts/record drawings, certifications, warranties, all test reports, videos, and final acceptance of the project and property owner signoff.

2.**Inspection**

1.Perform API 653 visual Inspection with the purpose of the assessing the current condition of tank coatings, ancillary repair items, and concrete structure. Provide an updated assessment report detailing recommendations for coating system, repair items, and structure repair items.

3.**Miscellaneous Items (Ladder Safety Device, Manway, Float System Removal, Pump Actuator, and Name Plate)**

1.Remove all existing ladder safety devices on the interior and exterior of the tank. Provide and install new ladder safety devices on all interior and exterior ladders at the completion of painting.

2.Remove float system and cap off pipe

3.Glue PVC coupling on pump actuator

4.Provide and install new name plate with all pertinent information.

4.**Access Roof Hatch Replacement**

1.Remove access roof hatch. Provide and install new access roof hatch at the completion of painting.

5.**Vent Replacement (vent, pipe, flange)**

1.Remove existing vent screens and replace all vent screens, including pipe and flange.

6.**Replace Manway Gaskets (min 3/8-inch thick)**

1.Replace manhole gaskets with minimum 3/8" thick gasket as required. Install at completion of painting.

7.**Exterior Ladder Replacement**

1.Remove existing exterior ladder. Provide and install new exterior ladder.

8.**Exterior Surface Preparation (sandblast) and coating**

1.Sandblast exterior wall to remove existing coating system.

2.Prepare exterior surface in accordance with approved exterior coating system recommendations to include primers, surface coating fillers, lime removal, etc.

3.Provide and complete application of approved exterior coating system in accordance to coating manufacture’s recommendations. Number of coats applied must meet the minimum coating manufacture’s recommendations.

4.All non-stainless steel and aluminum items are to be coated, including but not limited to ladders, railings, manways, hatches, pipes, flanges, etc.)

5.Application of Tank Logo. Exact text, color, size and font are provided in Exhibit 4 – Logo Requirements.

9.**Interior Concrete Wall, Base and Floor Repairs**

1.Repairs are to be performed on all walls, bases and floors.

2.Repair all cracks, holes, gouges, exposed rebars, spalling, etc.

10.**Interior Ladder Replacement**

1.Remove existing interior ladder. Provide and install new interior ladder.

11.**Interior Overflow Pipe and Overflow Screen Replacements**

1.Remove interior overflow pipe. Provide and install new interior overflow pipe.

2.Provide and install overflow screen replacements.

12.**Valve Pit Restoration**

1.Repair all cracks, holes, gouges, exposed rebars, spalling.

2.Refurbish all walls, base, and floors with application of exterior coating system

Part D: Dunwoody Elevated 500,000GAL Steel Tank

1.**Mobilization**

1.The fixed unit price for each bid item shall constitute full compensation for labor and materials required for mobilization, demobilization and closeout. Mobilization and demobilization includes cost of bonds, insurance, temporary utilities, project management and administration, and all other costs related to mobilization and demobilization. Closeout includes the completion of approved as-builts/record drawings, certifications, warranties, all test reports, videos, and final acceptance of the project and property owner signoff.

2.**Inspection**

1.Perform API 653 visual Inspection with the purpose of the assessing the current condition of tank coatings, ancillary repair items, and concrete structure. Provide an updated assessment report detailing recommendations for coating system, repair items, and structure repair items.

3.**Miscellaneous Items (New Name Plate, Aviation Light Unit, Target System, Ladder Safety Device, Manway, and Antenna Remounting)**

1. Provide and install new name plate with all pertinent information.

2. Remove old existing aviation light and conduit. Install new LED style aviation light and install photo control unit below light. Install a pole for the aviation light. The light is mounted to roof vent now.

3. Remove target system and install plates over the hole and fully seal weld on the interior and exterior.

4. Remove all existing ladder safety devices on the interior and exterior of the tank. Provide and install new ladder safety devices on all interior and exterior ladders at the completion of painting.

5. Remove existing riser manway and install a new 24” bolted manway with davit arm or with hinges.

6. Install three (3) 2” diameter x 36” H pipe for existing antennas mounted to the magnetic boards attached to the roof. Remove antennas from the magnetic boards and attach antenna to the new installed pipes.

7. Remove all electrical and control panels from the tank column and install a new bracket system and install the panels. Fully seal weld all exterior top handrail connection points.

8. Drill 15-20 drain holes at minimum ¾” on the balcony floor, and the floor has moderate pitting in various areas.

9. Install pressure gauge at base on riser of tank. Confirm location of pressure gauge with Owner.

4.**Access Roof Hatch and Frame Relocation and Replacement**

1.Remove existing roof hatch and install a new 30” square style hatch

5.**Aluminum Roof Vent with pipe and flange**

1.Remove existing vent screen, cap, and pipe and replace with new aluminum tank vent. Install a 48” diameter x 3/8” plate over the existing vent opening and then install one(1) new 30” diameter vent, pipe, and flange. Seal weld to the tank. Provide a minimum of 10” clearance between the top of the tank and the bottom of the flange.

6.**Replace Gaskets (min 3/8-inch thick) at each manhole, hatch, flanged joint**

1.Replace manhole gaskets with minimum 3/8" thick gasket as required. Install at completion of painting.

7.**Exterior Ladder Replacement**

1.Remove existing roll-around ladder and weld scabs that's attached the roof vent. Provide and install new roll-around ladder.

2.SSPC-SP3 to remove all existing ladder weld scabs on the access ladder column.

3.Provide 3/8" diameter, stainless steel cable, 10,000-pound test, as manufactured by DBI Industries, or equal, attached to the face of the ladder at the top and bottom. Provide stainless steel cable stays at 20'-0" maximum spacing.

8.**Exterior Surface Preparation and coating**

1.Power wash, clean, and coat concrete footing. Paint footings after final tank exterior coating is applied. Fill any cracks with non-shrink grout.

2.Prepare exterior surface in accordance with approved exterior coating system recommendations.

3.Provide and complete application of approved exterior coating system in accordance to coating manufacture's recommendations. Number of coats applied must meet the minimum coating manufacture's recommendations.

4.Application of Tank Logo. Exact text, color, size and font are provided in Exhibit 4 – Logo Requirements.

9.**Concrete Base and Floor Repairs**

1.Power wash, clean, and coat concrete footing. Paint footings after final tank exterior coating is applied. Fill any cracks with non-shrink grout.

10.**Interior Ladder Replacement**

1.Remove interior ladder and install new ladder. Ladder side rails shall be a minimum 3/8" x 3" c-channel with 16" clear spacing. Rungs to be minimum 3/4" diameter spaced at 12" on center. All rungs shall be seal welded to the side rails both inside and outside. Ladder shall meet all OSHA requirements.

11.**Interior Surface Preparation and Coating**

1.Remove spider rods from the interior and remove all nuts-and-bolts connection points.

2.Install backing rod and caulk gaps/opening on the interior above the water line.

3.Remove probe holders and install plates over opening and fully seal weld on interior and exterior.

4.After interior intermediate coat is applied, seal all weld joints, overlapping plates, etc. above the high-water level with an NSF approved sealer. Use Series 63-1500, Sikaflex 1a or approved equal.

12.**Internal Overflow Pipe, Conical Weir, and Overflow Screen Replacements**

1.Remove internal overflow pipe and install new overflow on the exterior and attach to column. Verify pipe size at renovation.

2.Verify location of overflow outlet discharge and Install overflow screen/flapper if needed.

1.**Mobilization**

1.The fixed unit price for each bid item shall constitute full compensation for labor and materials required for mobilization, demobilization and closeout. Mobilization and demobilization includes cost of bonds, insurance, temporary utilities, project management and administration, and all other costs related to mobilization and demobilization. Closeout includes the completion of approved as-builts/record drawings, certifications, warranties, all test reports, videos, and final acceptance of the project and property owner signoff.

2.**Inspection**

1.Perform API 653 visual Inspection with the purpose of the assessing the current condition of tank coatings, ancillary repair items, and concrete structure. Provide an updated assessment report detailing recommendations for coating system, repair items, and structure repair items.

3.**Miscellaneous Items (Ladder Safety Devices, LED Aviation Light Unit, Manway, Float System Removal, Pump Actuator, and Name Plate)**

1.Remove all existing ladder safety devices on the interior and exterior of the tank. Provide and install new ladder safety devices on all interior and exterior ladders at the completion of painting.

2.Remove old existing aviation light and conduit. Provide and install new LED Aviation Light Units

4.**Access Roof Hatch Replacement**

1.Remove access roof hatch. Provide and install new access roof hatch at the completion of painting.

5.**Vent Replacement (vent, pipe, flange)**

1.Remove existing vent screens and replace all vent screens, including pipe and flange.

6.**Replace Manway Gaskets (min 3/8-inch thick)**

1.Replace manhole gaskets with minimum 3/8" thick gasket as required. Install at completion of painting.

7.**Exterior Ladder Replacement**

1.Remove existing exterior ladder. Provide and install new exterior ladder.

8.**Exterior Surface Preparation (sandblast) and coating**

1.Sandblast exterior wall to remove existing coating system.

2.Prepare exterior surface in accordance with approved exterior coating system recommendations to include primers, surface coating fillers, lime removal, etc.

3.Provide and complete application of approved exterior coating system in accordance to coating manufacture's recommendations. Number of coats applied must meet the minimum coating manufacture's recommendations.

4.All non-stainless steel and aluminum items are to be coated, including but not limited to ladders, railings, manways, hatches, pipes, flanges, etc.)

5.Application of Tank Logo. Exact text, color, size and font are provided in Exhibit 4 – Logo Requirements.

9.**Interior Concrete Wall, Base and Floor Repairs**

1.Repairs are to be performed on all walls, bases and floors.

2.Repair all cracks, holes, gouges, exposed rebars, spalling, etc.

10.**Interior Ladder Replacement**

1.Remove existing interior ladder. Provide and install new interior ladder.

11.**Interior Overflow Pipe and Overflow Screen Replacements**

1.Remove interior overflow pipe. Provide and install new interior overflow pipe.

2.Provide and install overflow screen replacements.

+++END OF SECTION 01210+++

(Revised May 23, 2023)

EXHIBIT 1 – TECHNICAL SPECIFICATION

SECTION 09870

REPAIR AND REPAINTING OF STEEL GROUND STORAGE TANKS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Dunwoody Elevated Steel Tank – Complete repairs, surface preparation, clean, and paint/finish the interior and exterior surfaces and piping of the tank, coat concrete foundation as indicated or specified, and as needed for a complete and proper installation.
2. Surfaces not specifically excluded shall be painted, whether new or old.

B. Work not included: Unless otherwise indicated, painting of the following surfaces will not be required.

1. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar non-ferrous materials.
2. Do not paint over required labels or equipment identification, performance rating, name, or nomenclature plates.

B. Quality control:

1. All work shall be in compliance with the latest version of ANSI/AWWA D100-11 and D102-14.
2. All work shall be in compliance with the latest version of the International Building Code.
3. All work shall be in accordance with OSHA Safety and Health Standards.
4. Onsite project superintendent must speak English.
5. The Project Manager for the Contractor must be onsite for all hold point inspections with the Owner's Representative. Project Manager must be AMPP Certified (Level 2) and be directly employed by the Contractor, subcontractors will not be acceptable.

C. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

D. Definitions: "Paint", as used herein, means coating systems materials including primers, emulsions, epoxy, enamels, sealers, fillers, stains and other applied materials whether used as prime, intermediate or finish coats.

Page Break

1.2 QUALITY ASSURANCE

A. Supervisor onsite must be trained and experienced as AMPP certified or AMPP quality control supervisor (QCS) and who is completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1. Provide all materials, supervision, labor, equipment, scaffolding and incidentals required to provide a protective coating system for the surfaces listed herein and not otherwise excluded.

B. Paint coordination:

1. Finish coats being used must be compatible with primers.
2. Upon request, furnish information on the characteristics of the specific finish materials to assure that compatible prime coats are used.
3. Provide barrier coats over non-compatible primers or remove the primer and re-prime as required.
4. Notify the Owner in writing of anticipated problems in using the specified coating systems over prime coatings and existing coatings.
5. Paint materials listed are intended to provide quality of proposed coatings.

C. Workmanship and finish of all repairs shall be the best in modern shop practice.

1. Welders must be minimum 4G certified (CW) and qualified within the previous year, in accordance with the requirements of the American Welding Society.
2. Records of these specification tests shall be available to the Owner at the project site.

D. Work hours: Unless otherwise directed by the owner, normal work hours shall be from no earlier than 7:00 A.M. to no later than 7:00 P.M., and crew shall be off site no later than 7:00 P.M., Monday through Friday, and subject to availability to adequate daylight to safely perform the work. Work on Saturday or Sunday must be requested (in writing) in advance.

E. Coating supplier: The coating supplier is required to furnish the necessary personnel for training and inspections to ensure that application of the product is in accordance with the manufacturer's requirements.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01300 Submittals.

B. Submit a copy of the following certifications
1. Contractor’s Project Manager – AMPP Level 2
2. Contractor’s On Site Supervisor - AMPP certified or AMPP quality control supervisor (QCS)
3. Contractor’s Welders – AWS (American Welding Society) 4G

4. Paint Manufacture's Representative – AMPP Level 2
4. All employees who received Coating supplier application training

C. Product data: Within 15 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:

1. Materials list of items proposed to be provided under this Section.
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Containment system details.

D. Color chips: Provide for each type of finish coat required.

E. Schedule:

1. Submit schedule listing of all surfaces to be painted, manufacturer's name, generic type, trade or brand name, system for each surface including number of coats and total dry film thickness.
2. Secure Owner's approval of schedule, in writing, prior to ordering any materials.

F. Submit a letter to the Owner from the manufacturer of the selected paint indicating the exterior and interior coating system specified meets the requirements of application of the manufacturer.

G. Submit a letter to the Owner from the paint manufacturer stating the paints selected for the project are lead free.

H. Submit a letter to the Owner from the selected manufacturer stating that a AMPP Certified (Level 2) coating inspector will inspect the tank once a week during painting and provide weekly written reports to the Owner.

I. Painting Materials Warranty – the paint manufacturer must provide a fifteen (15) year gloss and color retention warranty on the steel tank coating. Provide certification of warranty to the owner for approval and signed and dated original upon closeout.

1.4 PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

B. Store all products in accordance to the manufacture's recommendations

1.5 REFERENCES

A. SSPC - Steel Structures Painting Council

B. SSPC-SP 1 - Solvent Cleaning.

C. SSPC-SP 2 - Hand Tool Cleaning.

D. SSPC-SP 3 - Power Tool Cleaning.

E.SSPC-SP 6/NACE 3 - Commercial Blast Cleaning.

F.SSPC-SP 10/NACE 2 - Near-White Metal Blast Cleaning

G.SSPC-SP 13/NACE 6 - Surface Preparation of Concrete.

H.SSPC-PA2 Measurement of Dry Coating with Magnetic Gauges.

I.SSPC-SP 12/NACE 5 - Low-Pressure Water Cleaning (LP WC)

J.SSPC-SP 12/NACE 5 – High-Pressure Water Cleaning (HP WC)

1.6 EXTRA STOCK

A. Upon completion of the work of this Section, deliver to the Owner at least one gallon of each color, type, and gloss of paint used in the Work, tightly sealing each container and clearly labeling with contents and location where used. Provide information of paint such as batch numbers, manufacture representative name, and location paint was made.

PART 2 - PRODUCTS

2.1 PAINT MATERIALS

A. Source of all paint material is subject to approval by the Owner.

B. All paint material which will be in contact with potable water shall have the approval of the National Sanitation Foundation (NSF) ANSI/NSF Standard 61/600 and follow the EPA and Georgia EPD guidance for such use.

C. All paint materials to be used in any one system shall be the products of one manufacturer.

D. Use only the thinners recommended by the paint manufacturer and use only to the recommended limits.

E. The contents of all coatings shall be lead-free. Provide manufacturer's letter indicating the coatings to be used are lead-free.

