



October 20, 2010

City of Lawrence  
 P. O. Box 708  
 Lawrence, KS 66044

Dear City of Lawrence:

Thank you for allowing us to provide the Inspection on the 500,000 Gallon Elevated Water Tower located in Lawrence, KS, known as the Stratford Tower. We performed the inspection on October 12, 2010. Enclosed is a booklet containing the water tower inspection report and pictures. I have this information on file in case you need additional copies. This information will be helpful in the event of a visit from DNR.

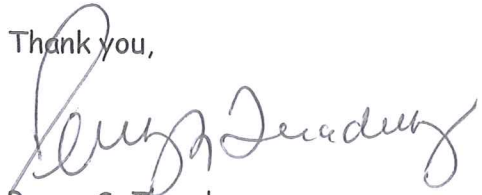
Our recommendations are:

1	Install a 24" manway, with a davit arm, directly across from the undersized manway
2	Power wash & overcoat the exterior of the tank
3	Modify the exterior ladder rungs to meet current OSHA standards
4	Repair the areas of concrete foundation that are in need of repair
5	Install a new frost proof vent as soon as possible
7	Remove the landing in the wet bowl before the hatch
8	Install a new wet bowl ladder with safety climb
9	Sandblast and paint the interior of the tank
10	Remove the cathodic system and weld the gaps on the roof top shut
11	Install a balcony entrance
12	Modify the roof ladder & install a safety climb system on it.

Please contact us if you would like pricing for the repairs listed above.

If we can be of further assistance to you, or to another city, please feel free to call or pass along our number.

Thank you,

A handwritten signature in cursive script, appearing to read "Penny S. Treadway".

Penny S. Treadway

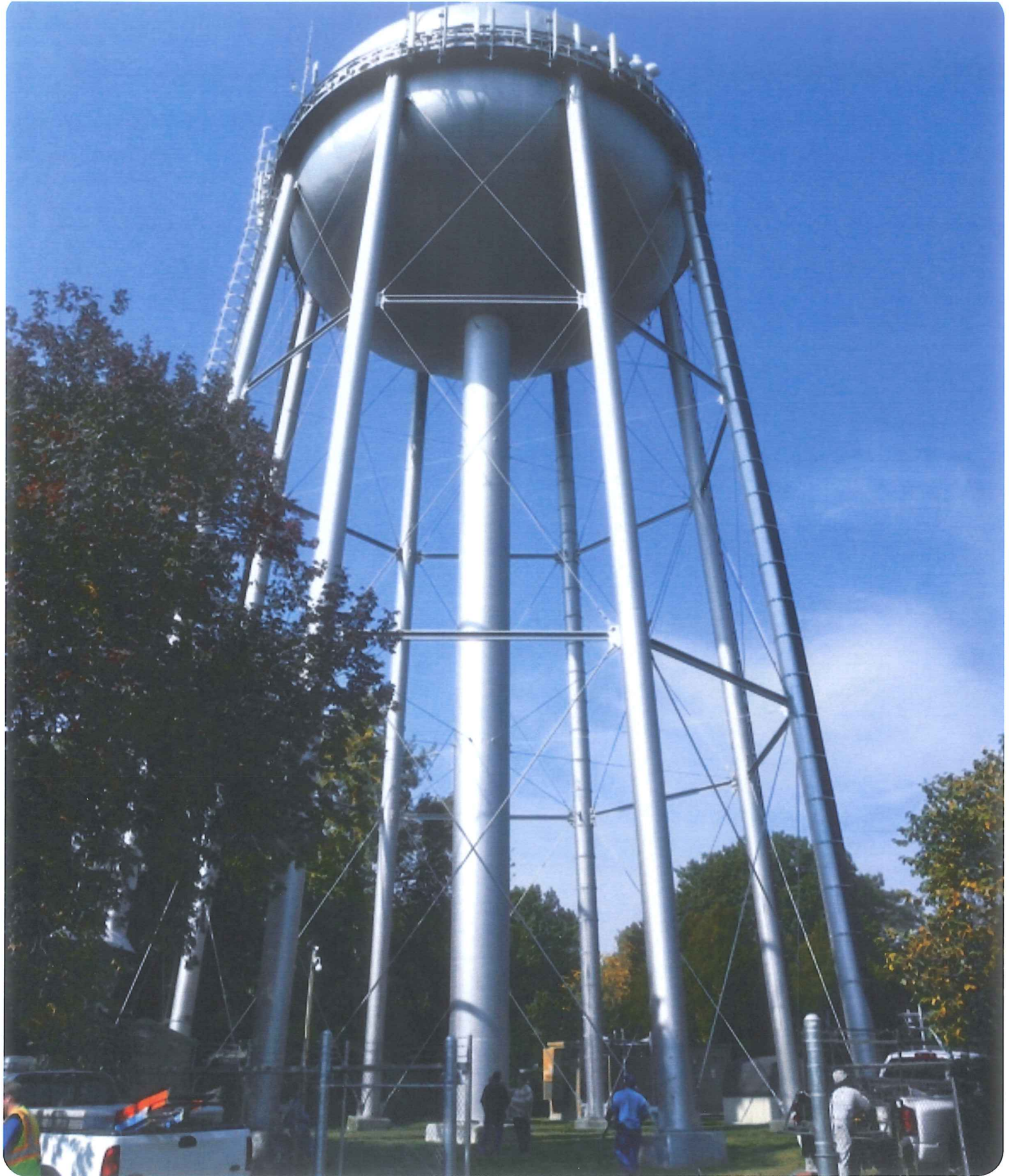
NACE Certified Coating Inspector Level 3 #14470

