



MEMO

- Overnight
- Regular Mail
- Hand Delivery
- Other: Email

To:	Lee's Summit Water Utilities Department Attn: Mr. Jeff Thorn 1200 SE Hamblen Road Lee's Summit, MO 64081
From:	Kevin Waldron, PE
RE:	Water Tower Re-Coating Phase 2 – Woods Chapel and Scherer Lee's Summit, Missouri - 2022 Additional and Revised Recommendations
Date:	December 20, 2022
Project #:	C17-0717

This memo provides Olsson's findings, analysis, recommendations and cost implications for Woods Chapel interior and Scherer Tower exterior re-coatings.

FINDINGS:

Woods Chapel Tower interior: As a result of the interior inspection performed by Olsson's NACE-certified inspector in May 2022, a Cost Proposal Request was prepared for the recommended re-coat of the tank interior. A proposal from the current contractor, Worldwide Industries Corp. was received on 12/9/22.

Cost Proposal Request No. 1 was issued for the recommended surface preparation and re-coating of the entire interior wet area to comply with the current contract specifications and schedule below:

Table 1: Woods Chapel Road Water Tower Improvements	
W4	Interior Tank Re-Coat
	Est. Surface Area (Contractor to Verify) – 40,500 SF
	Surface Prep. Near White Blast Cleaning SSPC SP#10
	Prime Coat: Corothane I Galvapac 1K Zinc Primer (B65G) DFT 2.5 to 3.5 mils
	Stripe Coat: Macropoxy 5500LT Epoxy
	Finish Coat: Macropoxy 5500LT Epoxy DFT 10.0 to 12.0 mils

However, new NSF requirements for potable water take effect Jan. 1, 2023, requiring different coating systems. Contractor's Proposal from 12/9/2022 includes acceptable alternate coating materials that comply with the new requirements with an option for current specified materials. The proposal is based on prompt authorization to add Woods Chapel Tower interior work and allow for immediate transition of

existing crew at the completion of Scherer Tower interior re-coating work. The proposed additional cost for interior surface preparation and re-coating Woods Chapel Tower interior are as follows:

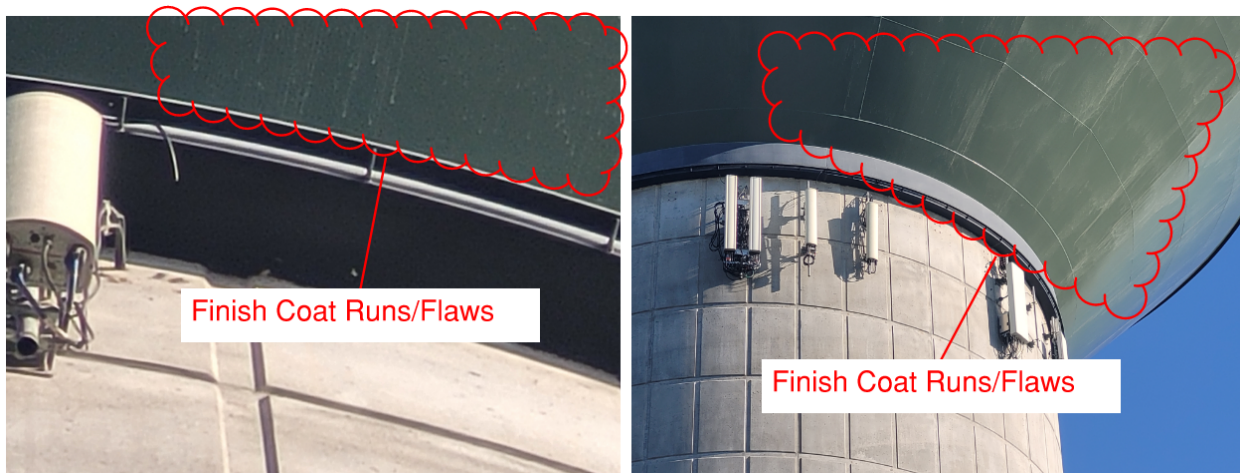
\$584,410* With NSF-compliant coatings based on authorization by Jan. 31, 2023