F. All products must meet or exceed the following standards. Test results shall be submitted with shop drawings to verify:

Steel Tank Coatings			
	Test Criteria	**Test Duration**	**Proposed Product Test Results**
Organic Zinc Rich Urethane Primer:	Zinc Content	83% by weight	
	Volume Solids	63%	

interior & exterior steel primer	ASTM G 85 Prohesion	15,000 Hours	No blistering, cracking, rusting or delamination of film. No more than 1/8" creepage at scribe after 10,000 hours.
	ASTM D 4585 Humidity	4,000 hours	Rusting: Blistering:
	ASTM 4541 Adhesion	Average of Three Tests	No less than 1,730 psi adhesion, average of three tests.
	ASTM G8 Cathodic Disbondment	30 Days Exposure	No blistering, cracking, rusting or delamination and no undercutting at holiday after 30 days exposure.
	Immersion Service (Potable Water)	7 years – No Failure	
Polyamine Epoxy: interior steel topcoat	Volume Solids	82%	
	ASTM D 4585 Humidity	2,000 hours	No blistering, cracking, rusting or delamination of film after 2,000 hours exposure
	ASTM D 4060 Abrasion	CS-17 Wheel 1,000 Gram Load 1,000 Cycles	No more than 117 mg loss after 1,000 cycles, average of three tests.
	ASTM 4541 Adhesion	Average of Three Tests	Not less than 1,960 psi (13.51 MPa) pull, average of three tests.
	ASTM D 870 Immersion	Tap Water – 2 years	No blistering, cracking, rusting or delamination of film after two years continuous immersion in tap water.
	ASTM D 870 Immersion	140º Deionized Water 2,000 Hours	No blistering, cracking, rusting or delamination of film after 2,000 hours continuous immersion in 140°F deionized water.
	ASTM D 2794 Impact	Direct Impact	No visible cracking or delamination of film after 28 inch-pounds or less direct impact.
Polyamidoamine Epoxy: interior steel stripe coat	Volume Solids	67%	
	ASTM D 1653 Moisture Vapor Transmission	Free Film – No Support	No more than 9.9 g/m² 24 hours water vapor transmission and no more than 0.31 grains/ft²/hour in Hg. water vapor permeability.
	ASTM G 85 Prohesion	5,000 Hours	No blistering, cracking, checking, rusting or delamination of film. No more than 1/8" rust creepage at scribe after 5,000 hours exposure.
	ASTM D 4585 Humidity	10,000 hours	No blistering, cracking or delamination of film after 10,000 hours exposure.
	ASTM D 4060 Abrasion	CS-17 Wheel 1,000 Gram Load 1,000 Cycles	No more than 180 mg loss after 1,000 cycles.

	ASTM 4541 Adhesion	Average of Three Tests	Not less than 1,960 psi (13.51 MPa) pull, average of three tests.
	ASTM G8 Cathodic Disbondment	30 Days Exposure	
	Immersion Service (Potable Water)	2 years – No Failure	
Aliphatic Acrylic Polyurethane: exterior steel intermediate coat	Volume Solids	58%	
	ASTM G 85 Prohesion	15,000 Hours	
	ASTM D 4585 Humidity	2,000 hours	
	ASTM D 4060 Abrasion	CS-17 Wheel 1,000 Gram Load 1,000 Cycles	
	ASTM 4541 Adhesion	Average of Three Tests	
	ASTM D 522 Flexibility	Method A Conical Mandrel	
	ASTM D 522 Flexibility	Method B Cylindrical Mandrel	
	ASTM D 4141, Method C (EMMAQUA)	500 MJ/m2	
	ASTM D 2794 Impact	Direct Impact	
Fluoropolymer Polyurethane: exterior steel topcoat	Volume Solids	60%	
	ASTM D 4585 Humidity	3,000 hours	No blistering, cracking, rusting or delamination of film after 3,000 hours exposure .
	ASTM D 4060 Abrasion	CS-17 Wheel 1,000 Gram Load 1,000 Cycles	No more than 103 mg loss after 1,000 cycles, average of three tests.
	ASTM 4541 Adhesion	Average of Three Tests	No less than 1,930 psi (13.3 MPa) pull, average of three tests.
	ASTM D 4587 QUV Exposure	16,000 hours	No blistering, cracking or chalking. No less than 100% gloss retention after 16,000 hours exposure.

	Cycle 4: 8 hours UV – 4 hours condensation		
	ASTM D 4587 QUV Exposure Cycle 4: 8 hours UV – 4 hours condensation	25,000 hours	No blistering, cracking or chalking. No less than 61% gloss retention (31.4 units gloss change) and 1.89 DEFMC2 (MacAdam units) color change (white) after 25,000 hours exposure.
	ASTM D 4141 (EMMAQUA) Exterior Exposure	1,500MJ/m2 Exposure	No blistering, cracking or chalking. No less than 100% gloss retention, no more than 1 unit gloss loss and no more than 0.23 DEHunter color change (white) after 1,500 MJ/m² (69,109MJ/m² total) EMMAQUA exposure.
	ASTM D 4141 (EMMAQUA) Exterior Exposure	2,000MJ/m2 Exposure	No blistering, cracking or chalking. No less than 98% gloss retention, no more than 1 unit gloss loss and no more than 0.18 DEHunter color change (white) after 2,000 MJ/m² (88,095 MJ/m² total) EMMAQUA exposure.
	ASTM D 4141 (EMMAQUA) Exterior Exposure	5,000MJ/m2 Exposure	No blistering, cracking, chalking or delamination. No less than 80% gloss retention and no more than 0.18 DE00 (DEHunter 0.29) color change after 5,000 MJ/m² of UV exposure (166,820 MJ/m² total).
	ASTM D 522 Flexibility	Method A Conical Mandrel	No less than 34% elongation average of three tests.
	ASTM 2794 Impact	Average of Three Trials	No visible cracking or delamination of film after 34 inch-pounds (3.9 J) or less direct impact, average of three tests.
	ASTMD 6695 Xenon Arc Weathering	3,000 hours	% Gloss Retention: Color Change: DED
	ASTMD 6695 Xenon Arc Weathering	8,000 hours	No blistering, cracking or chalking. No less than 87% gloss retention (11.9 units gloss change) and no greater than 0.37 DE00 color change (white) after 8,000 hours Xenon Arc exposure.
	AAMA 2605	10 Years Exposure	Fluoropolymer Polyurethane exceeds the exterior weathering requirements of the American Architectural Manufacturers Association (AAMA) 2605 standard.
Polyamidoamine Epoxy: exterior steel spot coat	Volume Solids	84%	
	ASTM D 4060 Abrasion	CS-17 Wheel 1,000 Gram Load 1,000 Cycles	

	ASTM 4541 Adhesion	Average of Three Tests	
	ASTM D 522 Flexibility & Elongation	Method B, Cylindrical Mandrel	
	ASTM D 4585 Humidity	2,000 hours	
	ASTM D 2794 Impact	Direct Impact	
	ASTM D 1653 Moisture Vapor Transmission	Average of Three Tests	
	ASTM G 85 Prohesion	10,000 Hours	

2.2 EXTERIOR COLOR SCHEDULE

A. Submit copy of color charts of Blue 26BL of coating manufacturer's full range of custom colors for County's review and approval before purchasing paint. The entire exterior of tanks will be painted using the color selected by the County.

B. Exterior intermediate coat to be a minimum of two shades lighter than final coat.

2.3 APPLICATION EQUIPMENT

A. Use only such equipment as is recommended by the paint manufacturer or specified herein.

2.4 LADDER SAFETY DEVICES

A. Install new ladder safety devices: Provide new OSHA approved safety devices on all exterior and interior ladders, consisting of the following:

1.Provide 3/8" diameter, stainless steel cable, 10,000 pound test, attached to the face of the ladder at the top and bottom.
2.Provide stainless steel cable stays at 20'-0" maximum spacing.
3.Provide stainless steel hardware.
4.Install NSF approved neoprene between all hardware that is in contact with the tank structure.
5.Provide one (1) friction brake sleeves with carabiners designed for operation on the cable, one (1) safety harness with front, side and rear "D rings", and safety lanyard with two rebar hooks. Deliver to the Owner.

2.5 TANK VENTILATION

A. Provide vent constructed of heavy gauge aluminum (minimum 0.125" thick).

B. Screen vent with 24 mesh flattened expanded aluminum screen.

C. Provide base plate to attach to flanged opening in the tank roof. Provide 1/8" thick (minimum) rubber gasket between flanges.

D. Provide vacuum pallet and pressure pallet constructed of HPDE.

E. Design of vent shall prevent imploding of the tank during a rapid discharge of water from the tank.

F. All attachment bolts and hardware to be Type 316 stainless steel with rubber washers or similar approved spacers.

G. Provide aluminum drip ring that extends past the screen.

1.Provide vents that are designed to prevent the entrance of wind-driven debris, precipitation, birds, animals and insects.

H. The vent shall be easily dismantled to remove the screen for cleaning.

I. Provide Aluminum Frost-Free Vent.

J. Vent collars shall be welded level.

2.6 ROOF HATCH

A. All hatches shall be rainwater-proof.

B. Openings for hatches to have a minimum 4" high x 1/4" thick frame opening.

1.Provide Type 316 stainless steel hardware, hold open arms, inside handle and a locking mechanism.

C. Provide one (1) 30” x 30” x 1/4” thick access hatch with exterior handle on the roof of the tank to allow access to the interior of the tank.

1.Hatch covers to have a 2" down-turned edge over the frame.

2.7 INTERIOR TANK LADDER

A. Ladder side rails shall be a minimum 3/8" x 3" channel with 16" clear spacing. Rungs to be minimum 3/4" diameter, spaced at 12" on center. All rungs shall be seal welded to the side rails both inside and outside. Ladder shall meet all OSHA requirements.

B. Ladder shall be secured to the adjacent structure/walls by brackets located at intervals not exceeding 10'-0". Brackets shall provide a minimum distance of 7" from the center of the rung to the nearest permanent object behind the ladder.

C. All ladder connections shall be seal welded.

2.8 PRESSURE GAUGES

A. Provide pressure gauges where indicated in the Specifications.

1.Provide solid front rounded type, 4 or 4 ½" phenolic or stainless-steel case with blow-out back, Type 316 stainless steel bourdon tube, glycerin full, ½" NPT (National Pipe Thread) bottom male threaded connection, and Teflon coated 400 series stainless steel rotary movement.
2.Provide gauge accurate to within ½ % of the total scale range.
3.Provide glycerin filled diaphragm isolators on all gauges except for those used on potable water systems.
a. Provide diaphragm material resistant to chemicals in the process line being measured.
b. Type 316L stainless steel housing and components.
c. ½" connection.
d. Provide fill/bleed connection.
e. Viton O-rings with Teflon back-up ring.
4.Select gauge at the range indicated on the drawings or at the nearest standard range which provides a top limit above the pump shutoff head at the operating conditions but no greater than 10% above the shut off head.
5.Each gauge connection to consist of a shutoff valve and ½" stainless steel piping connections.
a. Shutoff valve to be Type 316 stainless steel ball valve with T- handle operator.

2.9 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor, subject to the approval of the Owner.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 ENVIRONMENTAL CONDITIONS

A. Do not work under unfavorable weather conditions.

1.Air and surface temperatures must be above 45ºF and dew point not within 5 degrees of surface temperature.
2.Paint shall not be applied if the ambient temperature is expected to fall to or below 35ºF.
3.No paint shall be applied when the temperature of the surface to be painted is below 40ºF.
4.Paint shall not be applied to wet or damp surfaces.
5.Paint shall not be applied in rain, snow, fog or mist.
6.No paint shall be applied when it is expected that the relative humidity will exceed 85% or the air temperature will drop below 45ºF within four (4) hours after the application of the paint.

7.The painting contractor shall furnish and have at the project site a surface temperature thermometer and a digital psychrometer must use during paint and blasting process. The surface temperature of the tank and the relative humidity shall be read and recorded thirty (30) minutes before painting begins and shall be read and recorded every hour during the painting operation.

a. A log shall be maintained at the site indicating the time, date and readings of the temperature and humidity and dew point. See "Environmental Conditions" form attached with this specification.

b. Submit an updated copy of the "Environmental Conditions" form with monthly pay request. Pay request will not be approved until "Environmental Conditions" form is properly submitted.

c. Provide calibration paperwork for surface temperature and digital psychrometer.

3.3 PROTECTION

A. Provide covers for all vehicles that are parked on the project site.

B. Provide spare covers for any visitors that need to park at the project site.

C. Provide protection for adjacent buildings and structures.

D. The Contractor is responsible for all over spray damages resulting from this project. The Contractor is responsible for proper restoration of damaged property from over spray

3.4 SURFACE PREPARATION

A. General:

1. Thoroughly clean all surfaces prior to application of paint.
2. The interior surfaces shall also be cleaned using a high-quality industrial vacuum cleaner after all the blasting has been completed and before the intermediate coat is applied.
3. All surface preparations shall conform to the Steel Structures Painting Council Specification as indicated.
4. At the end of each sandblasting operation, use high pressure air to clean all areas that have a heavy build-up of sand and debris.
5. If initial tests indicate lead paint on the tank, provide necessary protection to protect workers from exposure to lead. At a minimum, comply with applicable Georgia Environmental Protection Division and OSHA regulations.
   a. The Contractor must inform all workers of the quantity of lead in the paint to be removed and of the known hazards associated with exposure to the lead dust that will be generated in the work area.
   b. The Contractor must submit a worker protection plan indicating steps taken to limit worker exposure to lead.

B. Containment and disposal of debris and/or paint chips:

1. The Contractor shall be responsible to make provisions to contain the sandblasting residue and/or old paint to within the tank property. Sandblasting or cleaning operations shall not begin until the containment method is approved by the

Owner's Representative. The Contractor shall be responsible for the disposal of the debris generated and shall be responsible for all costs involved in the disposal and testing of the debris on behalf of the Owner. The contractor shall subcontract the testing, air monitoring, and disposal of generated debris with an environmental service company familiar with the disposal of contaminated debris.

2. The ground surface 40'-0" around the outside of the tank shall be protected with a layer of polyethylene, minimum thickness 6 mils.
3. All debris generated and accumulated on the polyethylene shall be collected at the end of each day. Debris shall be placed in containers approved by the state of Georgia Environmental Protection Agency (EPA).
4. All debris generated from the sandblasting of the interior of the tank shall be disposed of in the proper manner by the Contractor through the environmental service subcontractor. Application for the necessary approvals and permits shall be made by the Contractor and coordinated with the Owner's Representative. All costs associated with the removal and disposal of debris shall be paid by the Contractor.
5. Contractor shall be responsible for obtaining the certified laboratory test report and pay the costs necessary to determine if the residue generated during the sandblasting and power tool cleaning operations on the interior and the exterior of the tank exceeds "leachable" limits for lead, arsenic, barium, cadmium, chromium, mercury, selenium, and silver as determined by EPA's Toxicity Characteristic Leaching Procedure (TCLP). The laboratory must be certified by the State of Georgia. A copy of the certified report shall be furnished to the Owner's Representative.
6. Contractor shall sandblast a representative area of the interior and exterior of the tank and collect the debris generated. Contractor shall also collect a representative sample of old paint chips from the exterior of the tank. Samples from the interior and exterior shall be collected in the presence of the Owner's Representative and sent to a laboratory for analysis. The laboratory must be certified by the State of Georgia. Contractor shall furnish the Owner's Representative a certified test report of the Toxicity Characteristic Leaching Procedure (TCLP) results of a representative random sample taken from the debris and paint chips of both the interior and exterior. The certified report shall state that the results for the respective tank. Should the result exceed any of the EPA maximum limits, the Contractor shall apply for an EPA identification number for a generator of hazardous waste on notification Form 8700-12.
   a. Should the results of the certified test be less than the EPA maximum limit the Contractor shall dispose of the debris generated in an approved landfill as directed by the Georgia Environmental Protection Division.

C. Exterior concrete foundations:

1. Power wash with minimum 5,000 psi using a rotating turbo nozzle or blast with abrasive to remove all dirt, dust, mildew, paint, and all other foreign matter.
2. Fill any voids, cracks, chips, etc. with non-shrink grout.