Office (573) 323-6450 Fax (573) 323-0055

Owners: Darrin & Penny S. Treadway

[www.watertowerpainting.com](http://www.watertowerpainting.com)

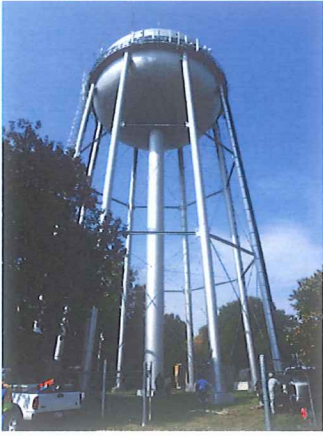
[tankpainters@yahoo.com](mailto:tankpainters@yahoo.com)



Lawrence, Kansas, 500,000 Gallon Elevated Water Tower  
Full Wash Out Inspection October 12, 2010  
by Ozark Applicators, LLC, Van Buren, MO



# City of Lawrence, Kansas, 500,000 Gallon Elevated Tower, Stratford Tank



**Built By:** Darby Corporation, Kansas City, KS  
**Year Built:** 1954  
**Location:** Lawrence, KS  
**Customer Since:** October 2010  
**Inspected:** October 12, 2010, Wash Out Inspection  
**Inspectors:** Gary Towner, NACE Coating Inspector #17370  
 Derek Hampton, NACE Coating Inspector #17358

Items Checked	Observations	Recommendations
Logo	There is no logo on the tank.	
Clean Out	There is not a clean out in the tank.	
Overflow Pipe	There is a 10" overflow pipe that runs down the inside of the tank, into the ground, and empties into a storm drain. The brackets are secure.	
Overflow Pipe Screen	There is not an overflow pipe screen.	
Flap Gate	There is not a flap gate.	
Splash Pad	There is not a splash pad.	
Bottom Riser Manway	There is an 18" X 24" oval manway at the bottom of the tank. The gasket is adequate but the manway is undersized and does not have a davit arm.	Install a 24" manway, with davit arm, directly across from the undersized manway.
Exterior Coating	The exterior coating is in poor condition. The paint is coming off and there is rust on the tank.	Power wash and overcoat the exterior of the tank.

Items Checked	Observations	Recommendations
Exterior Ladder	The exterior ladder terminates 14' from the ground. The ladder has 3/8" x 2-1/2" side-rails, 3/4" round rungs, and 7" toe clearance. The rungs are not skid proof. This ladder does not meet current OSHA standards because the rungs are not skid proof.	Modify the ladder rungs to meet current OSHA standards.
Safety Climb on the Exterior Ladder	There is a ladder cage.	
Ladder Cage	There is a lockable ladder cage on the exterior ladder. It has a gate, that is locked, to prevent unauthorized entrance to the ladder.	
Anchor Bolts	The anchor bolts are tight.	
Foundation	Part of the concrete foundation is in adequate condition and part of it needs some repair. The concrete is exposed.	Repair the areas of concrete foundation that are in need of repair.
Fenced Tank Site	The tank site is fenced and locked.	
Electric	There is electric on site.	
Water	There is water on site.	
Windrods	There are 3 sets of windrods, 2 sets of struts, and 8 sets of belly rods. They are tight.	
Vent	The vent system is in poor condition and needs to be replaced as soon as possible. There are gaps and a big hole in the top of the vent and the screen is corroded with rust. We wrapped screen wire all around the vent, as a temporary fix, but this area needs to be addressed before spring. The vent stack is 46".	Install a new frost proof vent. Inspect the vent annually per DNR recommendations.
Vent Screen	The vent screen was deteriorated. We wrapped screen wire all around the vent, as a temporary fix, but this area needs to be addressed before spring.	Inspect the vent screen annually per DNR recommendations.
Upper Roof Hatch	There is a 24" round roof hatch. It has a 6" raised lip. We installed a gasket on the hatch and the hatch fits tight. The hatch is locked.	Inspect the hatch annually per DNR recommendations.
Aviation Light	There is a double pole aviation light with a photo sensor. It appears to be operable.	

