

Public Works Committee

Tuesday, January 10, 2023

6:00 p.m.

Cravath Conference Room

Municipal Building - 2nd Floor

312 W Whitewater St

Whitewater, WI 53190

AGENDA

1. Call To Order And Roll Call
2. Approval Of Minutes From December 13, 2022

Documents:

[PW MINUTES 12-13-2022.PDF](#)

3. Hearing Of Citizen Comments
No formal Public Works Committee action will be taken during this meeting although issues raised may become a part of a future agenda. Participants are allotted a three minute speaking period. Specific items listed on the agenda may not be discussed at this time; however citizens are invited to speak to those specific issues at the time the Public Works Committee discusses that particular item.
4. New Business
 - 4.a. Discussion And Possible Action Regarding The Final Starin Park Water Tower Structural Analysis Report.

Documents:

[ITEM 4A.PDF](#)
[STARIN PARK WATER TOWER FINAL REPORT.PDF](#)

- 4.b. Discussion And Possible Action Regarding UTV/ATV Use On All City Streets In The City Of Whitewater.

Documents:

[ITEM 4B.PDF](#)
[HIGHWAY COMMITTEE REPORT.PDF](#)

- 4.c. Discussion And Possible Action Regarding Verizon's Inquiry To Lease Ground And Water Tank Space For Telecommunications Equipment.

Documents:

[ITEM 4C.PDF](#)
[LETTER OF INTENT.PDF](#)
[STRAND COMMENTS.PDF](#)
[VERIZON INQUIRY LETTER.PDF](#)

- 4.d. Discussion And Possible Action Regarding Tank Asset Management Program For The New Southwest Water Tower.

Documents:

[ITEM 4D.PDF](#)
[TANK ASSET MANAGEMENT PROGRAM.PDF](#)

- 4.e. Update On Bipartisan Infrastructure Law (BIL) Awarded Streets: Walworth Avenue, Innovation Drive, Howard Road.

Documents:

[ITEM 4E.PDF](#)

- 4.f. Discussion And Possible Action Regarding Strand Task Order For The Design Of A Water Storage Building Adjacent To 308 N. Fremont Street.

Documents:

[ITEM 4F.PDF](#)

5. Future Agenda Items

6. Adjournment

It is possible that members of, and possibly a quorum of members of, other governmental bodies of the municipality may be in attendance at the above-stated meeting to gather information over which they may have decision-making responsibility; no action will be taken by any governmental body at the above-stated meeting other than the governmental body specifically referred to above in this notice. Anyone requiring special arrangements is asked to call the Office of the City Manager / City Clerk at least 72 hours prior to the meeting.



Public Works Committee
Tuesday, December 13, 2022
6:00 p.m.

Cravath Conference Room
Municipal Building - 2nd Floor
312 W Whitewater St
Whitewater, WI 53190

MINUTES

1. Call to order and roll call.

The meeting was called to order by Allen at 6:00 p.m. The meeting was held at the Municipal Building in the Cravath Lakefront Room on the 2nd floor.

Present: Allen, McCormick, Gerber
Others: Marquardt

2. Approval of minutes from October 11, 2022

A motion to approve the minutes from the October 11, 2022, meeting was made by McCormick and seconded by Gerber.

AYES: All via voice vote (3)
NOES: None

3. Hearing of Citizen Comments

There were no citizen comments at that time.

4. New Business

Allen stated in the interest of time and people in attendance, he was moving item b. first.

b. Discussion and Possible Action regarding the installation of a street light at the corner of Harper Street and Janesville Street.

WE Energies received a request from a concerned citizen about placing a light at the intersection of Janesville Street and Harper Street. WE Energies forwarded the request to the City, since it is the City's obligation to request an installation of a street light. The resident, Ruth Stradinger, 587 Harper Street, indicated in her request that it is hard to see the location of the intersection while traveling south on Janesville Street and attempting to turn left onto Harper Street.

Ruth Stradinger, 587 Harper Street, spoke regarding this subject. Ms. Stradinger stated while traveling south on Janesville Street you can't see the intersection at night. She said there are street lights near the intersection but are too far off the road. When coming the other way, it's a little easier to see only because the white line, on the side of the road, which actually turns on to Harper Street. It was stated there is no left turning lane when going south on Janesville and there is actually a double yellow line in that area. The intersection is really hard to see at night and it's worse if there is a car coming the other way. Marquardt stated WE Energies does not have a pole at the intersection of Janesville Street and

Harper Street. The cost to install a new pole, light and extend overhead service would be approximately \$1,650 plus monthly charges of approximately \$13. McCormick asked where the light would be placed. Marquardt stated he did not have that discussion yet with WE-Energies. However, his request for the pole would be on the northeast corner so it would be more visible for people traveling south.

McCormick made a motion to install a street light at the corner of Harper Street and Janesville Street and seconded by Gerber.