D. Interior surface:

1. Clean all areas of the interior of the tank, including the underside of the roof, all wetted areas, etc., to conform to the requirements for Near White Blast Cleaning, SSPC-SP10/NACE 2, to remove all rust, mill scale, old coating and foreign matter.
2. Contractor will be required to collect, analyze and dispose of all debris generated during the removal of the existing coating as outlined in Part 3.4.B. above.
3. The sandblasting operation shall be completed before any intermediate coating is applied.
4. All sandblasting debris shall be removed from the tank before any intermediate coating is applied.

E. Exterior surface:

1.Contractor shall perform the pull-off adhesion testing (ASTM D4541) of existing exterior coating prior any work and make a recommendation to **County** on surface preparation requirements. The pull-off adhesion test shall be conducted by a minimum AMPP Certified coating inspector in the presence of the Owner's Representative. Contractor shall choose from one of the following two options and provide the recommendation in writing to the **County** and get **County**'s approval before proceeding with the work.

Option 1: Overcoating

a.If it was determined based on the pull-off adhesion test that current coating is maintaining satisfactory adhesion and can be over coated, the entire exterior of the tank shall be cleaned by power washing with a minimum 5,000 psi rotating turbo nozzle to remove all mildew and stains. A detergent or bleaching agent shall be mixed with the water as required to clean the surfaces and must be biodegradable. Where necessary, areas shall be scrubbed to remove mildew and stains.

b.All rusty and deteriorated areas of the tank shall be cleaned to conform to the requirements of either Hand Tooling (SSPC-SP2) or Power Tool Cleaning, (SSPC-SP3) to remove all loose rust, mill scale, old coating, foreign matter and to feather back any edges to sound coating.

c.The Contractor shall use a vacuum power tool with scour scrub pad to ensure all heavy paint chips and rust are removed and contained. Other disc wheels, brushes, etc. shall be used as required.

d.Provisions shall be made to contain all the paint chips generated from the cleaning operations. The Contractor will be required to protect the ground surface and collect and dispose of all debris generated during the removal of the existing coating as outlined in Paragraph 3.4.B. above.

e.Feather all edges to existing tightly bonded surfaces.

f.Sand entire exterior of the tank to remove all loosely adhered clear coat and/or delaminated coatings.

Option 2: Complete Rehabilitation

a.If it was determined based on the pull-off adhesion test that sandblasting of the entire exterior surface is necessary (instead of power washing) for proper adhesion of paint, clean all areas of the exterior of the tank to conform to the requirements for Commercial Blast Cleaning, SSPC-SP6/NACE 3, to remove all rust, mill scale, old coating and foreign matter.

b.The contractor shall provide an enclosure system which allows for the efficient containment of sand, dust, paint and debris that will be generated during blasting and painting operations. The containment system must be a proven method used previously on similar projects with acceptable results to contain the sand, dust, paint and debris.
c.The contractor shall provide a containment system that meets the requirements of SSPC Guide 6 for Containment Classification 3 with Class A-2 walls, Class B-2a-Air Penetrable (tightly woven), Class C-2 Flexible Support, Class D-2 Partially Sealed Joints, Class E-3 Entryway with Overlapping Door and Class F-2 Open Air Flow.
d.The contractor shall submit a written containment and enclosure plan.
e.The containment shall be designed and erected in such a manner that no damaging loads are imposed by the containment system on the structure to be painted.
f.The containment requirements given are minimum requirement. The contractor shall provide a system that will contain the paint, sand, dust and debris within the property line of the tank. Protect any property, equipment and cars offsite.
g.The contractor shall provide and use Blastox media for all exterior coating removal if lab results exceed EPA limits (Part 3.4 B. above).
h.The contractor will be required to collect, analyze and dispose of all debris generated during the removal of the exiting coating as outlined in Part 3.4.B. above.

3.7 VENTILATION

A. Contractor must provide forced air ventilation during all coating removal, debris removal, and painting operation performed on the tank.

B. The ventilation by forced air system must be sufficient to provide adequate visibility and limit worker lead dust exposure. The minimum required ventilation shall be minimum 40,000 CFM or a minimum of 30 minutes to remove dust (whichever is greater). Should worker exposure to lead dust become excessive or visibility drop to an unacceptable level, then reconfiguration of the ventilation system requiring the use of flexible and/or rigid duct work and additional forced air ventilation capacity shall be required.

C. All ventilation equipment shall be explosion proof.

D. The exhaust ventilation system will be evaluated by ambient air monitoring. Emissions above a time weighted average of 10 micrograms per cubic meter shall be cause for blasting operation shut down and reevaluation of the exhaust and ventilation system. Modifications to the containment shall be made until compliance is achieved.

3.8 RIGGING

A. Provide rigging inside the tank that provides a maximum of 3'-0" distance of reach between the rigging and any surface of the tank.

B. Provide a minimum of 50ft. candles of light for all work and inspections per SSPC Guide No. 12.

3.9 MATERIALS PREPARATION

A. General:

1. Mix and prepare paint materials in strict accordance with the manufacturer's recommendations as approved by the Owner's Inspector.
2. When materials are not in use, store in tightly covered containers.
3. Maintain containers used in storage, mixing, and application of paint in a clean condition, free from foreign materials and residue.
4. An AMPP Certified representative from the paint manufacturer shall visit the job site to support the Contractor's personnel, in the presence of the Owner's Inspector, in the proper mixing and application of the paint as needed. The first visit shall be made prior to the application of any paint.

B. Stirring:

1. Stir materials before application, producing a mixture of uniform density.
2. Do not mix into the material any film which may form on the surface, but remove the film and, if necessary, strain the material before using.

3.10 PAINT APPLICATION

A. General:

1. All paint shall be applied in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting" standard.
2. Apply an interior "stripe" coat of a slightly different color (use field finish coat color) to all weld seams, roof support beams, weld scars, pits, brackets, ladders, painter's rail, etc. by brush and/or roller before the intermediate coat has been applied over the entire interior surface.
3. Slightly vary the color of succeeding coats.
    a. Do not apply additional coats until the completed coat has been inspected and approved.
    b. Any material applied prior to the approval of the surface by the Owner's Inspector shall be removed and reapplied to the satisfaction of the Owner's Inspector at the expense of the Contractor.
    c. Only the inspected and approved coats of paint will be considered in determining the number of coats applied.
4. Surfaces shall be cleaned between coats. During and after the application of all interior coats, all horizontal weld seams shall be cleaned using a stiff or wire brush to remove all dust and overspray. Any paint removed shall be recoated by brush or roller.
5. Record all weather conditions such as humidity, surface temperature, dew point, and air temperature readings before paint is applied.

B. Drying: Allow sufficient drying time between coats, modifying the period as recommended by the material manufacturer to suit adverse weather conditions.

C. Brush or roller applications:

1. Brush or roll coats onto the surface in an even film.

2. Cloudiness, spotting, holidays, laps, brush or roller marks, runs, sags, ropiness and other surface imperfections will not be acceptable.

D. Ladders and rods shall be coated using a painter's mitten, if not coated adequately, using a brush and/or roller and/or spray nozzle.

3.11 EXTERIOR CONCRETE FOUNDATION PAINTING SYSTEM

A. Apply two (2) coats of the following to the concrete foundation and adjacent concrete structures after completion of the final exterior coating system:

Material	Dry Thickness	Drying Time
Polyamidoamine or Polyamide Epoxy	4.0 - 6.0 dry mils	24 hours

Material	Dry Thickness	Drying Time
Exterior Concrete Foundation Caulk	50.0 -100.0 dry mils	24 hours

3.12 INTERIOR PAINTING SYSTEM

A. General:

1. After thorough cleaning and clean-up of residue from surface preparation, the tank interior shall be coated.
2. All interior areas of the tank shall be sandblasted to conform the requirements of Near-White SSPC-SP10/NACE 2 and primed before the intermediate coat is applied.
3. The system shall be a two (2) coat Zinc/Epoxy system. The weld seams, ladders, brackets, roof support beams, painters rail, pits, weld scars, etc., shall receive an additional (stripe) coat.
4. The contents of all interior coatings shall be lead-free.
5. All sand and debris generated from the sandblasting operations shall be removed from the tank before the intermediate coat is applied.

B. Prime coat:

1. The prime coat shall be applied immediately to the properly cleaned surfaces.
2. The tank interior shall receive a full prime coat applied by spray, conventional or airless.
3. The prime system shall consist of the following:

Material	Dry Thickness	Drying Time
Aromatic Urethane Zinc Rich Polyurethane	2.5 - 3.5 dry mils	24 hours

4. All horizontal weld seams shall be cleaned using stiff wire brush to remove all dust and overspray. Any paint removed shall be recoated by roller or brush.
5. An additional prime coat shall be applied to all manways, couplings, etc. by brush and roller before the intermediate coat is applied.

6. A touch-up coat shall be applied to all skips and "holidays" before the intermediate coat is applied.

C. Stripe coat:

1. Apply a stripe coat to all weld seams, roof support beams, weld scars, pits, brackets, ladders, painter's rail, etc. by brush or roller.
2. This coat shall be a separate operation after the application of the prime coat.

Material	Dry Thickness	Drying Time
Polyamidoamine Epoxy White Finish	2.0 - 4.0 dry mils	24 hours

D. Field finish coat:

1. Not less than 24 hours after application of the field intermediate coat, the tank shall receive one full finish coat. The following finish coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamine Epoxy White Finish	12.0 - 16.0 dry mils	24 hours

2. An additional finish coat shall be applied to all manways, couplings, etc. by brush and roller.
3. A touch-up coat shall be applied to all skips and "holidays" after the finish coat is applied.

E. Flushing of coatings: Upon completion of painting the entire interior of the tank shall be pressure washed to remove all dust and stains. This cleaning shall be completed before the tank is sterilized.

3.13 EXTERIOR PAINTING SYSTEM

A. General: **(Option 1)**

1. All exterior finish paints shall be Epoxy/Acrylic Polyurethane/Fluoropolymer Polyurethane.
2. The contents of all exterior coatings shall be lead-free.
3. Apply exterior finish paints by brush and/or roller. No spray application on the exterior is permitted.
4. All exterior areas of the tank shall be power washed, power tool cleaned, sanded, and primed before the intermediate coat is applied.

B. Spot prime coat:

1. The spot prime coat shall be applied immediately to the properly cleaned surfaces.
2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Polyamidioamine Epoxy	4.0 – 6.0 dry mils	24 hours

C. Intermediate coat:

1. The intermediate coat shall be tinted in such fashion as to identify it from the preceding and following coats when necessary. The entire tank shall receive a full intermediate coat. Color shall not be such a contrast that the finish coat will not cover to provide a uniform finish color.
2. The following coat shall be applied:

Material	Dry Thickness	Drying Time
Aliphatic Acrylic Polyurethane	2.5 – 3.0 dry mils	24 hours

3. All horizontal weld seams shall be cleaned using stiff wire brush to remove all dust. Any paint removed shall be recoated by roller or brush.
4. An additional prime coat shall be applied to all manways, couplings, ladders, handrails, etc., by brush and roller before the intermediate coat is applied.
5. A touch-up coat shall be applied to all skips and "holidays" before the intermediate coat is applied.

E. Field finish coat: The entire tank shall receive a full finish coat. Apply the following coats:

Material	Dry Thickness	Drying Time
Fluoropolymer Polyurethane	2.5 – 3.0 dry mils	24 hours

F. General: **(Option 2)**

1.All exterior paints shall be Zinc/Acrylic Polyurethan/Fluoropolymer Polyurethane.
2.The contents of all exterior coatings shall be lead-free.

3. Apply exterior finish coats by brush and /or roller. No spray application on the exterior is permitted, excluding the zinc prime coat (ONLY).
4. All exterior of the tank shall be sandblasted and primed before the stripe coat and intermediate coat is applied.

G. Prime coat:

1. The spot prime coat shall be applied immediately to the properly cleaned surfaces.
2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Aromatic Urethane Zinc Rich Polyurethane	2.5 - 3.5 dry mils	24 hours

3. All horizontal weld seams shall be cleaned using stiff wire brush to remove all dust and overspray. Any paint removed shall be recoated by roller or brush.

4. An additional prime coat shall be applied to all manways, couplings, etc. by brush and roller before the intermediate coat is applied.
5. A touch-up coat shall be applied to all skips and "holidays" before the intermediate coat is applied.

H. Stripe coat:

1. Apply a stripe coat to all weld seams, roof support beams, weld scars, pits, brackets, ladders, painter's rail, etc. by brush or roller.
2. This coat shall be a separate operation after the application of the prime coat.

Material	Dry Thickness	Drying Time
Polyamidoamine or Polyamide Epoxy	4.0 – 6.0 dry mils	24 hours

3. All horizontal weld seams shall be cleaned using stiff wire brush to remove all dust and overspray. Any paint removed shall be recoated by roller or brush.
4. An additional stripe coat shall be applied to all manways, couplings, etc. by brush and roller before the intermediate coat is applied.

I. Intermediate coat:

1. The intermediate coat shall be tinted in such fashion as to identify it from the preceding and following coats when necessary. The entire tank shall receive a full intermediate coat. Color shall not be such a contrast that the finish coat will not cover to provide a uniform finish color.
2. The following coat shall be applied:

Material	Dry Thickness	Drying Time
Aliphatic Acrylic Polyurethane	2.5 - 3.0 dry mils	24 hours

3. All horizontal weld seams shall be cleaned using stiff wire brush to remove all dust. Any paint removed shall be recoated by roller or brush.
4. An additional prime coat shall be applied to all manways, couplings, ladders, handrails, etc., by brush and roller before the intermediate coat is applied.
5. A touch-up coat shall be applied to all skips and "holidays" before the intermediate coat is applied.

J. Field finish coat: The entire tank shall receive a full finish coat. Apply the following coats:

Material	Dry Thickness	Drying Time
Fluoropolymer Polyurethane	2.5 – 3.0 dry mils	24 hours

3.14 COATING THICKNESS

A. General:

1. In all cases, the value stated for dry film thicknesses are average, based upon application to a smooth surface.
2. Dry film thickness gauges will be used as the application of each coat proceeds, to check the film thickness as applied.
3. Failure to obtain the proper dry thickness will require the application of additional coats until proper dry thickness is obtained.

B. Total system dry thickness:

1. Two coat zinc/epoxy system for the interior shall not be less than 14.5 mils.
2. The exterior tank system shall not be less than 4.0 dry mils.

3.15 HOLIDAY DETECTION

A. General:

1. After the finish interior coating has been completed, the thickness measurements taken and results approved, testing for pinholes, voids and thin places shall be conducted by the Contractor in the presence of the Owner's Inspector.
2. Testing shall be by using a Tinker Razor low voltage wet sponge holiday detector.
3. Testing equipment shall be furnished by the Contractor.
4. Areas failing to test shall be recoated until proper results are obtained.

3.16 DRYING OF COATINGS

A. The required thorough drying of all coatings is affected by the various factors of humidity, temperature and quantity of air passing over the coated surfaces. If necessary, forced ventilation shall be provided to adequately remove solvent vapors from the tank interior.

3.17 FLUSHING OF COATINGS

A. The coated tank shall be thoroughly flushed with water by the Contractor until the flushing water is free from odor and tastes.

3.18 STERILIZATION

A. Upon completion of painting, the tank shall be disinfected in accordance with AWWA C652-11 and the following:

1. Spray the inside of the reservoir (including influent pipe) with a 200 ppm chlorine solution. Disinfection shall remain in contact for a minimum of 2 hours.
2. Rinse down to remove all heavy concentrations of chlorine.
3. Following chlorination, drain all treated water from the tank and refill.
    a. All water drained from the tank must be dechlorinated.
    b. Coordinate all draining with the Owner.
4. Two (2) separate samples shall be taken by the Owner at 24-hour intervals and an analysis indicating no coliform bacteria by laboratory test. The chlorine residual at the time of sampling must be measured and reported. All samples shall be analyzed by a State approved laboratory. Cost of testing shall be the responsibility of the Owner.

B. If initial samples are unsatisfactory, the procedure shall be repeated until satisfactory results are obtained. Costs for the water, procedure, securing of samples and laboratory testing associated with the repeated procedures shall be the total responsibility of the Contractor at no additional cost of the Owner.

3.19 LOGOS

A. After completion of the exterior painting specified above, using as a minimum of two (2) coats of finish paint (4.0 mils minimum) of the name grade as specified above, paint DeKalb County Logo and lettering in locations following the requirements included in the RFP (**See Logo Requirements**). Verify the paint colors with the Owners Inspector and Owner.