Items Checked	Observations	Recommendations
Interior Wet Bowl Ladder	There is not an interior wet bowl ladder.	Install a new OSHA approved ladder with safety climb.
Landing Below the Hatch in the Wet Bowl	There is a landing inside the wet bowl below the roof hatch. It is rusted and corroded and needs to be removed. This area should not be used as a landing.	Remove the landing.
Interior Coating	The interior coating is Epoxy and is poor condition. The paint is coming off and there is a substantial amount of rust on the interior surface of the tank.	Sandblast and paint the interior of the tank.
Cathodic Protection	There is a cathodic protection system but it is not operable. Parts of the broken system had fallen into the wet bowl so we removed them when we cleaned the tank. There are air gaps around the plates on the roof. We did not caulk the air gaps but they need to be seal welded solid as the gaps allow bugs and debris to enter the water system.	Remove the cathodic system and weld the gaps shut.
Fill Pipe	There is a 12" fill pipe. This is a single pipe system. The fill pipe has a silt plate.	
Discharge Pipe	There is not a discharge pipe.	
Sediment	We removed about 10 gallons of sediment and numerous broken cathodic protection rods when we cleaned out the tank.	Wash out the tank every 3-5 years per DNR recommendations.
Catwalk	The height of the catwalk handrail is 36". This is adequate.	
Balcony Entrance	There is not a balcony entrance.	Install a balcony entrance per current OSHA standards.
Interior Riser Ladder	There is not a riser ladder.	
Riser Grate	There is a riser grate. It is secure.	
Side Shell Manway	There is not a side shell manway.	
Interior Pit Ladder	There is not an interior pit ladder.	



Items Checked	Observations	Recommendations
Exterior Roof Ladder	The exterior roof ladder has not been welded solid. The ladder has 3/8" x 2-1/2" side-rails, 3/4" round rungs, 7" toe clearance, 12" steps, and 16" wide rungs. The rungs are not skid proof. This ladder does not meet current OSHA standards because the rungs are not skid proof and the ladder needs to be welded solid.	Modify the rungs on the ladder and weld the ladder solid to the roof.
Safety Climb on the Exterior Roof Ladder	There is not a safety climb system on the roof ladder.	Install a safety climb system per current OSHA standards.
Coax	The coax does not interfere with climbing the tower.	
Antennas	There are 36 antennas on the tank. Six are on top of the tank and 30 are around the catwalk. The antennas will have to be turned off while work is being done to the exterior of the tank.	Radiation is emitted from the dishes & antennas. They should be turned off during maintenance to the exterior of the tank.



Lawrence, KS, 500,000 Gallon Elevated Water Tower



Catwalk Area, Top of Tank, & Antennas



Exterior Coating Peeling off & Rust Present



Exterior Coating on Top of Tank Peeling off & Rust Present



Bottom Manway



Exterior Coating on Top of Tank/Rust/Cathodic Plates that need to be Welded Shut due to Gaps