\$568,410* With specified materials, if material purchased by Dec. 31, 2022

**Plus 1% additional bonding cost above original contract value of \$888,382.*

Scherer Tower exterior: The current contract requirements for surface preparation and re-coating the exterior of Scherer tower calls for a Brush Blast SSPC#7 surface preparation and over-coat with epoxy/polyurethane system utilizing the existing primer with no containment required.

However, closer observation of the tank belly facilitated during Contractor mobilization and initial surface preparation revealed significant “runs” and flaws in the existing finish coat – see photos below:



These flaws occur around the perimeter of the tank belly and require a more aggressive Full Blast SSPC#6 surface preparation to achieve the appropriate surface profile for over-coat with specified coatings. The more aggressive full-blast surface preparation will generate significant amounts of debris and will require installation of containment given the proximity to nearby City Fire Station.

As a result, Work Change Directive No. 3 (WCD3) was issued to the Contractor to patch areas disturbed, stop work on the exterior of Scherer Tower and re-mobilize to move to the specified interior work included in the contract pending analysis and direction for work on the exterior.

Contractor’s Proposal from 12/9/22 also includes several options for inclusion of a revised scope of work for Scherer Tower exterior into the existing contract by Work Change Directive/Change Order (WCD/CO). The recommended coating system is the Series 646/Series 208 as specified, with Full Blast SSPC#6 surface preparation and the installation of exterior containment system. Other options presented address the potential timing and cost escalations depending on when work is authorized and performed.

Proposed costs to include the revised scope of work with original coating system and SSPC#6 surface preparation and containment for Scherer Tower Exterior over-coat are as follows:

\$604,481* If work authorized for Spring 2023 completion

\$640,121* If work authorized for Fall 2023 completion

**Plus 1% additional bonding cost above original contract value of \$888,382.*

ANALYSIS:

Primary analysis considerations include priority, procurement method, and scheduling of the work – each factor having significant impact on cost and budget capabilities of the City.

Priority: While observed defects and issues at Woods Chapel Tower interior do not indicate imminent failure, re-coating repairs should be completed as soon as possible to reduce risk and eliminate cost and down-time for more frequent inspections. Also, interior work at Woods Chapel will not require coordination for tower attachment removal and is less dependent on weather, such as wind and colder temperatures.

Conversely, exterior coating flaws at Scherer Tower are largely cosmetic and while they require additional cost and provisions to correct, their priority is low in terms of risk to service in the near term. Also, exterior work at Scherer Tower will require coordination for attachment removal by cell providers and is more weather dependent.

Given the higher criticality inherent to tank interior coating issues and potential effects on water quality and operations, the interior re-coat at Woods Chapel Tower is assigned a higher priority. Woods Chapel Tower interior should be completed first, as soon as possible, with Scherer Tower exterior over-coat to follow at least within the next 3 to 5 years.

Procurement Method: There are two (2) primary methods for procurement: addition to current contract via WCD/CO and separate competitive bidding. A combination of methods may also be used.

Each method is sensitive to scheduling, but the WCD/CO method provides cost assurance based on the pricing and effective dates in the Contractor Proposal from 12/9/2022. The bidding method introduces the uncertainty of the bidding market and probable higher pricing at bid opening.

Investigation into the current bidding market suggests that re-coating costs for the first quarter of 2023 are \$16-\$20/SF, with further escalation/inflation anticipated.

Contractor proposed pricing for Woods Chapel interior is less than \$15/SF, equivalent to a 10-20% or \$60-\$160K savings compared to bidding. These apparent savings may represent the current Contractor's locality, knowledge of the site and avoided pursuit costs.

