



Real People. Real Solutions.

2040 Highway 12 East  
Willmar, MN 56201-5818

Ph: (320) 231-3956  
Fax: (320) 231-9710  
Bolton-Menk.com

## MEMORANDUM

**Date:** May 5, 2017  
**To:** Merton Auger, City Administrator  
City of Buffalo  
**From:** Bradley C. DeWolf, P.E.                      Justin L. Kannas, P.E.  
City Engineer    Assistant City Engineer  
**Subject:** Water Tower Evaluation Reports  
Buffalo, Minnesota  
BMI Project No: W13.112847

---

We have completed an inspection and evaluation on all 5 water towers located within the City. A full report that includes the findings, evaluation summary, recommendations, data sheet and pictures has been prepared for each water tower.

Below is a brief summary from the reports of the existing conditions for each tower:

### **Water Tower 1 (Multi-leg by Middle School):**

- Constructed 1971; Last rehabilitation was an in 2000 (complete interior wet and overcoat on exterior)
- Contains lead paint
- Interior Wet – does not contain lead paint; fair condition with many isolated areas in poor condition with visible corrosion – mainly above the normal operating water level; coating appears to be nearing the end of its life expectancy
- Exterior – contains lead paint; fair condition with isolated areas in poor condition with coating failures; minor coating damage in various locations from telecommunication equipment; coating appears to be nearing the end of its life expectancy

### **Water Tower 2 (By Super America):**

- Constructed 1989; Last rehabilitation was an in 2000 (complete interior wet and exterior rehabilitation)
- Interior Wet – good to fair condition
- Exterior – good to fair condition; few localized spots of minor corrosion; minor coating damage in various locations from telecommunication equipment

### **Water Tower 3 (By High School):**

- Constructed 1995; Last rehabilitation was an in 2012 (complete interior wet and exterior rehabilitation)
- Interior Wet – good condition
- Exterior – good condition; partial coating flaking on stem of tower – to be addressed in 2017 by contractor that completed the rehabilitation in 2012

**Water Tower 4 (By Northwinds Elementary School):**

- Constructed 2000
- Interior Wet –fair condition; minor spot coating failures mainly at the weld seams
- Exterior –fair condition; few localized spots of minor corrosion with visible rust staining leaching through the coating; slight signs of chalking and fading

**Water Tower 5 (Northeast of Lake Pulaski):**

- Constructed 2001
- Interior Wet –fair condition; few spots of coating delamination exposing the steel substrate; minor spot coating failures mainly at the weld seams
- Exterior –fair condition; few localized spots of minor corrosion and delamination; slight signs of chalking and fading
- Gap in the vent screen on the top of the tower should be addressed this summer

Based upon the existing conditions of each water tower, below is a brief summary from the reports of the recommendations for rehabilitations for each tower:

<b>Tower (Year Built)</b>	<b>Last Rehab</b>	<b>Estimated Next Rehab (Approx.)</b>	<b>Type of Rehabilitation</b>	<b>Estimated cost</b>	<b>Recommended Monitoring Schedule</b>
Tower #1 (1971)	2000	2020 or Sooner	Interior Wet Exterior	\$500,000- \$600,000	Monitor coating condition in 2-3 years
Tower #2 (1989)	2000	2021 or Possibly Later	Interior Wet Exterior Int. Dry – Spot	\$500,000	Monitor coating condition every 2-3 years until rehab is needed; Extend out rehab as determined by monitoring
Tower #3 (1995)	2012	2030 or Possibly Later	TBD	TBD	Monitor coating condition every 3-5 years; Minor spot repairs on exterior stem needed in 2017
Tower #4 (2000)	2000	2017 (Overcoat) <u>OR</u> 2021 or Possibly Later (Complete)	Interior Wet Exterior Int. Dry – Spot	\$250,000 (Overcoat) <u>OR</u> \$500,000 (Complete)	Monitor coating condition every 3-5 years after overcoat; <u>OR</u> Monitor coating condition every 3 years until full rehab is needed; Extend out full rehab as determined by monitoring
Tower #5 (2001)	2001	2022	Interior Wet Exterior Int. Dry – Spot	\$500,000	Monitor coating condition every 2-3 years until rehab is needed; Extend out rehab as determined by monitoring

JLK/jk