3.20 INDEMNITY

A. The Contractor must agree to indemnify the Owner from all claims and demands for damages or compensation from injuries to persons or property caused by the negligence of the Contractor in the performance of the work specified herein.

3.21 GUARANTEE

A. Painting Materials Warranty – the paint manufacturer must provide a fifteen (15) Year warranty on the Steel tank coating. Provide certification of warranty to the owner for approval and signed and dated original upon closeout.

B. The contractor will warrant the work free of defects in material and workmanship for a period of two (2) years from the Substantial Completion date. At the End of 23 month, the contractor will return for the warranty inspection. The contractor will correct any deficiencies found with no cost to the owner.

C. Contractor will be notified in writing of beginning and ending dates of the warranty period.

D. At the end of the year, the Owner's Inspector will make a list of any defects and/or deficiencies with the tanks painted under these specifications. The Contractor will be responsible for correcting any defects and/or deficiencies within 30 days of written notice from the Owner.

3.22 CLEAN UP

A. Upon completion of the work, the Contractor will remove or dispose of all rubbish and other unsightly material caused by his operation and will leave the premises in as good a condition as he found them.

B. The Contractor will seed and straw any disturbed grassing areas. Grass seed to be the same type as the existing grass onsite.

3.23 OBSERVATION AND ACCEPTANCE

A. Examination of overall appearance and measurement of dry film thickness.

B. Correct defects and/or deficiencies to satisfaction of the Owner's Inspector.

C. Observation by the Owner's Inspector will be required at the following intervals:

1. At the end of each surface cleaning operation before paint is applied.
2. After each coat of paint is applied.
3. The Contractor shall be responsible to contact and coordinate the time of each observation with the Owner's Inspector.
4. Provide a minimum 36 hour notice for observations.

D. Secure approval for sterilization of tank.

3.24 MEASUREMENT AND PAYMENT

1.No separate measurement or direct payment will be made for work under this Section, and the cost of same shall be included in the price bid for the item to which it pertains.

3.25 REPORTS

A.The following reports will be submitted to the Owner at the end of every week.
1.Contractor's Weekly tank coating reports from an AMPP Certified (Level 2) coating inspector.
2.Daily Environmental Conditions Report

END OF SECTION 09870

Page Break

ENVIRONMENTAL CONDITIONS

Project No.

Contractor

Data shall be recorded as a minimum: 1) at the beginning of each daily operation, 2) thirty (30) minutes before painting begins and, 3) every hour during painting operations.

Date	Time	Air Temp	Surface Temp	Humidity	Dewpoint

(Revised May 23, 2023)

EXHIBIT 1 – TECHNICAL SPECIFICATION

SECTION 09875

REPAIR AND REPAINTING CONCRETE GROUND STORAGE TANKS

PART 1 – GENERA*DESCRIPTION*

A. Work included:

1. Columbia Concrete Tank: Complete repairs, surface preparation, clean, paint/finish the exterior concrete, blast and paint/finish the exterior piping, ladder, cage, etc., blast and paint/finish the interior overflow pipe of the tank as indicated or specified, and as needed for a complete and proper installation.
2. Whites Mill Concrete Tank: Complete repairs, surface preparation, clean, paint/finish the exterior concrete, blast and paint/finish the exterior piping, ladder, cage, etc., blast and paint/finish the interior overflow pipe and ladder of the tank, and blast and paint/finish the valve vault piping, valves and concrete as indicated or specified, and as needed for a complete and proper installation.
3. Dunwoody Concrete Tank: Complete repairs, surface preparation, clean, paint/finish the exterior concrete, blast and paint/finish the exterior piping, ladder, cage, etc., blast and paint/finish the interior overflow pipe of the tank as indicated or specified, and as needed for a complete and proper installation.
4. Surfaces not specifically excluded shall be painted, whether new or old.

B. Work not included: Unless otherwise indicated, painting of the following surfaces will not be required.

1. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar non-ferrous materials.
2. Do not paint over required labels or equipment identification, performance rating, name, or nomenclature plates.

C. Quality control:

1. All work shall be in compliance with the latest version of ANSI/AWWA D100-11 and D102-14.
2. All work shall be in compliance with the latest version of the International Building Code.
3. All work shall be in accordance with OSHA Safety and Health Standards.
4. Onsite project superintendent must speak English.

5. The Project Manager for the Contractor must be onsite for all hold point inspections with the Owner's Representative. Project Manager must be AMPP certified (Level 2) directly employed by the Contractor, subcontractors will not be acceptable.

D. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

E. Definitions: "Paint", as used herein, means coating systems materials including primers, emulsions, epoxy, enamels, sealers, fillers, stains and other applied materials whether used as prime, intermediate or finish coats.

1.2 QUALITY ASSURANCE

A. Supervisor onsite must be trained and experienced as AMPP certified or AMPP quality control supervisor (QCS) and who is completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1. Provide all materials, supervision, labor, equipment, scaffolding and incidentals required to provide a protective coating system for the surfaces listed herein and not otherwise excluded.

B. Paint coordination:

1. Finish coats being used must be compatible with primers.
2. Upon request, furnish information on the characteristics of the specific finish materials to assure that compatible prime coats are used.
3. Provide barrier coats over non-compatible primers or remove the primer and re-prime as required.
4. Notify the Owner in writing of anticipated problems in using the specified coating systems over prime coatings and existing coatings.
5. Paint materials listed are intended to provide quality of proposed coatings.

C. Workmanship and finish of all repairs shall be the best in modern shop practice.

1. Welders must be minimum 4G certified (CW) within the previous year, in accordance with the requirements of the American Welding Society.
2. Records of these specification tests shall be available to the Owner at the project site.

D. Work hours: Unless otherwise directed by the owner, normal work hours shall be no earlier than 7:00 A.M. to no later than 7:00 P.M., and crew shall be off site no later than 7:00 P.M., Monday through Friday, and subject to availability to adequate daylight to safely perform the work. Work on extended hours or on Saturday or Sunday must be requested (in writing) in advance.

E. Coating supplier: The coating supplier is required to furnish the necessary personnel for training and inspections to ensure that application of the product is in accordance with the manufacturer's requirements.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01300 Submittals.

B. Submit a copy of the following certifications
1. Contractor's Project Manager – AMPP Level 2
2. Contractor's On Site Supervisor - AMPP certified or AMPP quality control supervisor (QCS)
3. Contractor's Welders – AWS (American Welding Society) 4G
4. Paint Manufacture's Representative – AMPP Level 2
4. All employees who received Coating supplier application training

C. Product data: Within 15 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
1. Materials list of items proposed to be provided under this Section.
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Containment system details.

D. Color chips: Provide for each type of finish coat required.

E.Schedule:
1. Submit schedule listing of all surfaces to be painted, manufacturer's name, generic type, trade or brand name, system for each surface including number of coats and total dry film thickness.
2. Secure Owner's approval of schedule, in writing, prior to ordering any materials.

F. Submit a letter to the Owner from the manufacturer of the selected paint indicating the exterior and interior coating system specified meets the requirements of application of the manufacturer.

G. Submit a letter to the Owner from the paint manufacturer stating the paints selected for the project are lead free.

H. Submit a letter to the Owner from the selected manufacturer stating that a AMPP Certified (Level 2) coating inspector will inspect the tank once a week during painting and provide weekly written reports to the Owner.

I. Painting Materials Warranty – the paint manufacturer must provide a fifteen (15) year gloss and color retention warranty on the steel tank coating. Provide certification of warranty to the owner for approval and signed and dated original upon closeout.

PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

B. Store in secure watertight and controlled areas and maintain in safe, neat and clean manner, free from fire, explosion or other hazards according to the manufacture product data sheet (PDS)

1.5 REFERENCES

A. SSPC - Steel Structures Painting Council

B. SSPC-SP 1 - Solvent Cleaning.

C. SSPC-SP 2 - Hand Tool Cleaning.

D. SSPC-SP 3 - Power Tool Cleaning.

E. SSPC-SP 6/NACE 3 - Commercial Blast Cleaning.

F. SSPC-SP 10/NACE 2 - Near-White Metal Blast Cleaning

G. SSPC-SP 13/NACE 6 - Surface Preparation of Concrete.

H. SSPC-PA2 Measurement of Dry Coating with Magnetic Gauges.

I. SSPC-SP 12/NACE 5 - Low-Pressure Water Cleaning (LP WC)

J. SSPC-SP 12/NACE 5 - High-Pressure Water Cleaning (HP WC)

K. SSPC-SP 12/NACE 5 - High-Pressure Water-jetting (HP WJ)

L. SSPC-SP 12/NACE 5 – Ultrahigh-Pressure Water-jetting (UHP WJ)

1.6 EXTRA STOCK

A. Upon completion of the work of this Section, deliver to the Owner at least one gallon of each color, type, and gloss of paint used in the Work, tightly sealing each container and clearly labeling with contents and location where used. Provide information of paint such as batch numbers, manufacture representative name, and location paint was made.

PART 2 – PRODUCTS

2.1 PAINT MATERIALS:

A. Source of all paint material is subject to approval by the Owner.

B. All paint material which will be in contact with potable water shall have the approval of the National Sanitation Foundation (NSF) ANSI/NSF Standard 61/600 and follow the EPA and Georgia EPD guidance for such use.

C. All paint materials to be used in any one system shall be the products of one manufacturer.

D. Use only the thinners recommended by the paint manufacturer and use only to the recommended limits.

E. The contents of all coatings shall be lead-free. Provide manufacturer's letter indicating the coatings to be used are lead-free.

F. Products must meet or exceed the following standards. Test results shall be submitted with shop drawings to verify:

Concrete Tank Coatings			
Aliphatic Acrylic Polyurethane: exterior steel topcoat coat	Volume Solids	58%	
	ASTM G 85 Prohesion	15,000 Hours	REQUIREMENT: No blistering, cracking, checking, rusting or delamination of film. No more than 3/16 inch (5.0 mm) rust creepage at scribe after 15,000 hours exposure.
	ASTM D 4585 Humidity	2,000 hours	No blistering, cracking, rusting or delamination of film after 2,000 hours exposure.
	ASTM D 4060 Abrasion	CS-17 Wheel 1,000 Gram Load 1,000 Cycles	No more than 96 mg loss after 1,000 cycles.
	ASTM 4541 Adhesion	Average of Three Tests	No less than 2,040 psi (14.06 MPa) pull.
	ASTM D 522 Flexibility	Method A Conical Mandrel	No less than 19.05% elongation, average of three tests.
	ASTM D 522 Flexibility	Method B Cylindrical Mandrel	No less than 19.05% elongation, average of three tests.
	ASTM D 4141, Method C (EMMAQUA)	500 MJ/m2	No blistering, cracking or chalking. No less than 86% gloss retention (8 units gloss change) and 0.23 DED Hunter Lab Scale color change after 500 MJ/m² exposure.

	ASTM D 2794 Impact	Direct Impact	No cracking or delamination of film after 29 inch-pounds (3.3 J) direct impact, average of three tests.
Polyamidoamine Epoxy: exterior steel spot coat	Volume Solids	84%	
	ASTM D 4060 Abrasion	CS-17 Wheel 1,000 Gram Load 1,000 Cycles	No more than 122 mg average loss after 1,000 cycles.
	ASTM 4541 Adhesion	Average of Three Tests	No less than 883 psi (5.86 MPa) pull, average of three tests.
	ASTM D 522 Flexibility & Elongation	Method B, Cylindrical Mandrel	No less than 16 percent elongation. No cracking, checking or delamination of film with 1/8" mandrel and no less than 38.2% elongation.
	ASTM D 4585 Humidity	2,000 hours	No blistering, cracking, rusting or delamination of film after 2,000 hours exposure.
	ASTM D 2794 Impact	Direct Impact	No less than 28 inch-lbs (3.16 J) average, direct impact.
	ASTM D 1653 Moisture Vapor Transmission	Average of Three Tests	No more than 23.4 g/m² per 24 hours moisture vapor transmission and no more than 0.72 perms (0.48 metric perms) water vapor permeability.
	ASTM G 85 Prohesion	10,000 Hours	No rusting, cracking or blistering of film. No more than 1/16" (1.6 mm) rust creepage at scribe after 10,000 hours exposure.
Waterborne Acrylate: Exterior concrete Intermediate and topcoat	Volume Solids	50.9%	
	ASTM D 3359 Adhesion	Method B, Crosshatch	No less than a rating of 5.
	ASTM D 3273 Fungal.Mold/Mildew Resistance	90°F (32°C), 95-98% R.H., suspended 3" above soil containing aspergillus niger, aspergillus oryzae and an unknown species of penicillium.	No more than slight mold growth after five weeks exposure.

		Five weeks exposure	
	ASTM D 4585 Humidity	2,000 hours	No blistering, cracking or visible damage after 2,000 hours exposure.
	ASTM D 1653 Moisture Vapor Transmission	Method B, Wet Cup, Condition C at 70°F (21°C). Average of Three Tests	No more than 37.44 g/m² per 24h water vapor transmission (WVT), and no more than 3.09 perms (2.03 metric perms) water vapor permeance (WVP).
	ASTM D 4587 QUV Exposure	5,000 hours	Gloss Retention: 69% gloss retention, no more than 1.1 units gloss loss Color Change: 3.59 DE (FMC-2) color change (white) after 5,000 hours
	ASTM D 2370 Tensile Strength, Elongation, Modulus of Elasticity	Average of Five Tests	% Elongation: 200 percent Report PSI: 250 psi
	ASTM D 6944 Thermal Cycling	30 freeze/thaw cycles	No blisters, checking or cracking and not less than 5B adhesion after 30 freeze/thaw cycles

2.4 EXTERIOR COLOR SCHEDULE

A. Submit three copies of color charts of Blue 26BL of coating manufacturer's full range of custom colors for County's review and approval before purchasing paint. The entire exterior of tanks will be painted using the color selected by the County.

B. Exterior intermediate coat shall be a minimum of two shades lighter than final coat.

2.5 APPLICATION EQUIPMENT

A. Use only such equipment as is recommended by the paint manufacturer or specified herein.

2.6 LADDER SAFETY DEVICES

A. Install new ladder safety devices: Provide new OSHA approved safety devices on all exterior and interior ladders, consisting of the following:

1. Provide 3/8" diameter, stainless steel cable, 10,000 pound test, attached to the face of the ladder at the top and bottom.
2. Provide stainless steel cable stays at 20'-0" maximum spacing.
3. Provide stainless steel hardware.
4. Install NSF approved neoprene between all hardware that is in contact with the tank structure.
5. Provide one (1) friction brake sleeves with carabiners designed for operation on the cable, one (1) safety harness with front, side and rear “D rings”, and safety lanyard with two rebar hooks. Deliver to the Owner.

2.7 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor, subject to the approval of the Owner.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 ENVIRONMENTAL CONDITIONS

B. Do not work under unfavorable weather conditions.

1. Air and surface temperatures must be above 45ºF and dew point not within 5 degrees of surface temperature.
2. Paint shall not be applied if the ambient temperature is expected to fall to or below 35ºF.
3. No paint shall be applied when the temperature of the surface to be painted is below 40ºF.
4. Paint shall not be applied to wet or damp surfaces.
5. Paint shall not be applied in rain, snow, fog or mist.
6. No paint shall be applied when it is expected that the relative humidity will exceed 85% or the air temperature will drop below 45ºF within four (4) hours after the application of the paint.
7. The painting contractor shall furnish and have at the project site a surface temperature thermometer and a sling psychrometer. The surface temperature of the tank and the relative humidity shall be read and recorded thirty (30) minutes before painting begins and shall be read and recorded every hour during the painting operation.

a. A log shall be maintained at the site indicating the time, date and readings of the temperature and humidity and dew point. See "Environmental Conditions" form, included with this specification".
b. Submit an updated copy of the "Environmental Conditions" form with monthly pay request. Pay request will not be approved until "Environmental Conditions" form is properly submitted.
c. Provide calibration paperwork for surface temperature and digital psychrometer.