AYES: McCormick, Gerber, Allen. NOES: None. ABSENT: None.

c. **Discussion and Possible Action regarding existing street lights along the old alignment of Janesville Street and south of the railroad tracks.**

Marquardt stated in that same correspondence that WE Energies sent regarding the request for a street light at Janesville Street and Harper Street, they noted an observation of some existing street lights. There are three street lights along the old alignment of Janesville Street, which are probably not serving their original intent. The three lights were highlighted in yellow on the presented map. They are clearly not providing light for Janesville Street. WE Energies indicated there would no charge for the removal of these three lights and the cost savings would be \$57.17 per month. Marquardt stated due to the street realignment in the past, the street lights on the west side of the street got further away from Janesville Street. Since they are not providing light for Janesville Street, staff is recommending they be taken out of service.

A motion was made by Allen to remove the three existing street lights along the old alignment of Janesville Street and south of the railroad tracks and seconded by Gerber.

AYES: Gerber, Allen, McCormick. NOES: None. ABSENT: None.

a. **Discussion and Possible Action regarding Draft Starin Park Water Tower Structural Analysis Report.**

Marquardt stated the draft report was received from McEnroe Consulting Engineers (MCE) in early December. The purpose tonight was to review if there was anything missing from the report or if anyone had questions for the consultants for clarification.

In general, the Starin Park Water Tower is in good condition with some elements in fair condition. Primary issues that were identified included:

- Stone cracking and deterioration, primarily at the belt courses at each tier
- Cracked stone at the entry arch
- Deteriorated mortar joints at the exterior and interior
- Corroding steel at the base of the tank

MCE also performed a high-level structural analysis of the masonry and loads at the base of the steel tank. The analysis found that the structure is stable in its current condition and with the water removed from the tank.

Marquardt did receive a cost estimate from MCE. MCE reached out to a firm, in Brookfield, called Structurewerks, that does restoration on masonry structures. They came back with an estimate of \$950,000 to \$1,100,000. Those numbers were based on the report. He doesn't believe they actually came out and looked at the structure. Marquardt stated he was also going to ask for a cost of demolition in the report for comparison.

McCormick stated the consultants prioritized the report into high, medium and low. She would like a breakdown. She stated this project would have to be done in phases. She asked for the high priority cost first, more like a budget breakdown as to what it would cost the City.

Gerber asked if this quote covered everything. Marquardt stated he thought so based on what was identified in the report, but could have that clarified.

Allen commented that he was hoping to see a picture of LIDAR. Marquardt said MCE did receive data, from their sub consultant, but not all of it. Apparently, they were having an issue with incorporating it in with the exterior. They are in the process of getting a new scanner and plan on rescanning the inside based on an email that was received from MCE. Marquardt stated that was another follow up question he has for MCE. He stated he has a meeting with MCE on Thursday, December 15, to go over the report.

Gerber asked if the tower was drained, referencing pg. 29, her concern is about staff entering the tower and using the ladders. She asked if there would be a reason for staff to climb the ladders. Marquardt stated they wouldn't need to use the ladders because the draining will take place from the outside of the structure. Valves at the bottom of the structure would be used to drain it.

McCormick asked if this will go into our City system. Marquardt stated it will be drained into the stormwater drain.

Gerber stated it sounded like the tower was structurally sound. She commented McCormick was right that repairs would have to be in phases, if Council agrees. She asked when the first phase would be done. Is the City looking at one year, two years, three years? Gerber said if we have five years, we could put it in the CIP and spread it out over time. Marquardt stated he could ask that question.

A member of the audience asked Marquardt what the process is moving forward? Marquardt stated this report is to get comments to make sure the report is sufficient. MCE will then make the necessary changes and the report is due by December 31, 2022 or the first part of January 2023. His intention would be to bring the final report back to the Public Works Committee on January 10, 2023. There is no Council meeting on January 3, 2023. It would then be brought to the next Council meeting, on January 17, 2022, for discussion. He stated he doesn't know if there will be any direction from Council that night or not. It just may be that they accept the report and use it to move forward for budgetary purposes. He really doesn't know what they will say.

Gerber said she doesn't think this item will be able to be addressed until after five years based on the integration of the Fire Department/EMS into the City. She asked can we start the project after five year, after 10 years? She also said there are many other items on the CIP list.

A member of the audience asked whose responsibility would it be to strategize in terms of priority of how this would be handled with the budget? Allen stated the City Council is responsible for the budget. Marquardt stated each department is responsible for submitting their own CIP projects and ranking them. Therefore, it would be Marquardt's responsibility to submit a CIP for this item and then it would be ranked by the Council. Marquardt stated he would be happy to present this report at the next Landmarks meeting, which will be in January.

Allen stated at some point the City Council is going to have to debate the pros and cons on this project. Marquardt stated this could be a discussion during the budget process when prioritizing CIP projects.

d. Discussion and Possible Action regarding Strand Task Order 22-14, Well 7 Modifications.