Contractor proposed pricing for Scherer exterior is just under \$17/SF for Spring 2023 completion and just under \$18/SF for Fall 2023 completion, equivalent to potential low to mid-range bid results.

Scheduling: Additional work at Woods Chapel or Scherer cannot begin until work by the Contractor under the current contract is completed. Substantial Completion of interior work at Scherer and return to service is expected by mid-January 2023.

Although the typical planning period for completion of re-coat or over-coat is 90 calendar days, Contractor's proposal includes an option to complete both Woods Chapel interior and Scherer exterior

prior to the summer peak restricted season, beginning June 15, 2023. Coordination and planning for removal of antennas should begin immediately with target date for full removal of March 31, 2023.

RECOMMENDATIONS:

Proceed with Change Order No. 1 to Worldwide Industries' current contract including the following:

- Woods Chapel Tower interior re-coating with current specified coating system;
- \$215,300 credit for originally specified Scherer Tower exterior over-coat (Schedule of Values items 5 -8);
- Revised Scherer Tower exterior re-coat and containment;
- Work Change Directives 1 thru 3;
- Revised Substantial Completion milestone of June 15, 2023.

COST IMPLICATIONS: The following table summarizes the cost implications of recommendations.

Original Contract Total	\$888,382
Work Change Directives (WCD)	
WCD1 - Scherer Roof Couplers	\$0
WCD2 - Scherer Int Painter Rails & Weld Plates	\$66,512
WCD3 - Scherer Exterior Shut-down	\$37,019
Total Work Change Directives 1 thru 3	\$103,531
Change Order No. 1	
Total WCDs 1-3	\$103,531
Woods Chapel Interior Re-Coat*	\$568,410
Scherer Exterior Over-coat Credit	(\$215,300)
Scherer Tower Exterior Re-Coat	\$604,481
Subtotal Change Order No. 1	\$1,061,122.00
Additional Bond/Surety Cost (1%)	\$10,611
Total Change Order No. 1	\$1,071,733
Proposed Contract Total Incl. Change Order No. 1	\$1,960,115
*Based on material order by Contractor by Dec. 31, 2022	

Please let us know if you have any questions or would like to discuss these findings/recommendations further. Thank you.

Reference Attachments:


1. Visual Inspection Report, 5/10/22, Olsson, Inc.
2. Cost Proposal Request No. 1, 6/8/22.
3. Contractor's Proposal, 12/9/22, Worldwide Industries Corp.

1301 Burlington Street / Suite 100 / North Kansas City, MO 64116

☎ 816.361.1177 / olsson.com



Visual Inspection Report

Customer Name:		Date:	Project #:	
Lee's Summit		5/10/2022	C17-07170	
Jobsite Location:		Type of Inspection:		
Woods Chapel Water tower		<input checked="" type="checkbox"/> Direct Visual <input type="checkbox"/> Remote Visual		
Part # or Name:	Surface Condition:	Weld and Material Type:		
Water Tower	As Painted	CS		
OA Procedure No./Rev No.	Acceptance Standard:			
	SSPC-PA-2			
Lighting Used:	White Light Intensity:	Distance from Surface:		
Flood & Flash light	<input type="checkbox"/> Acceptable <input type="checkbox"/> Rejectable			
Observations:				
<p>Olsson arrived on site, and began are visual inspection of the interior bowl of the Wood's Chapel Water Tower. Looking into the water tower from the roof manways, it was noted. In the vapor space area heavy corrosion was taking place on lugs, and the roof structure. The painters rail appeared to have heavy corrosion. With possible flaking of the coating on the side walls of the tank. Unable to inspect from inside, due to water still being above entry way.</p>				
Discrepancies Noted:				
Re-Observations:				
Inspector Name:	 Alan Rafferty	NDT Level:	II	
Customer Name:	Lee's Summit	Date:	5/10/2022	

PHOTOGRAPH LOG:

PHOTO #1

DATE: 5/10/2022

Looking at riser lugs.