Ladder Cage & Lockable Cover on the Cage



Exterior Ladder & Ladder Cage



Anchor Bolts & Foundation



Ladder Cage Locked



Holes in Vent



Holes in Vent





Vent System with Temporary Screen Wrap



Underneath Vent & Vent Screen Corroded with Rust



Upper Roof Hatch



Upper Roof Hatch with Lock



Roof Hatch Gasket

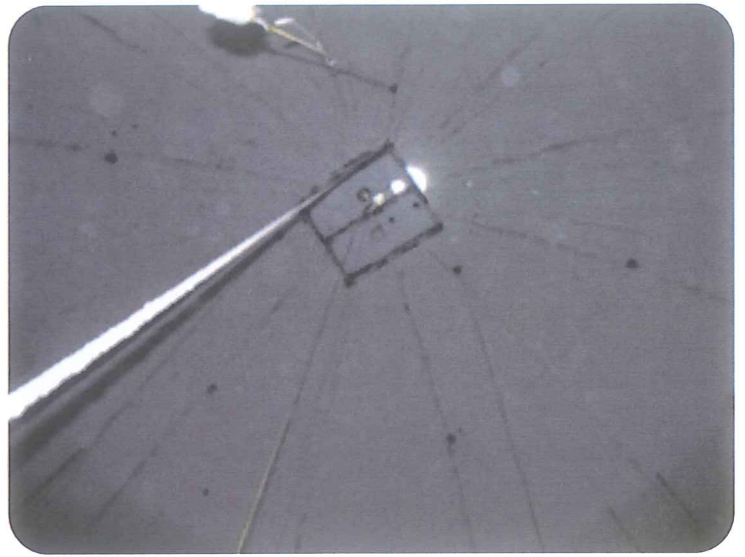


Aviation Light





Bottom of Wet Bowl, Rust on Surface of Tank, & Broken Cathodic Rods that we Cleaned Out



Landing Area in Top of Tank is Rusted & Corroded



Rust Spots on Ceiling of Tank



Rust Spots on Ceiling of Tank



Riser Grate



Rust Spot on the Interior of the Tank





Paint Blistering Off Interior Walls



Overflow Pipe/Sludge in bottom of Tank Prior to Cleaning



Fill Pipe with Silt Plate



Overflow Pipe



Rooftop Surface with Paint Deteriorating & Rust Present

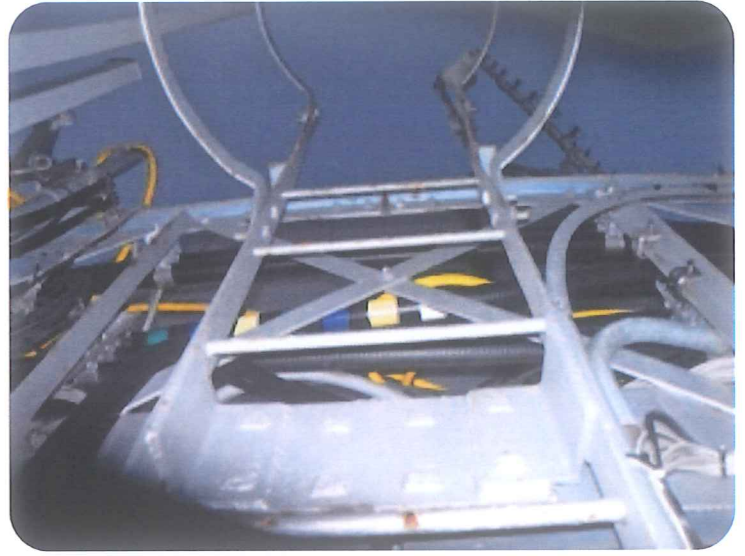


Antennas & Lights





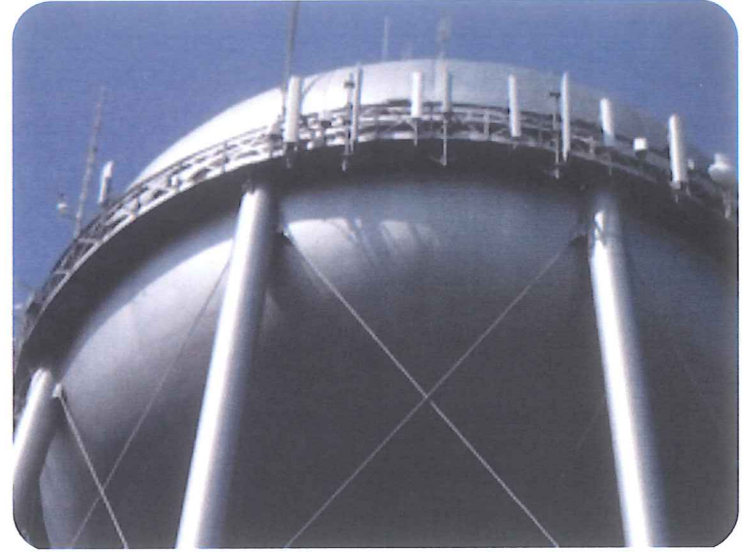
Roof Top & Antenna



Ladder Cage on Top of Tank



Rolling Ladder to Roof Top



Numerous Antennas on Catwalk & Rooftop



Coax Cables on Catwalk



Fenced Tank Site