With the new Southwest Water Tower online and functional, there is no need to keep the over 100-year-old ground reservoir in service. The ground reservoir has a storage capacity of 860,000 gallons. However, the booster pumps do not work efficiently at levels below half. Consequently, the actual usage

storage of the ground reservoir is 430,000 gallons. Additionally, the last inspection report referenced the roof being comprised of wood. Wood is no longer allowed per Wisconsin Code. Any modifications to the roof would require a whole new installation of a concrete, aluminum or fiberglass dome type structure.

The configuration of the water system has Well #7, located north of Treyton's Field, pumping to a filter tank inside the main water building at the corner of Fremont Street and Starin Road. Water is then pumped into the ground reservoir until needed. When the system calls for water, booster pumps kick-on to pump water out of the ground reservoir and into the distribution system.

This Task Order will look at what is needed for pump modifications, electrical requirements and piping upgrades to have Well #7 pump directly into the system. The Task Order will also explore other potential alternatives that may make more sense for future planning. A final report will be generated based on the alternative selected and used for the basis of preparing design plans for bidding. This work will be scheduled for 2023. However, depending on which alternative they go forth with, the work probably wouldn't be done until 2024 to get it into the Water Department CIP budget.

Cost of Task Order 22-14 is on an hourly rate basis plus expenses at an estimated fee not to exceed \$30,000. Proceeds to pay for this study will come from account 610-61923-210, Professional Services.

Staff's recommendation is for the Public Works Committee to recommend approval of Task Order 22-14, Well #7 Modification, to the full Council in order to determine the best approach in removing the ground reservoir from service.

McCormick made a motion to approve Strand Task Order 22-14, Well 7 modifications not to exceed \$30,000 (including the cost estimates for the different scenarios) and seconded by Gerber.

AYES: Allen, McCormick, Gerber. NOES: None. ABSENT: None.

e. **Discussion regarding project updates – E. Main Street, Water Tower.**

Marquardt commented on the water tower. The last piece of equipment, which is the mini power zone, was finally delivered and installed the last week of November. The piece had been delayed over two months, which required the City to get an amendment from the Department of Administration for the grant funding. All construction was supposed to be done by October 31, 2022. The Department of Administration did approve our request for moving the final completion to December 31, 2022 with submittal of all required documentation by January 31, 2022. The contractors are in the final staging of wrapping up all of the paperwork.

Allen asked if the entry to the bridge to nowhere could be improved. There is currently cement blocks and a gate in the entrance way. Could that be improved upon? Marquardt stated he will look into it.

4. Future Agenda Items

None.

5. Adjournment

McCormick moved to adjourn the Public Works Committee meeting at 6:41 p.m. and seconded by Allen.

AYES: All via voice vote (3)

NOES: None

Respectfully submitted,

Alison Stoll, Administrative Assistant

DRAFT



Public Works Agenda Item

Meeting Date: January 10, 2023

Agenda Item: 4a. Starin Park Water Tower

Staff Contact (name, email, phone): Brad Marquardt, bmarquardt@whitewater-wi.gov, 262-473-0139

BACKGROUND

(Enter the who, what when, where, why)

McEnroe Consulting Engineers (MCE) received comments provided by the Public Works Committee and staff and updated their draft Structural Analysis Report. The Final Report outlines a possible phased approach to the suggested maintenance, a cost for demolition, and expected life extension with additional maintenance. As mentioned at the December 2022 meeting, the Water Tower is generally in good to fair condition and is structurally stable.

PREVIOUS ACTIONS – COMMITTEE RECOMMENDATIONS

(Dates, committees, action taken)

In July 2022, the Landmarks Commission asked Council to contract a structural engineering firm to determine the structural condition of the masonry tower. In August 2022, the Council authorized staff to obtain proposals from structural engineering firms and bring back for final approval. In October 2022, the Public Works Committee and Council approved awarding a contract to MCE. The Public Works Committee met in December 2022 to discuss and provide comments on the draft report.

FINANCIAL IMPACT

(If none, state N/A)

The overall maintenance cost, in 2023 dollars, is estimated between \$950,000 and \$1,100,000. A phased approach is estimated to cost \$1,330,000 or an additional 30%, but could be higher if more deterioration has taken place. Also, to be noted is the continuation of ongoing maintenance, mainly with repointing of mortar joints. An estimated cost to repoint 5% of the joints is \$110,000. An estimate of \$610,000 was included in the Final Report for demolition. This estimate is important in that the PSC has indicated that Water Utility rate payer funds can only be used for maintenance up to the estimated cost of demolition. The remaining costs must be covered using different funding sources.

STAFF RECOMMENDATION

As the Report indicates, if it is the desire to maintain the Water Tower, it will be important to address the high priority issues in the next few years, as the longer the work is postponed, the more extensive, and therefore expensive, it will be. Thus, this is a report to be used by Council to help them decide the course of action for the Starin Park Water Tower. Staff's recommendation is for the Public Works Committee to accept the Final Starin Park Water Tower Structural Analysis Report and forward to the full Council. Staff will use the Final Report as a budgeting tool to submit CIP requests for upcoming budgets per Council direction.