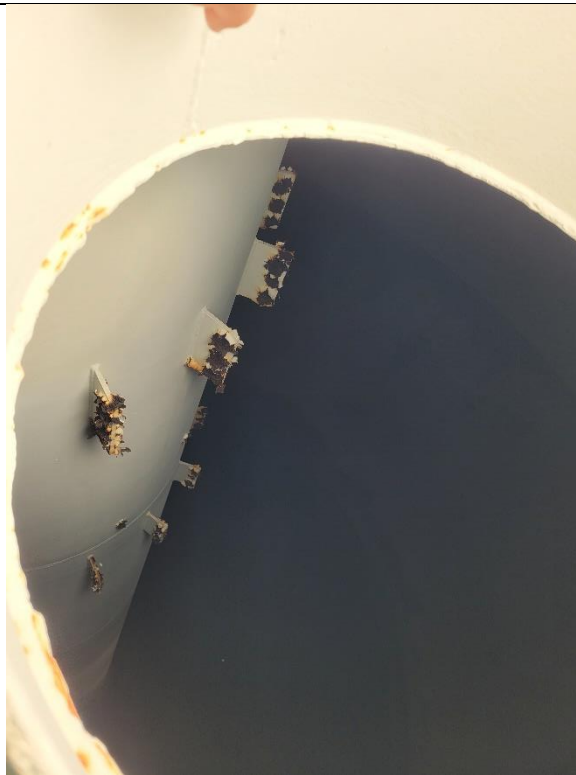


PHOTO #2

DATE: 5/10/2022

Roof support structure.



PHOTO #3

DATE: 5/10/2022

Area of bottom where belly meets the shell.

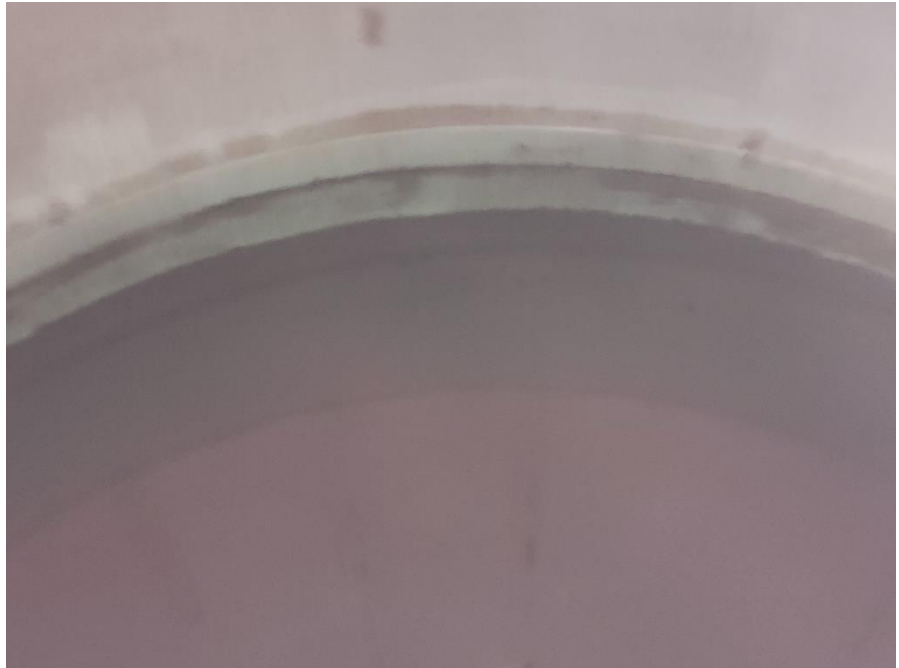


PHOTO #4

DATE: 5/10/2022

Looking down riser, water on bottom of tank.