2.2 PROTECTION

A. Provide covers for all vehicles that are parked on the project site.

B. Provide spare covers for any visitors that need to park at the project site.

C. Provide protection for adjacent buildings and structures.

D. The Contractor is responsible for all over spray damages resulting from this project. The Contractor is responsible for proper restoration of damaged property from over spray.

2.3 GENERAL TANK DESCRIPTION

A. Use of inspection reports:

1. Inspection reports were completed by the Owner’s Inspector for use in developing the specifications. Tank surface preparation, including blasting of tank surfaces, shall be as required in the Technical Specifications and as detailed in AECOM specified in the Technical Specifications.

2. The reports are available for bidders' information, but not a warranty of existing tank conditions. Repair each item identified in the AECOM inspection reports and as specified in the Technical Specifications.

3. It is the responsibility of the Bidders to visit the site and acquaint themselves with the tank.

2.4 SURFACE PREPARATION

A. General:

1. Thoroughly clean all surfaces prior to application of paint. The surface must be clean and dry before painting.

B. Containment and disposal of debris and/or paint chips:

1. The Contractor shall be responsible to make provisions to contain the sandblasting residue and/or old paint to within the tank property. Sandblasting or cleaning operations shall not begin until the containment method is approved by the Owner/Owner's Inspector. The Contractor shall be responsible for the disposal of the debris generated and shall be responsible for all costs involved in the disposal and testing of the debris on behalf of the Owner. The tank contractor shall subcontract the testing, air monitoring, and disposal of generated debris with an environmental service company familiar with the disposal of contaminated debris.
2. The ground surface 40'-0" around the outside of the tank shall be protected with a layer of polyethylene, minimum thickness 6 mils.
3. All debris generated and accumulated on the polyethylene shall be collected at the end of each day. Debris shall be placed in containers approved by the state of Georgia Environmental Protection Agency (EPA).
4. All debris generated from the sandblasting within the interior or exterior of the tank shall be disposed of in the proper manner by the Contractor through the environmental service subcontractor. Application for the necessary approvals and permits shall be made by the Contractor and coordinated with the Owner. All costs associated with the removal and disposal of debris shall be paid by the Contractor.
5. Contractor shall be responsible for obtaining the certified laboratory test report and pay the costs necessary to determine if the residue generated during the sandblasting and power tool cleaning operations on the interior and the exterior of the tank exceeds "leachable" limits for lead, arsenic, barium, cadmium, chromium, mercury, selenium, and silver as determined by EPA's Toxicity Characteristic Leaching Procedure (TCLP). The laboratory must be certified by the State of Georgia. A copy of the certified report shall be furnished to the Owner.
6. Contractor shall sandblast a representative area of the interior and exterior of the tank and collect the debris generated. Contractor shall also collect a representative sample of old paint chips from the exterior of the tank. Samples from the interior and exterior shall be collected in the presence of the Owner's Inspector and sent to a laboratory for analysis. The laboratory must be certified by the State of Georgia. Contractor shall furnish the Owner's Inspector a certified test report of the Toxicity Characteristic Leaching Procedure (TCLP) results of a representative

random sample taken from the debris and paint chips of both the interior and exterior. The certified report shall state that the results are for Columbia, Whites Mill, Tanks.

Disposal of hazardous spent material is only allowed at a licensed hazardous waste disposal facility. The waste shall be transported to the facility by EPA approved licensed waste haulers. The disposal facility may require a sample of spent material for confirmation testing prior to receiving shipment. An EPA "Uniform Hazardous Waste Manifest" shall document each truckload of hazardous waste. The Contractor is directly and solely responsible for complying with the requirements of these hazardous waste laws in performing the work.

C.Exterior surface preparation

1. Exposed Rebar: hand tool and power tool and all exposed rebar to conform to the requirement for Hand Tooling (SSPC-SP2) and Power Tooling (SSPC-SP3), to remove all rust, mil scale, old coating and foreign matter. Coat rebar as detailed in Part 2.9.

2. Concrete Repair: conform to the requirements for SSPC-13/NACE 6, ICRI CSP 3-5 for surface preparation of concrete.

3. Rehab the concrete as needed with a NSF Approved Cementitious Repair Mortar spells greater than 3/4” diameter or deep. The surface must be clean and dry before painting.

4. Concrete Exterior Coating: Contractor shall perform the pull-off adhesion testing (ASTM D4541) of existing exterior coating prior to any work and make a recommendation to the **County** on surface preparation requirements. The pull-off adhesion test shall be conducted by a AMPP certified coating inspector in the presence of the Owner’s Representative.

D.Valve Box Concrete

1.Entire concrete interior of the valve box shall be cleaned by power washing with a 5,000 psi rotating turbo nozzle to remove all dirt, dust, mildew, and all other foreign matter.

E. Exterior steel surface (ladder, cage overflow pipe etc.) coating removal.

1. Clean all steel areas on the exterior of the tank to conform to the requirements for Commercial Blast Cleaning, SSPC-SP6/NACE 3, SSPPC-SP11 or equal, to remove all rust, mill scale, old coating and foreign matter.
2. The contractor shall provide and use Blastox media for all exterior coating removal if lab results exceed EPA limits (Part 2.4 B. above).

3. The contractor will be required to collect, analyze and dispose of all debris generated during the removal of the exiting coating as outlined in Part 2.4.B. above.

F. Interior steel surface (ladder, overflow pipe, etc.) coating removal.

1. Clean all steel areas on the interior of the tank to conform to the requirements for Near White Blast Cleaning, SSPC-SP10/NACE 2, to remove all rust, mill scale, old coating and foreign matter.
2. Contractor will be required to collect, analyze and dispose of all debris generated during the removal of the existing coating as outlined in Part 2.4.B. above.
3. The sandblasting operation shall be completed before any intermediate coating is applied.
4. All sandblasting debris shall be removed from the tank before any intermediate coating is applied.

2.5 VENTILATION

A. Contractor must provide forced air ventilation during all coating removal, debris removal, and painting operation performed on the tank.

B. The ventilation by forced air system must be sufficient to provide adequate visibility and limit worker lead dust exposure. The minimum required ventilation shall be 40,000 CFM or a minimum of 30 minutes to remove dust (whichever is greater). Should worker exposure to lead dust become excessive or visibility drop to an unacceptable level, then reconfiguration of the ventilation system requiring the use of flexible and/or rigid duct work and additional forced air ventilation capacity shall be required.

C. All ventilation equipment shall be explosion proof.

D. The exhaust ventilation system will be evaluated by ambient air monitoring. Emissiabove a time weighted average of 10 micrograms per cubic meter shall be cause for blasting operation shut down and reevaluation of the exhaust and ventilation system. Modifications to the containment shall be made until compliance is achieved.

2.6 RIGGING

A. Provide rigging inside the tank that provides a maximum of 3'-0" distance of reach between the rigging and any surface of the tank.

B. Provide a minimum of 50ft. candles of light for all work and inspections per SSPC Guide No. 12.

2.7 MATERIALS PREPARATION

A. General:

1. Mix and prepare paint materials in strict accordance with the manufacturer's recommendations as approved by the Owner’s Inspector.
2. When materials are not in use, store in tightly covered containers.
3. Maintain containers used in storage, mixing, and application of paint in a clean condition, free from foreign materials and residue.
4. A AMPP certified representative from the paint manufacturer shall visit the job site to support the Contractor's personnel, in the presence of the Owner’s Inspector, in the proper mixing and application of the paint as needed. The first visit shall be made prior to the application of any paint.

B.Stirring:

1. Stir materials before application, producing a mixture of uniform density.
2. Do not mix into the material any film which may form on the surface, but remove the film and, if necessary, strain the material before using.

2.8 PAINT APPLICATION

A.General:

1. All paint shall be applied in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting" standard.
2. Apply an additional interior intermediate “stripe” coat of a slightly different color (use field finish coat color) to all weld seams, roof support beams, weld scars, pits, brackets, ladders, painter’s rail, etc. by brush and/or roller after the intermediate coat has been applied over the entire interior surface.
3. Slightly vary the color of succeeding coats.
   a. Do not apply additional coats until the completed coat has been inspected and approved.
   b. Any material applied prior to the approval of the surface by the Owner’s Inspector shall be removed and reapplied to the satisfaction of the Owner’s Inspector at the expense of the Contractor.
   c. Only the inspected and approved coats of paint will be considered in determining the number of coats applied.
4. Surfaces shall be cleaned between coats. During and after the application of all interior coats, all horizontal weld seams shall be cleaned using a stiff or wire brush to remove all dust and overspray. Any paint removed shall be recoated by brush or roller.
5. Record temperature and humidity reading before paint is applied.

B.Drying: Allow sufficient drying time between coats, modifying the period as recommended by the material manufacturer to suit adverse weather conditions.

C.Brush or roller applications:

1. Brush or roll coats onto the surface in an even film.
2. Cloudiness, spotting, holidays, laps, brush or roller marks, runs, sags, ropiness and other surface imperfections will not be acceptable.

D.Ladders and rods shall be coated using a painter's mitten, if not coated adequately, using a brush and/or roller and/or spray nozzle.

2.9 EXTERIOR CONCRETE PAINTING SYSTEM:

A.General:

1. All exterior finish paints shall be Waterborne Polyamine Epoxy/Waterborne Acrylate/Waterborne Acrylate.
2. The contents of all exterior coatings shall be lead-free.
3. Apply exterior finish paints by brush and/or roller. No spray application on the exterior is permitted.

B.Rebar repair:

1. The spot coat for rebar shall be applied immediately to the properly cleaned surfaces.
2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 dry mils	24 hours

3. Following completion of the rebar repair, repair concrete in accordance with Part 3.6.C.

C.Prime coat:

1. The prime coat shall be applied immediately to the properly cleaned surfaces.
2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Waterborne Polyamine Epoxy	0.7 – 3.0 dry mils	24 hours

3. A touch-up coat shall be applied to all skips and “holidays” before the intermediate coat is applied.

D.Stripe/crack coat:

1. The stripe coat shall be applied to all cracks, bugholes, etc.

2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Waterborne Acrylate	4.0 – 8.0 dry mils	24 hours

3. A touch-up coat shall be applied to all skips and “holidays” before the intermediate coat is applied.
4. Any cracks larger than 1/64” polyester fabric shall be applied and top coated with a modified waterborne acrylate 4.0 – 8.0 DFT mils via a brush and roll coat.

E. Field intermediate coat: The intermediate coat shall be tinted in such fashion as to identify it from the preceding and following coats when necessary. The entire tank shall receive a full intermediate coat. Color shall not be such a contrast that the finish coat will not cover to provide a uniform finish color. Apply the following coats via a brush and roll application:

Material	Dry Thickness	Drying Time
Waterborne Acrylate	4.0 – 8.0 dry mils	24 hours

1. A touch-up coat shall be applied to all skips and “holidays” before the finish coat is applied.

F. Field finish coat: The entire tank shall receive a full finish coat. Apply the following coats via a brush and roll application:

Material	Dry Thickness	Drying Time
Waterborne Acrylate	4.0 – 8.0 dry mils	24 hours

1. A touch-up coat shall be applied to all skips and “holidays”.

2.10 EXTERIOR STEEL PAINTING SYSTEM-APPURTENANCES:

A. General:

1. All exterior finish paints shall be Zinc/Acrylic Polyurethane/Polyurethane.
2. The contents of all exterior coatings shall be lead-free.
3. Apply exterior finish paints by brush and/or roller. No spray application on the exterior is permitted.
4. All exterior steel shall be sandblasted to SSPC-SP 6/NACE NO. 3 or equivalent Commercial Blast Cleaning.

B. Prime coat:

1. The prime coat shall be applied immediately to the properly cleaned surfaces.
2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Urethane Zinc-Rich	2.5 – 3.5 dry mils	24 hours

3. All horizontal weld seams shall be cleaned using stiff wire brush to remove all dust. Any paint removed shall be recoated by roller or brush.
4. An additional prime coat shall be applied to all manways, couplings, ladders, handrails, etc. by brush and roller before the intermediate coat is applied.
5. A touch-up coat shall be applied to all skips and "holidays" before the intermediate coat is applied.

C. Intermediate coat: The intermediate coat shall be tinted in such fashion as to identify it from the preceding and following coats when necessary. The entire tank shall receive a full intermediate coat. Color shall not be such a contrast that the finish coat will not cover to provide a uniform finish color. Apply the following coats:

Material	Dry Thickness	Drying Time
Aliphatic Acrylic Polyurethane	2.0 – 4.0 dry mils	24 hours

1. An additional intermediate coat shall be applied to all manways, couplings, handrails, ladders, etc. by brush and roller before the finish coat is applied.
2. A touch-up coat shall be applied to all skips and "holidays" before the finish coat is applied.

D. Finish coat: The entire tank shall receive a full finish coat. Apply the following coats:

Material	Dry Thickness	Drying Time
Polyurethane	2.0– 4.0 dry mils	24 hours

2.11 INTERIOR STEEL PAINTING SYSTEM- APPURTENANCES:

A. General:

1. After thorough cleaning and clean-up of residue from surface preparation the tank interior shall be coated.
2. All interior steel shall be sandblasted (SSPC SP10 - near-white blast).
3. The system shall be a three (3) coat Zinc/Epoxy/Epoxy system. The weld seams, ladders, brackets, roof support beams, painters rail, pits, weld scars, etc., shall receive an additional (stripe) coat.
4. The contents of all interior coatings shall be lead-free.
5. All sand and debris generated from the sandblasting operations shall be removed from the tank before the intermediate coat is applied.

B. Prime coat:

1. The prime coat shall be applied immediately to the properly cleaned surfaces.
2. The tank interior piping, ladders, etc. shall receive a full prime coat applied by brush or roller.
3. The prime system shall consist of the following:

Material	Dry Thickness	Drying Time
Urethane Zinc-Rich	2.5 – 3.5 dry mils	24 hours

4. All horizontal weld seams shall be cleaned using stiff wire brush to remove all dust and overspray. Any paint removed shall be recoated by roller or brush.
5. An additional prime coat shall be applied to all manways, couplings, etc. by brush and roller before the intermediate coat is applied.
6. A touch-up coat shall be applied to all skips and "holidays" before the intermediate coat is applied.

C.Intermediate coat:

1. The intermediate coat shall be applied by spray, conventional or airless.
2. The intermediate coat shall be tinted in such a fashion as to facilitate identification and inspection of various coats. The entire tank interior shall receive one full intermediate coat. The following coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 mils	24 hours

4. An additional intermediate coat shall be applied to all manways, couplings, etc. by brush and roller before the finish coat is applied.
5. A touch-up coat shall be applied to all skips and "holidays" before the finish coat is applied

D.Finish coat:

1. Not less than 24 hours after application of the field intermediate coat, the tank shall receive one full finish coat. The following finish coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4 – 7 mils	24 hours

2. An additional finish coat shall be applied to all manways, couplings, etc. by brush and roller.
3. A touch-up coat shall be applied to all skips and "holidays" after the finish coat is applied.

2.12 VALVE BOX CONCRETE:

A.Prime coat:

1. The prime coat shall be applied by brush or roller.

2. All cleaning shall be completed according to AECOM inspection report section 3 Recommendation before any coating is applied. All sand and debris shall be removed from the vault before the prime coat is applied.
3. The entire valve vault interior shall receive one full prime coat. The following coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4 – 7 mils	24 hours

4. An additional intermediate coat shall be applied to all manways, couplings, etc. by brush and roller before the finish coat is applied.
5. A touch-up coat shall be applied to all skips and "holidays" before the finish coat is applied.

B.Finish coat:

1. Not less than 24 hours after application of the field intermediate coat, the vault shall receive one full finish coat. The following finish coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4 – 7 mils	24 hours

2. An additional finish coat shall be applied to all manways, couplings, etc. by brush and roller.
3. A touch-up coat shall be applied to all skips and "holidays" after the finish coat is applied.