ATTACHMENT(S) INCLUDED

(If none, state N/A)

- | |
|---|
| 1. Starin Park Water Tower Final Report |
|---|



Starin Park Water Tower Structural Analysis Report

Project Address: 504 W. Starin Road
Whitewater, WI 53190

Prepared for: City of Whitewater
Department of Public Works
312 W. Whitewater Street
Whitewater, WI 53190

Prepared by: McEnroe Consulting Engineers, LLC
Eileen McEnroe Hanks, P.E.

Date: January 5, 2023



Table of Contents

Executive Summary	1
Introduction.....	2
Assessment Techniques.....	2
Building Background	2
Conditions Observed	9
Condition #1: Deteriorated and Missing Stones at Belt Course.....	10
Condition #2: Deteriorated and Spalled Stone away from Belt Course	14
Condition #3: Cracked Stone	17
Condition #4: Deteriorated Mortar Joints	19
Condition #5: Crack in Wall	23
Condition #6: Concrete/Mortar Wash Missing and Cracked.....	24
Condition #7: Corroded Steel	25
Condition #8: Rotting Wood.....	30
Structural Analysis	31
Recommendation.....	32
Opinion of Probable Construction Cost	32
Phasing Discussion	32
Recommendations for next steps.....	35
Limitations	35
 Appendix A: Plan and Elevation Drawings	
Appendix B: Budgetary Estimate of Construction Cost	

Executive Summary

This analysis of the Starin Park Water Tower included a visual assessment of the exterior from the ground and the interior from a ladder. The exterior of the structure was documented with a camera on a UAV to create a photogrammetry model. The interior was scanned using LIDAR technology and that information has been integrated into the photogrammetry model as well.

The structure is an approximately 100 foot tall water tower with a 70 foot tall masonry base and a 30 foot tall steel tank. The tank has been decommissioned and water removed as of late 2022. The purpose of this study was to determine the current condition of the structure and provide opinions on the future of this structure, including whether it should be demolished or repaired.

The structure is in good condition with some elements in fair condition. The structure is safe in its current condition. The only concern at this time is the potential for stone falling and the fence around the perimeter is effective at keeping the public away from the building.

The masonry and steel structure is in need of maintenance and repair work to keep it in good condition for the long term. The work that is needed is typical for a structure of this age and type of construction. We see no reason to consider demolition at this time.

The primary issues that were identified in this study include the following items. The report provides more specific information about each issue and potential approaches to address them.

- Stone cracking and deterioration, primarily at the belt courses at each tier
- Cracked stone at the entry arch
- Deteriorated mortar joints at the exterior and interior
- Corroding steel at the base of the tank
- Other minor miscellaneous items that are covered in the report

We performed a high level structural analysis of the masonry and the loads at the base of the steel tank, taking into consideration that the water is being removed. This analysis found that the structure is stable in its current condition and with the water removed from the tank. Note that the connections between the tank and the masonry are not visible from below, so they were not analyzed. The repairs that are recommended will keep the structure in stable condition.

The rough order of magnitude construction costs to implement the repairs recommended are anticipated to be in the range of \$950,000 to \$1,100,000.

If funding is not available to perform the work all at once, a phased approach could be taken. We recommend considering the following phasing, although there may be good reasons to approach the work in a different way:

- Phase 1: Repair the steel buried in masonry at the top of the tower, while addressing the masonry at the top of the tower as well. Continue work down the exterior of the tower as funding allows. If we use a budget limit of \$600,000 (which is the approximate estimated cost to demolish the tower), the top two levels of the tower would be repaired. Estimated cost: \$590,000
- Phase 2: Repair the remainder of the exterior. Estimated cost: \$420,000
- Phase 3: Repair interior of the tower. Estimated cost: \$320,000

These costs are in 2023 dollars. The body of this report discusses potential increases based on inflation.

Introduction

The report presents the findings of a structural assessment and study of the Starin Park Water Tower in Whitewater Wisconsin. The study explores the current structural condition of the tower to identify potential concerns with the structure and recommends courses of action to guide the future of the structure.

Assessment Techniques

This project consists of a visual structural assessment of the existing conditions performed from the ground with binoculars, and from the interior access ladder and platform. We did not access the exterior platform and ladder or the steel tank during this assessment. To complement the in-person visual review, an unmanned aerial vehicle (UAV) equipped with a camera was used to photograph and document the exterior of the structure. A photogrammetry model was produced and is available for the City of Whitewater's use. This allowed us to perform a visual review of the elements of the masonry that were not accessible from the ground and to get a bird's-eye view of the structure. The interior of the tower was scanned using LIDAR technology. At the time of this report, the scan was partially complete. The information from the LIDAR scan will be included in the photogrammetry model as well.

Building Background

The structure is approximately 100 feet tall with a masonry base and steel tank (Photo 1). It was constructed in 1889 and has been a functioning water tank since that time. It was decommissioned in late 2022 and the water was removed from the tank as of December 14, 2022. The structure is comprised of a 70 foot tall masonry structure with a 30 foot tall, 185,000 gallon, cylindrical steel tank at the top.