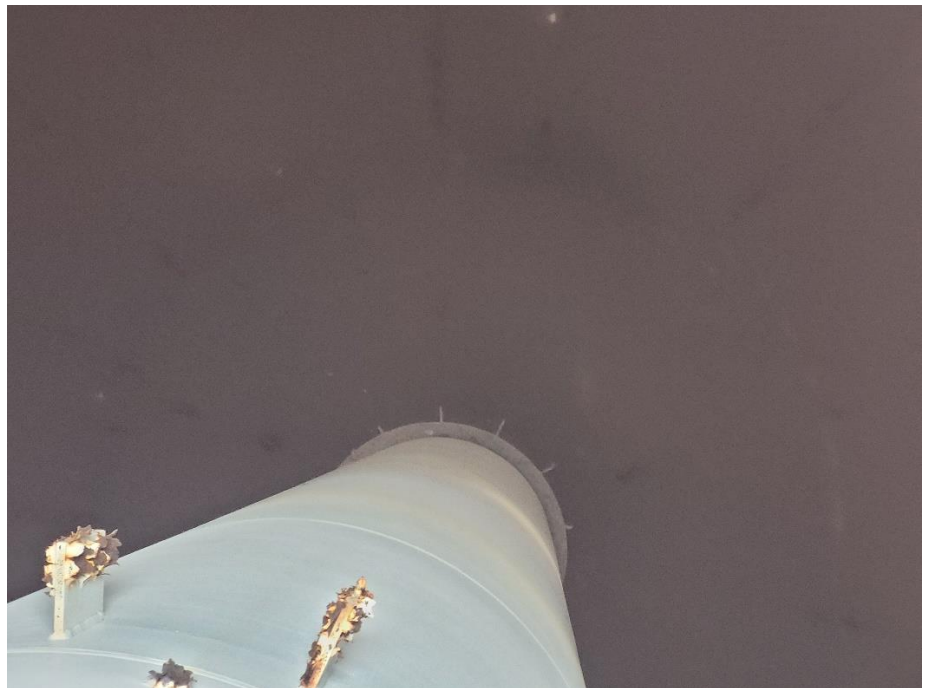


PHOTO #5

DATE: 5/10/2022

Area where the shell meets the belly.



PHOTO #6

DATE: 5/10/2022

Painters rail and area where shell meets the roof.



PHOTO #7

DATE: 5/10/2022

Painters rail with corrosion.