2.13 VALVE BOX – STEEL

A.Prime coat:

1. All cleaning shall be completed according to AECOM inspection report section 3 Recommendation before any coating is applied.
2. The following coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 dry mils	24 hours

3. A touch-up coat shall be applied to all skips and "holidays" before the finish coat is applied.

B.Intermediate coat:

1. The paint coating shall be tinted in such a fashion as to facilitate identification and inspection of various coats.
2. Not less than 24 hours after application of the prime coat, apply full intermediate coat. The following intermediate coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 dry mils	24 hours

C.Field finish coat:

1. Not less than 24 hours after application of the field intermediate coat apply one full finish coat. The following finish coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 dry mils	24 hours

2. A touch-up coat shall be applied to all skips and "holidays" after the finish coat is applied.

2.14 COATING THICKNESS

A.General:

1. In all cases, the value stated for dry film thicknesses are average, based upon application to a smooth surface.
2. Dry film thickness gauges will be used as the application of each coat proceeds, to check the film thickness as applied.
3. Failure to obtain the proper dry thickness will require the application of additional coats until proper dry thickness is obtained.

B.Total system dry thickness:

1. The total dry thickness of systems specified above should not be less than the sum of minimum dry mils for the coating system.

2.15 HOLIDAY DETECTION

A. General:

1. After the finish interior coating has been completed, the thickness measurements taken and results approved, testing for pinholes, voids and thin places shall be conducted by the Contractor in the presence of the Owner's Inspector.
2. Testing shall be by using a Tinker Razor low voltage wet sponge holiday detector.
3. Testing equipment shall be furnished by the Contractor.
4. Areas failing to test shall be recoated until proper results are obtained.

2.16 DRYING OF COATINGS

A. The required thorough drying of all coatings is affected by the various factors of humidity, temperature and quantity of air passing over the coated surfaces. If necessary, forced ventilation shall be provided to adequately remove solvent vapors from the tank interior.

2.17 FLUSHING OF COATINGS

A. The coated tank shall be thoroughly flushed with water by the Contractor until the flushing water is free from odor and tastes.

2.18 STERILIZATION

A. Upon completion of painting, the tank shall be disinfected in accordance with AWWA C652-11 and the following:

1. Spray the inside of the reservoir (including influent pipe) with a 200 ppm chlorine solution. Disinfection shall remain in contact for a minimum of 2 hours.
2. Rinse down to remove all heavy concentrations of chlorine.
3. Following chlorination, drain all treated water from the tank and refill.
   a. All water drained from the tank must be dechlorinated.
   b. Coordinate all draining with the Owner.
4. Two (2) separate samples shall be taken by the Owner at 24-hour intervals and an analysis indicating no coliform bacteria by laboratory test. The chlorine residual at the time of sampling must be measured and reported. All samples shall be analyzed by a State approved laboratory. Cost of testing shall be the responsibility of the Owner.

B. If initial samples are unsatisfactory, the procedure shall be repeated until satisfactory results are obtained. Costs for the water, procedure, securing of samples and laboratory testing associated with the repeated procedures shall be the total responsibility of the Contractor at no additional cost of the Owner.

2.19 LOGOS

A. After completion of the exterior painting specified above, using as a minimum of two (2) coats of finish paint (4.0 mils minimum) of the name grade as specified above, paint DeKalb County Logo and lettering in one location following the requirements included in the RFP (**See – Logo Requirements**). Verify the paint colors with the Owners Inspector and Owner.

2.20 INDEMNITY

The Contractor must agree to indemnify the Owner from all claims and demands for damages or compensation from injuries to persons or property caused by the negligence of the Contractor in the performance of the work specified herein.

2.21 GUARANTEE

A. Painting Materials Warranty – the paint manufacturer must provide a fifteen (15) year warranty on the concrete tank coatings including color and gloss retention for the exterior. Provide certification of warranty to the owner for approval, and signed and dated original upon closeout.

B. The contractor will warrant the work free of defects in material and workmanship for a period of two (2) years from the Substantial Completion date. At the end of the 23rd month, the contractor will return for the warranty inspection. The contractor will correct any deficiencies found with no cost to the owner.

C. Contractor will be notified in writing of beginning and ending dates of the warranty period.

D. At the end of the year, the Owner's Inspector will make a list of any defects and/or deficiencies with the tanks painted under these specifications. The Contractor will be responsible for correcting any defects and/or deficiencies within 30 days of written notice from the Owner.

2.22 CLEAN UP

A. Upon completion of the work, the Contractor will remove or dispose of all rubbish and other unsightly material caused by his operation, and will leave the premises in as good a condition as he found them.

B. The Contractor will seed and straw any disturbed grassing areas. Grass seed shall be the same type as the existing grass onsite.

2.23 OBSERVATION AND ACCEPTANCE

A. Examination of overall appearance and measurement of dry film thickness.

B. Correct defects and/or deficiencies to satisfaction of the Owner's Inspector.

C. Observation by the Owner's Inspector will be required at the following intervals:

1. At the end of each surface cleaning operation before paint is applied.
2. After each coat of paint is applied.

3. The Contractor shall be responsible to contact and coordinate the time of each observation with the Owner's Inspector.
4. Provide a minimum 36 hour notice for observations.

D. Secure approval for sterilization of tank.

2.24MEASUREMENT AND PAYMENT

A. No separate measurement or direct payment will be made for work under this Section, and the cost of same shall be included in the price bid for the item to which it pertains.

2.25REPORTS

A. The following reports will be submitted to the Owner at the end of every week.
   1. Contractor's Weekly tank coating reports from an AMPP Certified (Level 2) coating inspector.
   2. Daily Environmental Conditions Report

END OF SECTION 09875

(Revised May 23, 2023)

EXHIBIT 1 – TECHNICAL SPECIFICATION

SECTION 09875

REPAIR AND REPAINTING CONCRETE GROUND STORAGE TANKS

PART 1 – GENERA*DESCRIPTION*

A. Work included:

1. Columbia Concrete Tank: Complete repairs, surface preparation, clean, paint/finish the exterior concrete, blast and paint/finish the exterior piping, ladder, cage, etc., blast and paint/finish the interior overflow pipe of the tank as indicated or specified, and as needed for a complete and proper installation.
2. Whites Mill Concrete Tank: Complete repairs, surface preparation, clean, paint/finish the exterior concrete, blast and paint/finish the exterior piping, ladder, cage, etc., blast and paint/finish the interior overflow pipe and ladder of the tank, and blast and paint/finish the valve vault piping, valves and concrete as indicated or specified, and as needed for a complete and proper installation.
3. Dunwoody Concrete Tank: Complete repairs, surface preparation, clean, paint/finish the exterior concrete, blast and paint/finish the exterior piping, ladder, cage, etc., blast and paint/finish the interior overflow pipe of the tank as indicated or specified, and as needed for a complete and proper installation.
4. Surfaces not specifically excluded shall be painted, whether new or old.

B. Work not included: Unless otherwise indicated, painting of the following surfaces will not be required.

1. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar non-ferrous materials.
2. Do not paint over required labels or equipment identification, performance rating, name, or nomenclature plates.

C. Quality control:

1. All work shall be in compliance with the latest version of ANSI/AWWA D100-11 and D102-14.
2. All work shall be in compliance with the latest version of the International Building Code.
3. All work shall be in accordance with OSHA Safety and Health Standards.
4. Onsite project superintendent must speak English.

5. The Project Manager for the Contractor must be onsite for all hold point inspections with the Owner's Representative. Project Manager must be AMPP certified (Level 2) directly employed by the Contractor, subcontractors will not be acceptable.

D. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

E. Definitions: "Paint", as used herein, means coating systems materials including primers, emulsions, epoxy, enamels, sealers, fillers, stains and other applied materials whether used as prime, intermediate or finish coats.

1.2 QUALITY ASSURANCE

A. Supervisor onsite must be trained and experienced as AMPP certified or AMPP quality control supervisor (QCS) and who is completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1. Provide all materials, supervision, labor, equipment, scaffolding and incidentals required to provide a protective coating system for the surfaces listed herein and not otherwise excluded.

B. Paint coordination:

1. Finish coats being used must be compatible with primers.
2. Upon request, furnish information on the characteristics of the specific finish materials to assure that compatible prime coats are used.
3. Provide barrier coats over non-compatible primers or remove the primer and re-prime as required.
4. Notify the Owner in writing of anticipated problems in using the specified coating systems over prime coatings and existing coatings.
5. Paint materials listed are intended to provide quality of proposed coatings.

C. Workmanship and finish of all repairs shall be the best in modern shop practice.

1. Welders must be minimum 4G certified (CW) within the previous year, in accordance with the requirements of the American Welding Society.
2. Records of these specification tests shall be available to the Owner at the project site.

D. Work hours: Unless otherwise directed by the owner, normal work hours shall be no earlier than 7:00 A.M. to no later than 7:00 P.M., and crew shall be off site no later than 7:00 P.M., Monday through Friday, and subject to availability to adequate daylight to safely perform the work. Work on extended hours or on Saturday or Sunday must be requested (in writing) in advance.

E. Coating supplier: The coating supplier is required to furnish the necessary personnel for training and inspections to ensure that application of the product is in accordance with the manufacturer's requirements.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 01300 Submittals.

B. Submit a copy of the following certifications
1. Contractor's Project Manager – AMPP Level 2
2. Contractor's On Site Supervisor - AMPP certified or AMPP quality control supervisor (QCS)
3. Contractor's Welders – AWS (American Welding Society) 4G
4. Paint Manufacture's Representative – AMPP Level 2
4. All employees who received Coating supplier application training

C. Product data: Within 15 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
1. Materials list of items proposed to be provided under this Section.
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Containment system details.

D. Color chips: Provide for each type of finish coat required.

E.Schedule:
1. Submit schedule listing of all surfaces to be painted, manufacturer's name, generic type, trade or brand name, system for each surface including number of coats and total dry film thickness.
2. Secure Owner's approval of schedule, in writing, prior to ordering any materials.

F. Submit a letter to the Owner from the manufacturer of the selected paint indicating the exterior and interior coating system specified meets the requirements of application of the manufacturer.

G. Submit a letter to the Owner from the paint manufacturer stating the paints selected for the project are lead free.

H. Submit a letter to the Owner from the selected manufacturer stating that a AMPP Certified (Level 2) coating inspector will inspect the tank once a week during painting and provide weekly written reports to the Owner.

I. Painting Materials Warranty – the paint manufacturer must provide a fifteen (15) year gloss and color retention warranty on the steel tank coating. Provide certification of warranty to the owner for approval and signed and dated original upon closeout.

PRODUCT HANDLING

A. Comply with pertinent provisions of Section 01640.

B. Store in secure watertight and controlled areas and maintain in safe, neat and clean manner, free from fire, explosion or other hazards according to the manufacture product data sheet (PDS)

1.5 REFERENCES

A. SSPC - Steel Structures Painting Council

B. SSPC-SP 1 - Solvent Cleaning.

C. SSPC-SP 2 - Hand Tool Cleaning.

D. SSPC-SP 3 - Power Tool Cleaning.

E. SSPC-SP 6/NACE 3 - Commercial Blast Cleaning.

F. SSPC-SP 10/NACE 2 - Near-White Metal Blast Cleaning

G. SSPC-SP 13/NACE 6 - Surface Preparation of Concrete.

H. SSPC-PA2 Measurement of Dry Coating with Magnetic Gauges.

I. SSPC-SP 12/NACE 5 - Low-Pressure Water Cleaning (LP WC)

J. SSPC-SP 12/NACE 5 - High-Pressure Water Cleaning (HP WC)

K. SSPC-SP 12/NACE 5 - High-Pressure Water-jetting (HP WJ)

L. SSPC-SP 12/NACE 5 – Ultrahigh-Pressure Water-jetting (UHP WJ)

1.6 EXTRA STOCK

A. Upon completion of the work of this Section, deliver to the Owner at least one gallon of each color, type, and gloss of paint used in the Work, tightly sealing each container and clearly labeling with contents and location where used. Provide information of paint such as batch numbers, manufacture representative name, and location paint was made.

PART 2 – PRODUCTS

2.1 PAINT MATERIALS:

A. Source of all paint material is subject to approval by the Owner.

B. All paint material which will be in contact with potable water shall have the approval of the National Sanitation Foundation (NSF) ANSI/NSF Standard 61/600 and follow the EPA and Georgia EPD guidance for such use.

C. All paint materials to be used in any one system shall be the products of one manufacturer.

D. Use only the thinners recommended by the paint manufacturer and use only to the recommended limits.

E. The contents of all coatings shall be lead-free. Provide manufacturer's letter indicating the coatings to be used are lead-free.

F. Products must meet or exceed the following standards. Test results shall be submitted with shop drawings to verify:

Concrete Tank Coatings			
Aliphatic Acrylic Polyurethane: exterior steel topcoat coat	Volume Solids	58%	
	ASTM G 85 Prohesion	15,000 Hours	REQUIREMENT: No blistering, cracking, checking, rusting or delamination of film. No more than 3/16 inch (5.0 mm) rust creepage at scribe after 15,000 hours exposure.
	ASTM D 4585 Humidity	2,000 hours	No blistering, cracking, rusting or delamination of film after 2,000 hours exposure.
	ASTM D 4060 Abrasion	CS-17 Wheel 1,000 Gram Load 1,000 Cycles	No more than 96 mg loss after 1,000 cycles.
	ASTM 4541 Adhesion	Average of Three Tests	No less than 2,040 psi (14.06 MPa) pull.
	ASTM D 522 Flexibility	Method A Conical Mandrel	No less than 19.05% elongation, average of three tests.
	ASTM D 522 Flexibility	Method B Cylindrical Mandrel	No less than 19.05% elongation, average of three tests.
	ASTM D 4141, Method C (EMMAQUA)	500 MJ/m2	No blistering, cracking or chalking. No less than 86% gloss retention (8 units gloss change) and 0.23 DED Hunter Lab Scale color change after 500 MJ/m² exposure.

	ASTM D 2794 Impact	Direct Impact	No cracking or delamination of film after 29 inch-pounds (3.3 J) direct impact, average of three tests.
Polyamidoamine Epoxy: exterior steel spot coat	Volume Solids	84%	
	ASTM D 4060 Abrasion	CS-17 Wheel 1,000 Gram Load 1,000 Cycles	No more than 122 mg average loss after 1,000 cycles.
	ASTM 4541 Adhesion	Average of Three Tests	No less than 883 psi (5.86 MPa) pull, average of three tests.
	ASTM D 522 Flexibility & Elongation	Method B, Cylindrical Mandrel	No less than 16 percent elongation. No cracking, checking or delamination of film with 1/8" mandrel and no less than 38.2% elongation.
	ASTM D 4585 Humidity	2,000 hours	No blistering, cracking, rusting or delamination of film after 2,000 hours exposure.
	ASTM D 2794 Impact	Direct Impact	No less than 28 inch-lbs (3.16 J) average, direct impact.
	ASTM D 1653 Moisture Vapor Transmission	Average of Three Tests	No more than 23.4 g/m² per 24 hours moisture vapor transmission and no more than 0.72 perms (0.48 metric perms) water vapor permeability.
	ASTM G 85 Prohesion	10,000 Hours	No rusting, cracking or blistering of film. No more than 1/16" (1.6 mm) rust creepage at scribe after 10,000 hours exposure.
Waterborne Acrylate: Exterior concrete Intermediate and topcoat	Volume Solids	50.9%	
	ASTM D 3359 Adhesion	Method B, Crosshatch	No less than a rating of 5.
	ASTM D 3273 Fungal.Mold/Mildew Resistance	90°F (32°C), 95-98% R.H., suspended 3" above soil containing aspergillus niger, aspergillus oryzae and an unknown species of penicillium.	No more than slight mold growth after five weeks exposure.

		Five weeks exposure	
	ASTM D 4585 Humidity	2,000 hours	No blistering, cracking or visible damage after 2,000 hours exposure.
	ASTM D 1653 Moisture Vapor Transmission	Method B, Wet Cup, Condition C at 70°F (21°C). Average of Three Tests	No more than 37.44 g/m² per 24h water vapor transmission (WVT), and no more than 3.09 perms (2.03 metric perms) water vapor permeance (WVP).
	ASTM D 4587 QUV Exposure	5,000 hours	Gloss Retention: 69% gloss retention, no more than 1.1 units gloss loss Color Change: 3.59 DE (FMC-2) color change (white) after 5,000 hours
	ASTM D 2370 Tensile Strength, Elongation, Modulus of Elasticity	Average of Five Tests	% Elongation: 200 percent Report PSI: 250 psi
	ASTM D 6944 Thermal Cycling	30 freeze/thaw cycles	No blisters, checking or cracking and not less than 5B adhesion after 30 freeze/thaw cycles

2.4 EXTERIOR COLOR SCHEDULE

A. Submit three copies of color charts of Blue 26BL of coating manufacturer's full range of custom colors for County's review and approval before purchasing paint. The entire exterior of tanks will be painted using the color selected by the County.