The masonry structure has an octagonal footprint. The exterior has five tiers with a stone belt course and a step inward at each level. The structure is approximately 35 feet wide at the ground and 26.5 feet wide at the top level. The interior of the tower is a round shape with a diameter of roughly 18.5 feet at the base. There are 2 steps in the wall thickness on the interior that align with the lowest two steps on the exterior. The diameter at the top of the tower is roughly 20.5 feet. The wall thickness is approximately 7.5 to 9 feet at the base and 3 to 4 feet at the top. Appendix A includes some basic plan and elevation drawings of the structure. Please note that these are all rough dimensions due to the uneven surface of the wall and the limited access for measuring. Some dimensions have been determined based on direct field measurements and others have been taken from the photogrammetry model.

The steel tank is cylindrical with a cone-shaped roof. It appears to be comprised of steel plates attached to an interior frame. This assessment did not include accessing the interior of the tank, so this construction was not verified. Please note that while the term "steel" is used throughout this report, given the age of the construction, it may be iron. Depending on the repairs that are designed, this may be an important distinction. The composition of the material should be verified prior to doing repairs.

The steel tank is placed on a series of I beams spanning over the water tower and bearing on the masonry walls (Photo 2). There are two large plate girders that support the small beams (Photo 3). There is also a floor system below the plate girders that is comprised of steel beams and wood planks (Photos 4 and 5).

The structure is accessed by a ladder and cage on the interior wall that extends to the floor below the plate girders (Photo 6). There is a door through the masonry at that level that leads to a platform cantilevered off the masonry (Photo 7). A second steel ladder and cage run up the masonry and steel tank from the platform to the roof (Photos 8 and 9).

The masonry around the entry has been modified to add two concrete masonry unit (CMU) walls and a stone veneer (Photo 10 and 11).