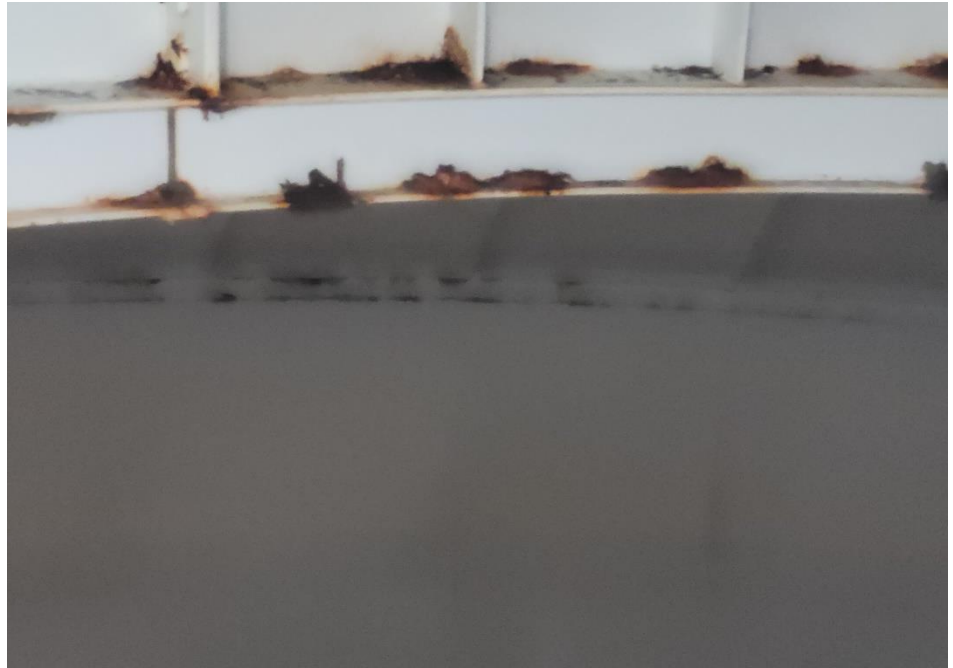


PHOTO #8

DATE: 5/10/2022

Painters rail.



PHOTO #9

DATE: 5/10/2022

Painters rail, where attached to roof structure.



PHOTO #10

DATE: 5/10/2022

Overall view of the bottom of tower.

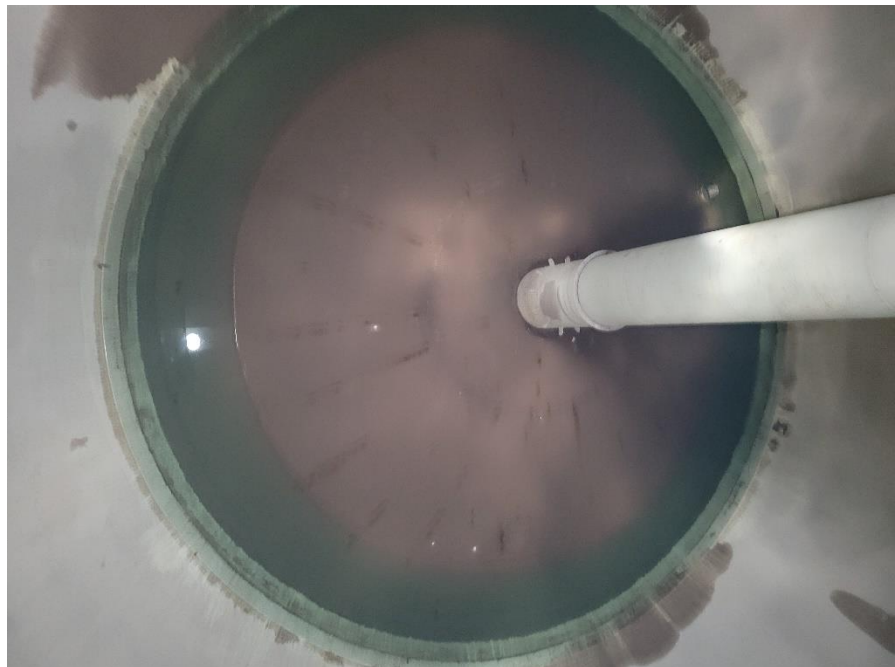


PHOTO #11

DATE: 5/10/2022

Overall view of bottom.