B. Exterior intermediate coat shall be a minimum of two shades lighter than final coat.

2.5 APPLICATION EQUIPMENT

A. Use only such equipment as is recommended by the paint manufacturer or specified herein.

2.6 LADDER SAFETY DEVICES

A. Install new ladder safety devices: Provide new OSHA approved safety devices on all exterior and interior ladders, consisting of the following:

1. Provide 3/8" diameter, stainless steel cable, 10,000 pound test, attached to the face of the ladder at the top and bottom.
2. Provide stainless steel cable stays at 20'-0" maximum spacing.
3. Provide stainless steel hardware.
4. Install NSF approved neoprene between all hardware that is in contact with the tank structure.
5. Provide one (1) friction brake sleeves with carabiners designed for operation on the cable, one (1) safety harness with front, side and rear “D rings”, and safety lanyard with two rebar hooks. Deliver to the Owner.

2.7 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor, subject to the approval of the Owner.

PART 3 - EXECUTION

3.1SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2ENVIRONMENTAL CONDITIONS

B. Do not work under unfavorable weather conditions.

1. Air and surface temperatures must be above 45ºF and dew point not within 5 degrees of surface temperature.
2. Paint shall not be applied if the ambient temperature is expected to fall to or below 35ºF.
3. No paint shall be applied when the temperature of the surface to be painted is below 40ºF.
4. Paint shall not be applied to wet or damp surfaces.
5. Paint shall not be applied in rain, snow, fog or mist.
6. No paint shall be applied when it is expected that the relative humidity will exceed 85% or the air temperature will drop below 45ºF within four (4) hours after the application of the paint.
7. The painting contractor shall furnish and have at the project site a surface temperature thermometer and a sling psychrometer. The surface temperature of the tank and the relative humidity shall be read and recorded thirty (30) minutes before painting begins and shall be read and recorded every hour during the painting operation.

a. A log shall be maintained at the site indicating the time, date and readings of the temperature and humidity and dew point. See "Environmental Conditions" form, included with this specification".
b. Submit an updated copy of the "Environmental Conditions" form with monthly pay request. Pay request will not be approved until "Environmental Conditions" form is properly submitted.
c. Provide calibration paperwork for surface temperature and digital psychrometer.

2.2 PROTECTION

A. Provide covers for all vehicles that are parked on the project site.

B. Provide spare covers for any visitors that need to park at the project site.

C. Provide protection for adjacent buildings and structures.

D. The Contractor is responsible for all over spray damages resulting from this project. The Contractor is responsible for proper restoration of damaged property from over spray.

2.3 GENERAL TANK DESCRIPTION

A. Use of inspection reports:

1. Inspection reports were completed by the Owner’s Inspector for use in developing the specifications. Tank surface preparation, including blasting of tank surfaces, shall be as required in the Technical Specifications and as detailed in AECOM specified in the Technical Specifications.

2. The reports are available for bidders' information, but not a warranty of existing tank conditions. Repair each item identified in the AECOM inspection reports and as specified in the Technical Specifications.

3. It is the responsibility of the Bidders to visit the site and acquaint themselves with the tank.

2.4 SURFACE PREPARATION

A. General:

1. Thoroughly clean all surfaces prior to application of paint. The surface must be clean and dry before painting.

B. Containment and disposal of debris and/or paint chips:

1. The Contractor shall be responsible to make provisions to contain the sandblasting residue and/or old paint to within the tank property. Sandblasting or cleaning operations shall not begin until the containment method is approved by the Owner/Owner's Inspector. The Contractor shall be responsible for the disposal of the debris generated and shall be responsible for all costs involved in the disposal and testing of the debris on behalf of the Owner. The tank contractor shall subcontract the testing, air monitoring, and disposal of generated debris with an environmental service company familiar with the disposal of contaminated debris.
2. The ground surface 40'-0" around the outside of the tank shall be protected with a layer of polyethylene, minimum thickness 6 mils.
3. All debris generated and accumulated on the polyethylene shall be collected at the end of each day. Debris shall be placed in containers approved by the state of Georgia Environmental Protection Agency (EPA).
4. All debris generated from the sandblasting within the interior or exterior of the tank shall be disposed of in the proper manner by the Contractor through the environmental service subcontractor. Application for the necessary approvals and permits shall be made by the Contractor and coordinated with the Owner. All costs associated with the removal and disposal of debris shall be paid by the Contractor.
5. Contractor shall be responsible for obtaining the certified laboratory test report and pay the costs necessary to determine if the residue generated during the sandblasting and power tool cleaning operations on the interior and the exterior of the tank exceeds "leachable" limits for lead, arsenic, barium, cadmium, chromium, mercury, selenium, and silver as determined by EPA's Toxicity Characteristic Leaching Procedure (TCLP). The laboratory must be certified by the State of Georgia. A copy of the certified report shall be furnished to the Owner.
6. Contractor shall sandblast a representative area of the interior and exterior of the tank and collect the debris generated. Contractor shall also collect a representative sample of old paint chips from the exterior of the tank. Samples from the interior and exterior shall be collected in the presence of the Owner's Inspector and sent to a laboratory for analysis. The laboratory must be certified by the State of Georgia. Contractor shall furnish the Owner's Inspector a certified test report of the Toxicity Characteristic Leaching Procedure (TCLP) results of a representative

random sample taken from the debris and paint chips of both the interior and exterior. The certified report shall state that the results are for Columbia, Whites Mill, Tanks.

Disposal of hazardous spent material is only allowed at a licensed hazardous waste disposal facility. The waste shall be transported to the facility by EPA approved licensed waste haulers. The disposal facility may require a sample of spent material for confirmation testing prior to receiving shipment. An EPA "Uniform Hazardous Waste Manifest" shall document each truckload of hazardous waste. The Contractor is directly and solely responsible for complying with the requirements of these hazardous waste laws in performing the work.

C.Exterior surface preparation

1. Exposed Rebar: hand tool and power tool and all exposed rebar to conform to the requirement for Hand Tooling (SSPC-SP2) and Power Tooling (SSPC-SP3), to remove all rust, mil scale, old coating and foreign matter. Coat rebar as detailed in Part 2.9.

2. Concrete Repair: conform to the requirements for SSPC-13/NACE 6, ICRI CSP 3-5 for surface preparation of concrete.

3. Rehab the concrete as needed with a NSF Approved Cementitious Repair Mortar spells greater than 3/4” diameter or deep. The surface must be clean and dry before painting.

4. Concrete Exterior Coating: Contractor shall perform the pull-off adhesion testing (ASTM D4541) of existing exterior coating prior to any work and make a recommendation to the **County** on surface preparation requirements. The pull-off adhesion test shall be conducted by a AMPP certified coating inspector in the presence of the Owner’s Representative.

D.Valve Box Concrete

1.Entire concrete interior of the valve box shall be cleaned by power washing with a 5,000 psi rotating turbo nozzle to remove all dirt, dust, mildew, and all other foreign matter.

E. Exterior steel surface (ladder, cage overflow pipe etc.) coating removal.

1. Clean all steel areas on the exterior of the tank to conform to the requirements for Commercial Blast Cleaning, SSPC-SP6/NACE 3, SSPPC-SP11 or equal, to remove all rust, mill scale, old coating and foreign matter.
2. The contractor shall provide and use Blastox media for all exterior coating removal if lab results exceed EPA limits (Part 2.4 B. above).

3. The contractor will be required to collect, analyze and dispose of all debris generated during the removal of the exiting coating as outlined in Part 2.4.B. above.

F. Interior steel surface (ladder, overflow pipe, etc.) coating removal.

1. Clean all steel areas on the interior of the tank to conform to the requirements for Near White Blast Cleaning, SSPC-SP10/NACE 2, to remove all rust, mill scale, old coating and foreign matter.
2. Contractor will be required to collect, analyze and dispose of all debris generated during the removal of the existing coating as outlined in Part 2.4.B. above.
3. The sandblasting operation shall be completed before any intermediate coating is applied.
4. All sandblasting debris shall be removed from the tank before any intermediate coating is applied.

2.5 VENTILATION

A. Contractor must provide forced air ventilation during all coating removal, debris removal, and painting operation performed on the tank.

B. The ventilation by forced air system must be sufficient to provide adequate visibility and limit worker lead dust exposure. The minimum required ventilation shall be 40,000 CFM or a minimum of 30 minutes to remove dust (whichever is greater). Should worker exposure to lead dust become excessive or visibility drop to an unacceptable level, then reconfiguration of the ventilation system requiring the use of flexible and/or rigid duct work and additional forced air ventilation capacity shall be required.

C. All ventilation equipment shall be explosion proof.

D. The exhaust ventilation system will be evaluated by ambient air monitoring. Emissiabove a time weighted average of 10 micrograms per cubic meter shall be cause for blasting operation shut down and reevaluation of the exhaust and ventilation system. Modifications to the containment shall be made until compliance is achieved.

2.6 RIGGING

A. Provide rigging inside the tank that provides a maximum of 3'-0" distance of reach between the rigging and any surface of the tank.

B. Provide a minimum of 50ft. candles of light for all work and inspections per SSPC Guide No. 12.

2.7 MATERIALS PREPARATION

A. General:

1. Mix and prepare paint materials in strict accordance with the manufacturer's recommendations as approved by the Owner’s Inspector.
2. When materials are not in use, store in tightly covered containers.
3. Maintain containers used in storage, mixing, and application of paint in a clean condition, free from foreign materials and residue.
4. A AMPP certified representative from the paint manufacturer shall visit the job site to support the Contractor's personnel, in the presence of the Owner’s Inspector, in the proper mixing and application of the paint as needed. The first visit shall be made prior to the application of any paint.

B.Stirring:

1. Stir materials before application, producing a mixture of uniform density.
2. Do not mix into the material any film which may form on the surface, but remove the film and, if necessary, strain the material before using.

2.8 PAINT APPLICATION

A.General:

1. All paint shall be applied in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting" standard.
2. Apply an additional interior intermediate “stripe” coat of a slightly different color (use field finish coat color) to all weld seams, roof support beams, weld scars, pits, brackets, ladders, painter’s rail, etc. by brush and/or roller after the intermediate coat has been applied over the entire interior surface.
3. Slightly vary the color of succeeding coats.
   a. Do not apply additional coats until the completed coat has been inspected and approved.
   b. Any material applied prior to the approval of the surface by the Owner’s Inspector shall be removed and reapplied to the satisfaction of the Owner’s Inspector at the expense of the Contractor.
   c. Only the inspected and approved coats of paint will be considered in determining the number of coats applied.
4. Surfaces shall be cleaned between coats. During and after the application of all interior coats, all horizontal weld seams shall be cleaned using a stiff or wire brush to remove all dust and overspray. Any paint removed shall be recoated by brush or roller.
5. Record temperature and humidity reading before paint is applied.

B.Drying: Allow sufficient drying time between coats, modifying the period as recommended by the material manufacturer to suit adverse weather conditions.

C.Brush or roller applications:

1. Brush or roll coats onto the surface in an even film.
2. Cloudiness, spotting, holidays, laps, brush or roller marks, runs, sags, ropiness and other surface imperfections will not be acceptable.

D.Ladders and rods shall be coated using a painter's mitten, if not coated adequately, using a brush and/or roller and/or spray nozzle.

2.9 EXTERIOR CONCRETE PAINTING SYSTEM:

A.General:

1. All exterior finish paints shall be Waterborne Polyamine Epoxy/Waterborne Acrylate/Waterborne Acrylate.
2. The contents of all exterior coatings shall be lead-free.
3. Apply exterior finish paints by brush and/or roller. No spray application on the exterior is permitted.

B.Rebar repair:

1. The spot coat for rebar shall be applied immediately to the properly cleaned surfaces.
2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 dry mils	24 hours

3. Following completion of the rebar repair, repair concrete in accordance with Part 3.6.C.

C.Prime coat:

1. The prime coat shall be applied immediately to the properly cleaned surfaces.
2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Waterborne Polyamine Epoxy	0.7 – 3.0 dry mils	24 hours

3. A touch-up coat shall be applied to all skips and “holidays” before the intermediate coat is applied.

D.Stripe/crack coat:

1. The stripe coat shall be applied to all cracks, bugholes, etc.

2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Waterborne Acrylate	4.0 – 8.0 dry mils	24 hours

3. A touch-up coat shall be applied to all skips and “holidays” before the intermediate coat is applied.
4. Any cracks larger than 1/64” polyester fabric shall be applied and top coated with a modified waterborne acrylate 4.0 – 8.0 DFT mils via a brush and roll coat.

E. Field intermediate coat: The intermediate coat shall be tinted in such fashion as to identify it from the preceding and following coats when necessary. The entire tank shall receive a full intermediate coat. Color shall not be such a contrast that the finish coat will not cover to provide a uniform finish color. Apply the following coats via a brush and roll application:

Material	Dry Thickness	Drying Time
Waterborne Acrylate	4.0 – 8.0 dry mils	24 hours

1. A touch-up coat shall be applied to all skips and “holidays” before the finish coat is applied.

F. Field finish coat: The entire tank shall receive a full finish coat. Apply the following coats via a brush and roll application:

Material	Dry Thickness	Drying Time
Waterborne Acrylate	4.0 – 8.0 dry mils	24 hours

1. A touch-up coat shall be applied to all skips and “holidays”.

2.10 EXTERIOR STEEL PAINTING SYSTEM-APPURTENANCES:

A. General:

1. All exterior finish paints shall be Zinc/Acrylic Polyurethane/Polyurethane.
2. The contents of all exterior coatings shall be lead-free.
3. Apply exterior finish paints by brush and/or roller. No spray application on the exterior is permitted.
4. All exterior steel shall be sandblasted to SSPC-SP 6/NACE NO. 3 or equivalent Commercial Blast Cleaning.

B. Prime coat:

1. The prime coat shall be applied immediately to the properly cleaned surfaces.
2. The following coats shall be applied:

Material	Dry Thickness	Drying Time
Urethane Zinc-Rich	2.5 – 3.5 dry mils	24 hours

3. All horizontal weld seams shall be cleaned using stiff wire brush to remove all dust. Any paint removed shall be recoated by roller or brush.
4. An additional prime coat shall be applied to all manways, couplings, ladders, handrails, etc. by brush and roller before the intermediate coat is applied.
5. A touch-up coat shall be applied to all skips and "holidays" before the intermediate coat is applied.

C. Intermediate coat: The intermediate coat shall be tinted in such fashion as to identify it from the preceding and following coats when necessary. The entire tank shall receive a full intermediate coat. Color shall not be such a contrast that the finish coat will not cover to provide a uniform finish color. Apply the following coats:

Material	Dry Thickness	Drying Time
Aliphatic Acrylic Polyurethane	2.0 – 4.0 dry mils	24 hours

1. An additional intermediate coat shall be applied to all manways, couplings, handrails, ladders, etc. by brush and roller before the finish coat is applied.
2. A touch-up coat shall be applied to all skips and "holidays" before the finish coat is applied.

D. Finish coat: The entire tank shall receive a full finish coat. Apply the following coats:

Material	Dry Thickness	Drying Time
Polyurethane	2.0– 4.0 dry mils	24 hours

2.11 INTERIOR STEEL PAINTING SYSTEM- APPURTENANCES:

A. General:

1. After thorough cleaning and clean-up of residue from surface preparation the tank interior shall be coated.
2. All interior steel shall be sandblasted (SSPC SP10 - near-white blast).
3. The system shall be a three (3) coat Zinc/Epoxy/Epoxy system. The weld seams, ladders, brackets, roof support beams, painters rail, pits, weld scars, etc., shall receive an additional (stripe) coat.
4. The contents of all interior coatings shall be lead-free.
5. All sand and debris generated from the sandblasting operations shall be removed from the tank before the intermediate coat is applied.