Photo 1: Starin Park Water Tower



Photo 2: Steel beams below tank



Photo 3: Steel plate girder supports



Photo 4: Floor below tank at top of masonry tower



Photo 5: Floor and tank supports as viewed from below



Photo 6: Ladder inside masonry tower



Photo 7: Doorway to exterior platform and ladder

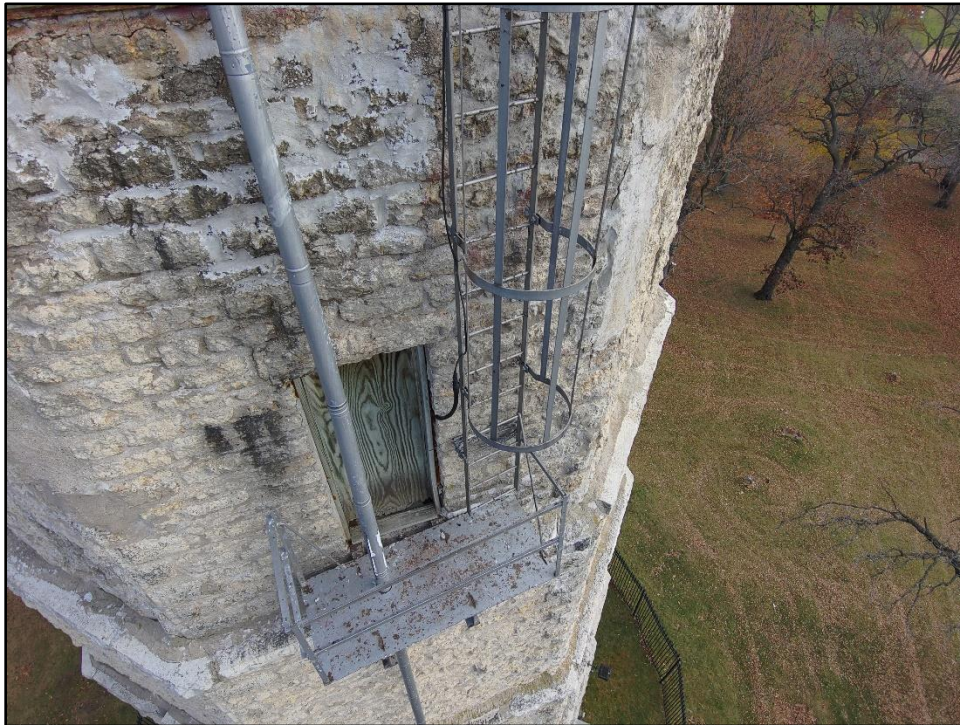


Photo 8: Exterior platform and ladder to tank



Photo 9: Exterior ladder to tank



Photo 10: Modified entry door/wall

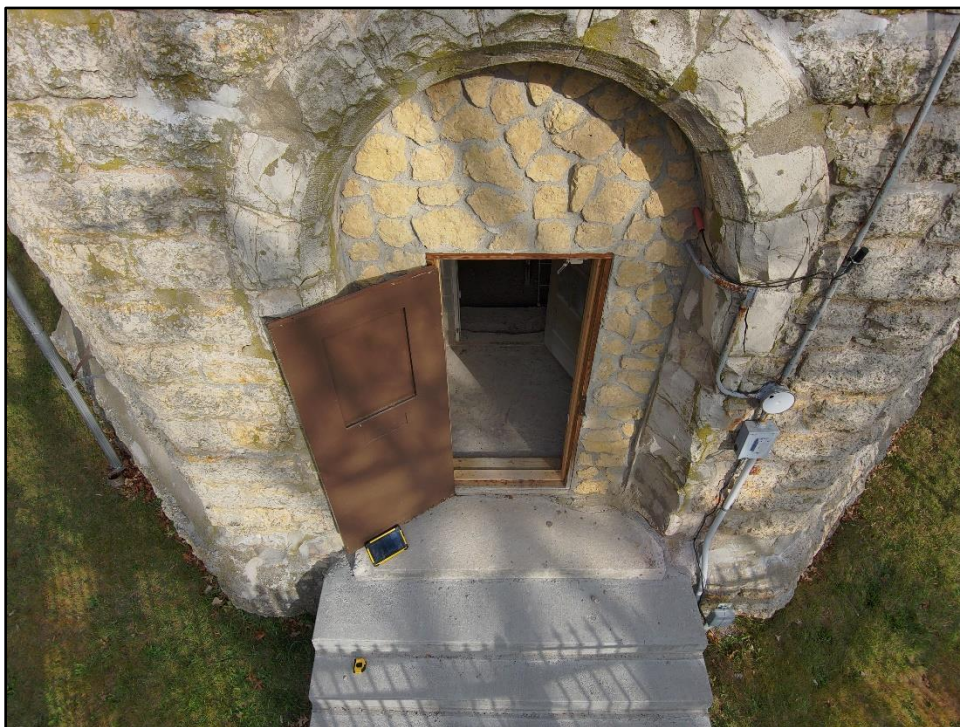


Photo 11: Modified entry door/wall

Conditions Observed

The photos included in this report are representative of conditions found during this assessment. This report does not include a photo of every location of the conditions found.

Each condition includes a description of the issue, a conceptual approach for repair, and a priority level. The priority levels include high, medium, low and monitor. All of these conditions are important to address. However, with the understanding that typically restoration projects occur over the course of years, this information is included to assist in identifying which items to address first.

- High priority repairs will help to stop ongoing deterioration and stabilize the structure in its current condition.
- Medium priority repairs will restore the structure to a good condition. These repairs are important to keeping the structure long-term but are not the most critical at this time compared to the high priority items.
- Low priority repairs will also restore the structure to a good condition but are less likely to have an impact on other elements or systems.
- Monitor indicates that a condition is not currently a concern, but it has the possibility of worsening over time. These conditions do not require a repair at this time but should be monitored in the future in case they worsen.

Please note that this report is based on conditions of structural elements that were readily observable at the time of assessment and that no testing or invasive investigations were performed. All recommendations provided in this report are conceptual in nature and are not intended to be details or specifications for construction.

Condition #1: *Deteriorated and Missing Stones at Belt Course*

Description: Many of the stones at each belt course are in poor condition. There are stones that have fallen out or have been removed (Photo 12). Many stones that remain in place are cracked, spalled or delaminated (Photo 13 to 15).

These horizontal projections are natural places for water to enter the wall. This condition is likely due to decades of water and ice buildup along the ledges. There are mortar washes that have been installed to help shed water, but the deterioration has continued.

This condition is particularly bad at the top of the wall (Photos 16 and 17). There is more exposed masonry here that can take on water. Also, the embedded steel tank supports are corroding and likely causing additional damage to the masonry. See Condition #7 for more discussion of the steel corrosion.

Repair: Replace stones that are missing as well as any that are severely deteriorated and have lots of cracking. For any stones that have minor cracking but are otherwise in generally good condition, consider pinning across the crack, or adhering the stone pieces with epoxy.

Consider adding a coping or flashing at the horizontal surfaces, particularly at the top of the wall. Keeping water out of the wall in the future will be critical to maintaining this structure. This approach comes with downsides as well though as creating a system that would be effective and also not change the appearance of the structure would be challenging. This is an architectural issue to consider during the design of repairs.