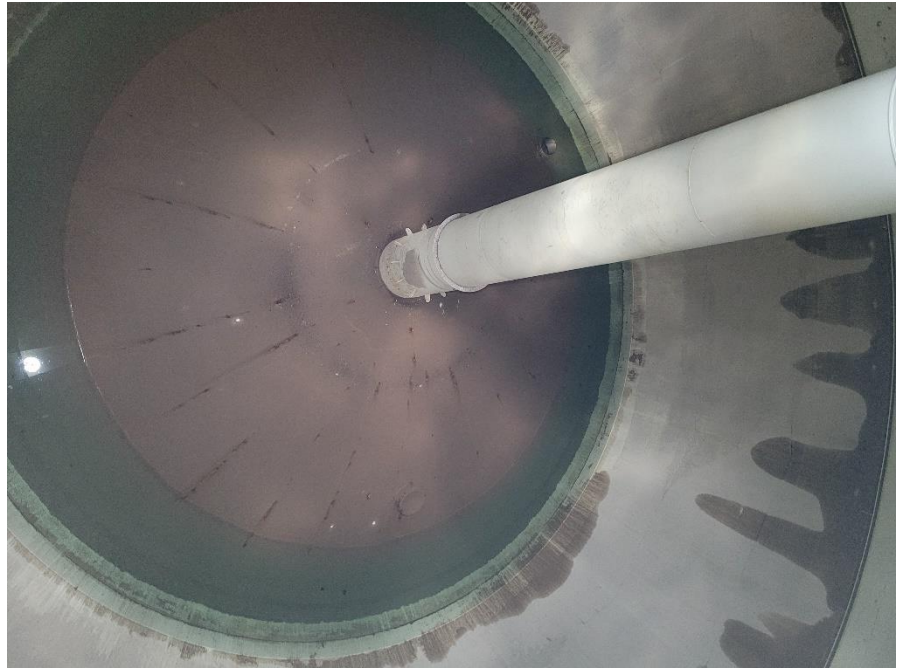


PHOTO #11

DATE: 5/10/2022

Overall view of the bottom.





COST PROPOSAL REQUEST

- OWNER
- ENGINEER
- CONSULTANT
- CONTRACTOR

PROJECT NAME:	Lee's Summit Tower Re-Coat – Woods Chapel and Scherer	REQUEST NO.:	001
PROJECT #:	C17-0717	DATE ISSUED:	June 8, 2022
OWNER:	City of Lee's Summit, Missouri	ENGINEER:	Olsson
TO CONTRACTOR:	Worldwide Industries Corp.	ADDITIONAL INFO HERE:	Spec Section 09900

NOTES: Please submit an itemized cost proposal for changes in the contract costs and schedule, for proposed modifications to the Contract Documents as described below and/or as shown in attachments. Submit cost proposal within 7 calendar days or notify the Engineer in writing of the date on which you anticipate submitting the requested proposal.

THIS IS **NOT** A CHANGE ORDER, A CONSTRUCTION CHANGE DIRECTIVE OR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED IN THE PROPOSED MODIFICATIONS.

Description:

Perform surface preparation and re-coating on the entire interior wet area of the Woods Chapel Water Tower in accordance with the coating schedule below. All work shall comply with specification section 09900 and all other requirements established for the project.

W4	Interior Tank Re-Coat
	Est. Surface Area (Contractor to Verify) – 40,500 SF
	Surface Prep. Near White Blast Cleaning SSPC SP#10
	Prime Coat: Corothane I Galvapac 1K Zinc Primer (B65G) DFT 2.5 to 3.5 mils
	Stripe Coat: Macropoxy 5500LT Epoxy
	Finish Coat: Macropoxy 5500LT Epoxy DFT 10.0 to 12.0 mils

All scaffolding, rigging, humidity or temperature control, cleaning, disinfection, and other ancillary items necessary to complete the surface preparation and re-coating shall be provided by Worldwide Industries and included in the proposal price.

Attachments: *Woods Chapel Interior Inspection Report – 5/10/2022*

REQUESTED BY:


(Signature)

Taylor Jurgens, Project Manager
(Printed Name and Title)

December 9, 2022

Mr. Kevin Waldron
Olsson
1301 Burlington Street, Suite 100
North Kansas City, MO 64116

Office: (816) 361-1177
Cell: (816) 274-2087
E-mail: kwaldron@olsson.com

RE: City of Lee's Summit – Water Tower Re-Coatings: Scherer and Woods Chapel

Dear Mr. Waldron:

Thank you for taking the time to talk with me regarding Worldwide Industries' proposal for the above referenced project. Listed below please find three scenarios that we would like to offer:

OPTION A:

Woods Chapel Tank Interior:

Work would be completed immediately following the completion of the Scherer Road interior work (that is currently happening)
Full Blast of Interior to SSPC SP#10
1st Coat of Corothane Galvapak I @ 2.5-3.5 mils
Stripe Coat of Duraplate UHS @ 3-5 mils
Finish Coat of Duraplate UHS @ 16-20 mils