B. Prime coat:

1. The prime coat shall be applied immediately to the properly cleaned surfaces.
2. The tank interior piping, ladders, etc. shall receive a full prime coat applied by brush or roller.
3. The prime system shall consist of the following:

Material	Dry Thickness	Drying Time
Urethane Zinc-Rich	2.5 – 3.5 dry mils	24 hours

4. All horizontal weld seams shall be cleaned using stiff wire brush to remove all dust and overspray. Any paint removed shall be recoated by roller or brush.
5. An additional prime coat shall be applied to all manways, couplings, etc. by brush and roller before the intermediate coat is applied.
6. A touch-up coat shall be applied to all skips and "holidays" before the intermediate coat is applied.

C.Intermediate coat:

1. The intermediate coat shall be applied by spray, conventional or airless.
2. The intermediate coat shall be tinted in such a fashion as to facilitate identification and inspection of various coats. The entire tank interior shall receive one full intermediate coat. The following coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 mils	24 hours

4. An additional intermediate coat shall be applied to all manways, couplings, etc. by brush and roller before the finish coat is applied.
5. A touch-up coat shall be applied to all skips and "holidays" before the finish coat is applied

D.Finish coat:

1. Not less than 24 hours after application of the field intermediate coat, the tank shall receive one full finish coat. The following finish coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4 – 7 mils	24 hours

2. An additional finish coat shall be applied to all manways, couplings, etc. by brush and roller.
3. A touch-up coat shall be applied to all skips and "holidays" after the finish coat is applied.

2.12 VALVE BOX CONCRETE:

3. A touch-up coat shall be applied to all skips and "holidays" after the finish coat is applied.

2.13 VALVE BOX – STEEL

A.Prime coat:

1. All cleaning shall be completed according to AECOM inspection report section 3 Recommendation before any coating is applied.
2. The following coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 dry mils	24 hours

3. A touch-up coat shall be applied to all skips and "holidays" before the finish coat is applied.

B.Intermediate coat:

1. The paint coating shall be tinted in such a fashion as to facilitate identification and inspection of various coats.
2. Not less than 24 hours after application of the prime coat, apply full intermediate coat. The following intermediate coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 dry mils	24 hours

C.Field finish coat:

1. Not less than 24 hours after application of the field intermediate coat apply one full finish coat. The following finish coat shall be applied:

Material	Dry Thickness	Drying Time
Polyamide or Polyamidoamine Epoxy	4.0 – 7.0 dry mils	24 hours

2. A touch-up coat shall be applied to all skips and "holidays" after the finish coat is applied.

2.14 COATING THICKNESS

A.General:

1. In all cases, the value stated for dry film thicknesses are average, based upon application to a smooth surface.
2. Dry film thickness gauges will be used as the application of each coat proceeds, to check the film thickness as applied.
3. Failure to obtain the proper dry thickness will require the application of additional coats until proper dry thickness is obtained.

B.Total system dry thickness:

1. The total dry thickness of systems specified above should not be less than the sum of minimum dry mils for the coating system.

2.15 HOLIDAY DETECTION

A. General:

1. After the finish interior coating has been completed, the thickness measurements taken and results approved, testing for pinholes, voids and thin places shall be conducted by the Contractor in the presence of the Owner's Inspector.
2. Testing shall be by using a Tinker Razor low voltage wet sponge holiday detector.
3. Testing equipment shall be furnished by the Contractor.
4. Areas failing to test shall be recoated until proper results are obtained.

2.16 DRYING OF COATINGS

A. The required thorough drying of all coatings is affected by the various factors of humidity, temperature and quantity of air passing over the coated surfaces. If necessary, forced ventilation shall be provided to adequately remove solvent vapors from the tank interior.

2.17 FLUSHING OF COATINGS

A. The coated tank shall be thoroughly flushed with water by the Contractor until the flushing water is free from odor and tastes.

2.18 STERILIZATION

A. Upon completion of painting, the tank shall be disinfected in accordance with AWWA C652-11 and the following:

1. Spray the inside of the reservoir (including influent pipe) with a 200 ppm chlorine solution. Disinfection shall remain in contact for a minimum of 2 hours.
2. Rinse down to remove all heavy concentrations of chlorine.
3. Following chlorination, drain all treated water from the tank and refill.
   a. All water drained from the tank must be dechlorinated.
   b. Coordinate all draining with the Owner.
4. Two (2) separate samples shall be taken by the Owner at 24-hour intervals and an analysis indicating no coliform bacteria by laboratory test. The chlorine residual at the time of sampling must be measured and reported. All samples shall be analyzed by a State approved laboratory. Cost of testing shall be the responsibility of the Owner.

B. If initial samples are unsatisfactory, the procedure shall be repeated until satisfactory results are obtained. Costs for the water, procedure, securing of samples and laboratory testing associated with the repeated procedures shall be the total responsibility of the Contractor at no additional cost of the Owner.

2.19 LOGOS

A. After completion of the exterior painting specified above, using as a minimum of two (2) coats of finish paint (4.0 mils minimum) of the name grade as specified above, paint DeKalb County Logo and lettering in one location following the requirements included in the RFP (**See – Logo Requirements**). Verify the paint colors with the Owners Inspector and Owner.

2.20 INDEMNITY

The Contractor must agree to indemnify the Owner from all claims and demands for damages or compensation from injuries to persons or property caused by the negligence of the Contractor in the performance of the work specified herein.

2.21 GUARANTEE

A. Painting Materials Warranty – the paint manufacturer must provide a fifteen (15) year warranty on the concrete tank coatings including color and gloss retention for the exterior. Provide certification of warranty to the owner for approval, and signed and dated original upon closeout.

B. The contractor will warrant the work free of defects in material and workmanship for a period of two (2) years from the Substantial Completion date. At the end of the 23rd month, the contractor will return for the warranty inspection. The contractor will correct any deficiencies found with no cost to the owner.

C. Contractor will be notified in writing of beginning and ending dates of the warranty period.

D. At the end of the year, the Owner's Inspector will make a list of any defects and/or deficiencies with the tanks painted under these specifications. The Contractor will be responsible for correcting any defects and/or deficiencies within 30 days of written notice from the Owner.

2.22 CLEAN UP

A. Upon completion of the work, the Contractor will remove or dispose of all rubbish and other unsightly material caused by his operation, and will leave the premises in as good a condition as he found them.

B. The Contractor will seed and straw any disturbed grassing areas. Grass seed shall be the same type as the existing grass onsite.

2.23 OBSERVATION AND ACCEPTANCE

A. Examination of overall appearance and measurement of dry film thickness.

B. Correct defects and/or deficiencies to satisfaction of the Owner's Inspector.

C. Observation by the Owner's Inspector will be required at the following intervals:

1. At the end of each surface cleaning operation before paint is applied.
2. After each coat of paint is applied.

3. The Contractor shall be responsible to contact and coordinate the time of each observation with the Owner's Inspector.
4. Provide a minimum 36 hour notice for observations.

D. Secure approval for sterilization of tank.

2.24MEASUREMENT AND PAYMENT

A. No separate measurement or direct payment will be made for work under this Section, and the cost of same shall be included in the price bid for the item to which it pertains.

2.25REPORTS

A. The following reports will be submitted to the Owner at the end of every week.
   1. Contractor's Weekly tank coating reports from an AMPP Certified (Level 2) coating inspector.
   2. Daily Environmental Conditions Report

END OF SECTION 09875

(Revised May 23, 2023)

ATTACHMENT A

SCOPE OF WORK

REHABILITATION AND PAINTING OF WATER STORAGE TANKS

A. Proposed Term:

Eight Hundred (830) calendar days.

II. Payment Terms:

Net 30

III. SCOPE OF WORK

A. SCOPE OF WORK

This project includes miscellaneous repairs and repainting of up to three potable water ground storage tanks and one elevated water storage tank of varying capacity (see list below) located at four locations inside DeKalb County.

#	Tank Name	Storage Capacity
1	Columbia Concrete Tank	3 MG
2	Whites Mill Concrete Tank	3 MG
3	Dunwoody Concrete Tank # 1	1MG
4	Dunwoody Steel Elevated Tank # 2	500,000 Gallon

The exterior surface of all four (4) tanks and the interior surface of the steel tanks must be repainted and certain repairs performed as listed on the bid schedule. The tanks interiors have not been inspected thoroughly prior to preparing the bid schedule. Bidders shall bid on each item on bid schedule. Prior to start of work, the contractor shall perform a thorough inspection of the exterior and interior of each tank with DWM representatives, including wall, roof, floor, interior and exterior structural elements, piping, instrumentation and all other devices and appurtenances that are part of the water storage system. The contractor and DWM representative shall confirm repair work identified in previous tank inspection reports and the bid schedule and agree on any additional repairs made apparent by the pre-work inspections. Work items not covered on the bid schedule but agreed to by DWM as necessary will be paid for within the owner directed allowance.

Refer to the Technical Specifications **(Exhibit 1)** and Inspection Reports and Drawings **(Exhibits 2)** included in this ITB for the details of painting and repair requirements. After completion of exterior painting, the contractor shall paint DeKalb County logo and lettering

in one location on the exterior of the tank as specified in Logo Requirements **(Exhibits 3)**.

B. PROJECT LOCATIONS

The work will take place in four locations within DeKalb County. The addresses of each site are:

#	Tank Name	Address
1	Columbia Concrete Tank	1770 Columbia Drive Decatur, GA
2	Whites Mill Concrete Tank	2446 Jenay Court Atlanta, GA
3	Dunwoody Concrete Tank # 1	5335 Roberts Drive Atlanta, GA
4	Dunwoody Steel Elevated Tank # 2	2993 Ashford Dunwoody Rd. Atlanta, GA

C. Utility Systems Contractor's License:

As required by O.C.G.A. § 43-14-8, *et seq.*, a Bidder responding to this Invitation to Bid must provide a copy of its or its subcontractor's Georgia Utility Systems Contractor's License before commencement of any work. All licenses and certificates must be issued in the name of the person or entity that will perform the utility work. If a subcontractor's Georgia Utility Systems Contractor's License is submitted with the Bid, the subcontractor must be listed as such on appropriate subcontractor information form. In addition to the Prime Contractor, any Sub-Contractors doing utility work are also required to have a Georgia Utility Manager's License. A copy of said license should be attached with the Bid Package and available for inspection during the term of the contract. All licenses and certificates must be current, valid, and issued in compliance with applicable law. Failure to provide this license and necessary certificates in this format shall result in the proposed Bid being deemed non-responsive.

D. QUALIFICATIONS AND EXPERIENCE OF KEY PERSONNEL

1. All bidders shall meet the Minimum Qualification Requirements outlined herein. At its sole discretion, the County may waive any failure to satisfy such requirements and may request clarification or additional information to address any questions that may arise in this regard. Any Bidder that does not satisfy all the Minimum Qualification Requirements may be rejected.

2. The County reserves the right to select more than one Contractor in order to fulfill the requirements of the Scope of Work for this project. The County is under no obligation to exclusively award this work to a single bidder nor is the County bound to a minimum contract amount.

3. Minimum Company Experience:

    a. The Contractor shall have five (5) years practical experience and successful history in the application of specified products on similar

projects. The Contractor shall substantiate this requirement by providing a list of references and job completions. References must be included with the Bid Proposal.

b. Contractor shall provide documentation of the following training:
c. Minimum 8-hour OSHA confined space safety course for each worker
d. Adult CPR/First Aid/ AED course for each worker
e. One person on each shift shall be provided with Scaffold Competent Person Course
f. Contractor must submit documentation of the aforementioned requirements prior to beginning work.
g. Furnish a statement from the coatings manufacturer that materials to be used by the Contractor comply with the manufacturer's recommendations for the application and each element of specifications.

4. Minimum Personnel Experience:

a. **Project Manager** - The Project Manager shall have at least five (5) years of project manager experience and Association for Materials Protection and Performance (AMPP) Level 2.

b. **Foreman/Supervisor** - AMPP certified or AMPP quality control supervisor (QCS). The Contractor shall always have competent Foreman present when the work is in progress, who shall have full authority to act for the Contractor. These individuals shall have a combination of appropriate education and at least five (5) years of experience in those supervisory roles. They shall have a thorough understanding of the work involved, of the means and methods and shall oversee that all work under this contract is performed to acceptable professional and technical standards. The Contractor shall, upon demand from the Owner, immediately remove any superintendent, foreman or workman whom the Owner may consider incompetent or undesirable.

c. **Welder** - The welder must provide a current American Welding Society 4G welding certificate.

d. **Coating Applicator** - The Applicator performing the tank surface repair and coatings shall have at least five (5) years of experience in the re-coating and repair of concrete and steel water storage tanks. Proof that all coating applicators received training from the Coating supplier. Painting applicators whose submissions indicate that they have not had the experience required to perform the Work will not be approved.

e. **Coating Manufacturer's Representative** - Provide the services of a qualified, Association for Materials Protection and Performance (AMPP) Level 2 manufacturer's representative at the project site at the commencement of Work to advise on materials, installation and finishing techniques.

IV. WORK COORDINATION AND SCHEDULING

The Contractor shall coordinate all Work with DeKalb County and emergency service providers. Work can only be done on maximum two tanks at a time at different locations, while the other tanks must remain operational.

The services shall commence within ten (10) calendar days of acknowledgement of receipt of written notice to proceed or kick off meeting. Final completion shall be 830 calendar days from the notice to proceed.

The contractor will be released to work on the four (4) tanks in the following sequence:

1. Columbia Concrete Tank (1 Tank)
   - Begins with Notice To Proceed.
   - Work on Columbia Concrete Tank must be coordinated through the Department if working on another tank in this contract. Substantial Completion – 300 calendar days from the NTP.

2. Whites Mill Concrete Tanks (1 Tank)
   - Work on Whites Mill Concrete Tank must be coordinated through the Department if working on another tank in this contract.
   - Substantial Completion – 600 calendar days from NTP.

3. Dunwoody Steel and Concrete Tanks (2 Tanks)
   - ~~Whites Mill Concrete Tank must be completed prior to starting work on Dunwoody Tanks.~~
   - Work on Dunwoody tanks cannot be done at the same time
   - Substantial Completion - 800 calendar days from the NTP.

Project Final Completion – 830 calendar days from NTP.

~~Should the Project not meet the milestones for substantial completion, the Contractor will be responsible for liquidated damages amounting to **$10,000.00** per day. Liquidated damages will be applied to each of the three substantial completion milestones. Contractor will also be responsible for liquidated damages amounting **$5,000** per day after the Final Completion Milestone.~~

Inspection reports were completed by the Owner's Inspector for use in developing the specifications. Tank surface preparation, including blasting of tank surfaces, shall be as required in the **Technical Specifications** (**Exhibit 1)**, and as detailed in the **Inspection Reports and Drawing (Exhibit 2)**. Coating of interior and exterior of tanks shall be as required and specified in the Technical Specifications **(Exhibit 1)**.

The County is committed to working in close collaboration with the Contractor to achieve the Project objectives. As set forth in **Technical Specifications** (**Exhibit 1)**, the County has certain technical requirements and standards that will apply to this Project.

V. CONDITIONS AT THE SITES

1. The Contractor shall make all necessary investigations to determine the existence and location of underground utilities and surface impacts that may be caused due to assessment activities.

2. The Contractor will be held responsible for any damage to and for maintenance and protection of existing utilities, structures, and personal property.

3. Nothing in these Contract Documents shall be construed as a guarantee that utilities are not located within the areas of operation.

VI. REFERENCE AND RELEASE FORM:

List, on Attachment I - Contractor Reference and Release Form, references to demonstrate minimum company experience, including company name (Project's Owner), contact name (Project Manager), address, email address, telephone numbers and contract period who can verify your experience and ability to perform the type of service listed in the ITB. You may include additional pages. At minimum, one (1) reference should be external to DeKalb County, GA Government.

A brief description of each project and a reference must be included to allow for verification of compliance with the above listed minimum experience and qualifications. Additionally, the references must include an individual's name and position in the company with appropriate contact information.

References will be contacted and must be informed that they are being used as a reference and that DeKalb County will be contacting them. The references must be someone who has personal knowledge of the Contractor or key team member's performance during the referenced project and is available for contact by DeKalb County.

Failure of reference listed to provide the necessary information to DeKalb County inquires may result in the bidder being deemed non-responsible.

END OF ATTACHMENT A