Total Price - **\$584,410.00**

**** Total price if signed work directive by December 15, 2022 = \$568,410.00**

*** Please note that price would be \$16,000.00 less if I have a signed Work Change Directive by December 15, 2022. Federal regulations are forcing a paint system change starting January 1, 2023, but if I can get the paint ordered by December 31, 2022 I can get the lower price.*

Scherer Road Tank Exterior (Fluorokem Coating):

Work would be completed in the Spring of 2023
Full blast of Exterior to SSPC SP#6
1st Coat of Corothane Galvapak I @ 2.5-3.5 mils

PROTECTION THAT GOES BEYOND THE SURFACE

2nd Coat of Acrolon 218 @ 2-3 mils
Finish Coat of Fluorokem HS @ 2-3 mils
Subtotal Price - \$643,120.00 (With Full Removal of Cell Towers by Cell Company)
Logo (in WCD#3) - (\$2,638.53)
Total Price - **\$640,481.47**

Scherer Road Tank Exterior (Series 646 / Series 218 Coating):

Work would be completed in the Spring of 2023
Full blast of Exterior to SSPC SP#6
Intermediate Coat of Series 646 @ 3.0-4.0 mils
Finish Coat of Series 218 @ 2.5-3.5 mils
Subtotal Price - **\$643,120.00** (With Full Removal of Cell Towers by Cell Company)
Change in Paint System - (\$36,000.00)
Logo (in WCD#3) - (\$2,638.53)
Total Price - **\$604,481.47**

OPTION B:

Woods Chapel Tank Interior:

Work would be completed immediately following the completion of the Scherer Road interior work (that is currently happening)
Full Blast of Interior to SSPC SP#10
1st Coat of Corothane Galvapak I @ 2.5-3.5 mils
Stripe Coat of Duraplate UHS @ 3-5 mils
Finish Coat of Duraplate UHS @ 16-20 mils
Total Price - **\$584,410.00**

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OPTION C:

Scherer Road Tank Exterior (Fluorokem Coating):

Work would be completed in the Fall of 2023
Full blast of Exterior to SSPC SP#6
1st Coat of Corothane Galvapak I @ 2.5-3.5 mils
2nd Coat of Acrolon 218 @ 2-3 mils
Finish Coat of Fluorokem HS @ 2-3 mils

<u>Subtotal Price -</u>	\$643,120.00 (With Full Removal of Cell Towers by Cell Company)
<u>Remobilization -</u>	\$24,000.00
<u>Increase -</u>	\$11,640.00
<u>Logo (in WCD#3) -</u>	(\$2,638.53)
<u>Total Price -</u>	\$676,121.47

Scherer Road Tank Exterior (Series 646 / Series 218 Coating):

Work would be completed in the Fall of 2023

Full blast of Exterior to SSPC SP#6

Intermediate Coat of Series 646 @ 3.0-4.0 mils

Finish Coat of Series 218 @ 2.5-3.5 mils

<u>Subtotal Price -</u>	\$643,120.00 (With Full Removal of Cell Towers by Cell Company)
<u>Remobilization -</u>	\$24,000.00
<u>Increase -</u>	\$11,640.00
<u>Change in Paint System -</u>	(\$36,000.00)
<u>Logo (in WCD#3) -</u>	(\$2,638.53)
<u>Total Price -</u>	\$640,121.47

Please note that any amount that goes over our original contract value of \$888,382.00 (as of right now it looks like there may be approximately \$111,769.00 left in contingencies, etc.), would have to be charged an additional 1% on top of the amount that goes over. That is because our bond is only for \$888,382.00, and would have to be increased.

Thank you for the opportunity to provide you with these pricing options.

If there are any questions or comments, please feel free to contact me at any time.

Sincerely,



John H. Chamberlain
Vice President
Worldwide Industries Corp.