Priority Level: High



Photo 12: Missing stone



Photo 13: Horizontal cracks in stone

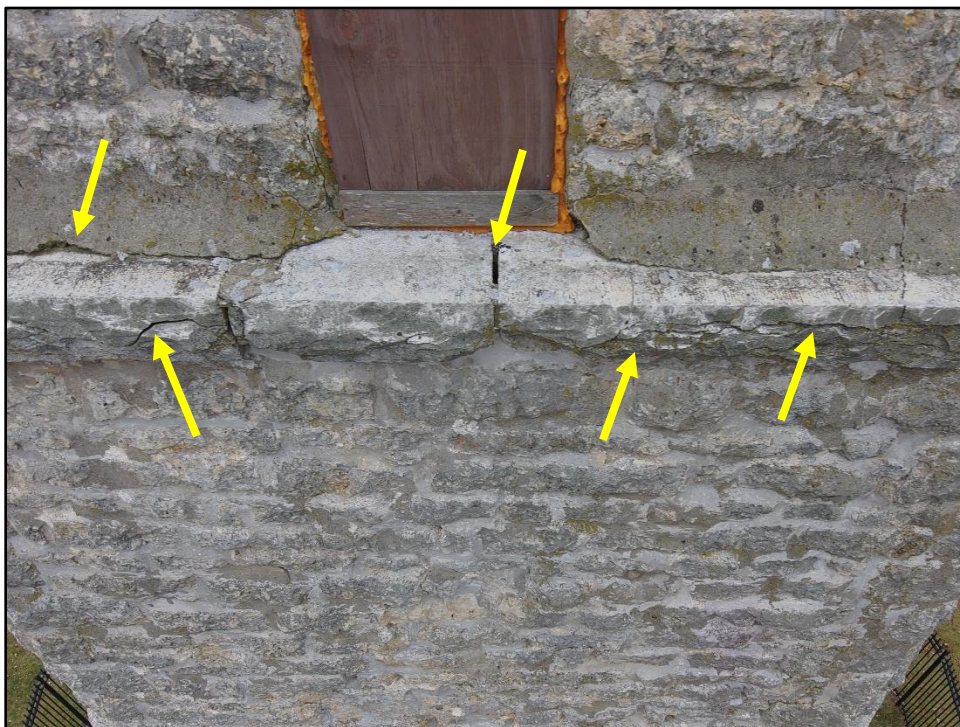


Photo 14: Cracked stones, missing mortar, deteriorating mortar wash

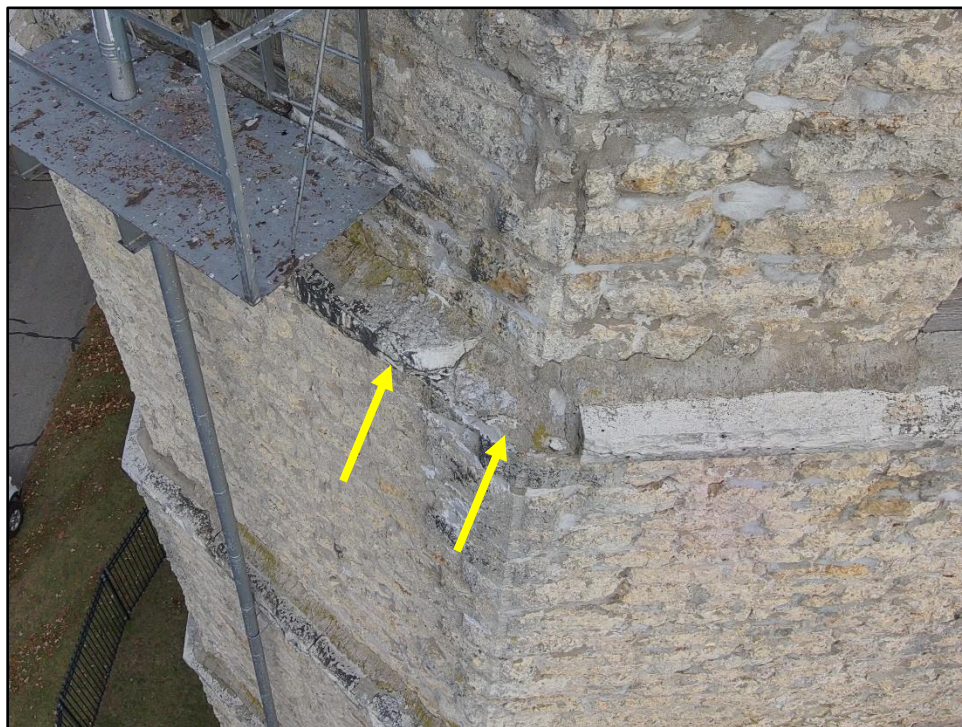


Photo 15: Missing stone, cracked stone, deteriorating mortar wash

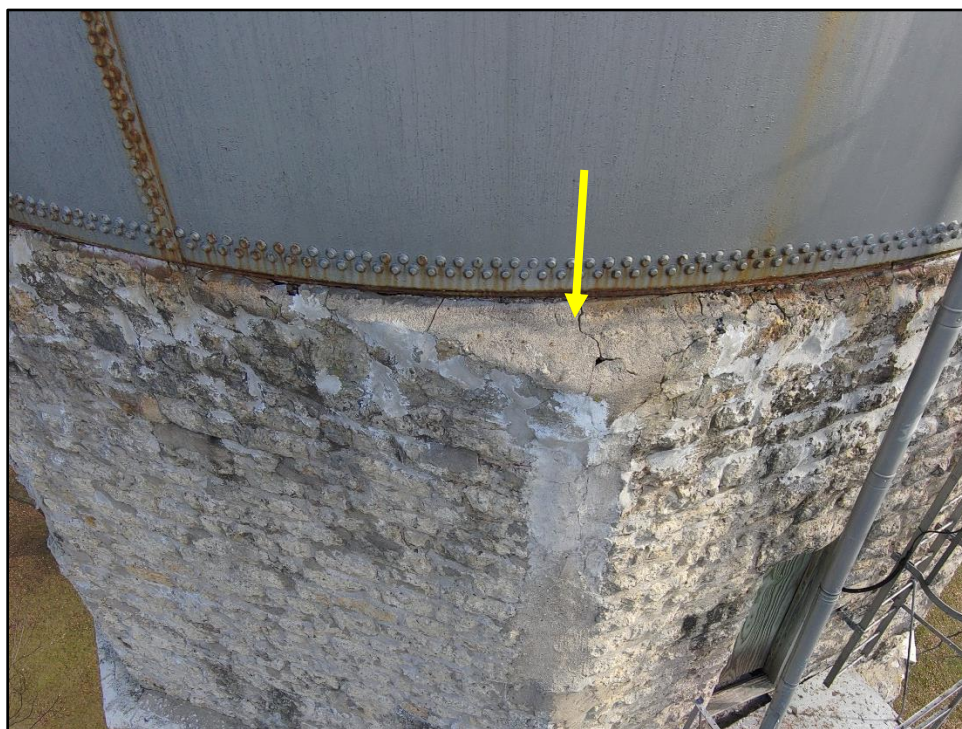


Photo 16: Deteriorating mortar wash at top of wall

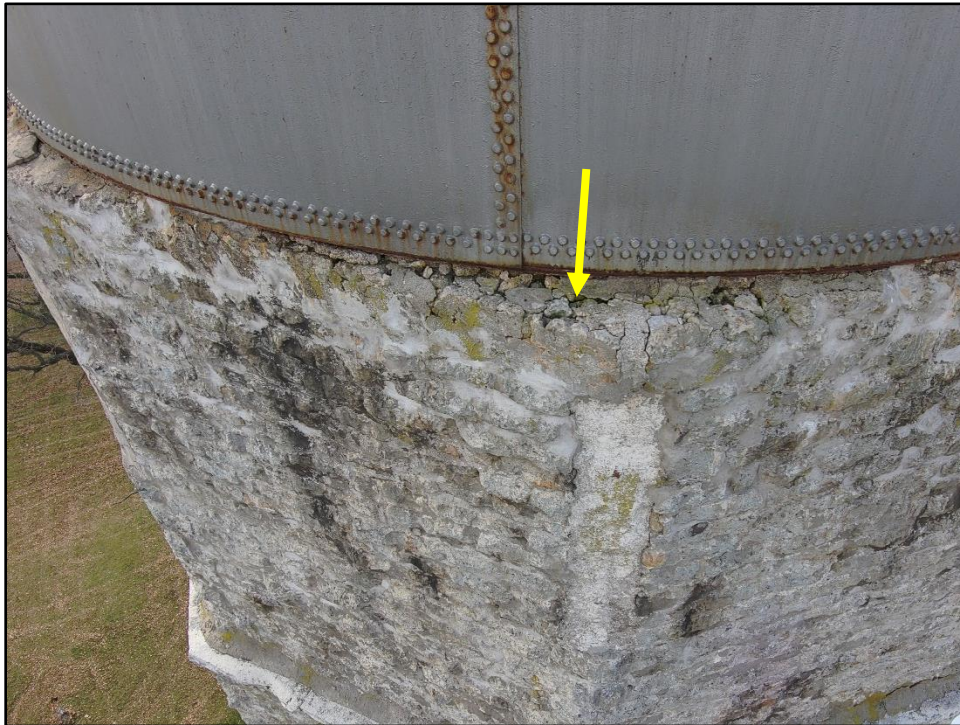


Photo 17: Deteriorating masonry at top of wall

Condition #2: *Deteriorated and Spalled Stone away from Belt Course*

Description: There are some isolated locations where stone has spalled and broken away from the structure (Photo 18). The sides of the wall openings have some spalling (Photo 19). Only one location was easily visible during this assessment, but we would expect to find conditions like this at other openings as well. One area at the top tier has a larger area that has spalled away (Photo 20). There is also some deterioration of stone near the base of the wall (Photo 21).

Repair: Areas with isolated spalled stones do not need to be repaired at this time. If a full restoration of the building is undertaken, it may be decided whether or not these locations should be addressed.

The sides of the wall openings could be address on a case by case basis when access is available to those areas. The one area visible during this investigation did not appear to be in dire condition and can wait until a repair plan is executed

Deterioration at the base of the wall can be address during a full repair as well. It is not so significant as to require repairs at this time. This is an easily monitored condition due to the location on the building.

The large spall area shown in Photo 20 should be investigated up close in more detail. There is a possibility that the stones around this area are unstable and would require remediation. If the stone is loose at all, it could be pinned into place. Alternately, the missing/spalled stones could be replaced/repared which would stabilize this area of the wall.

Priority Level: High – Pinning area around large spall

Medium to Low – All other conditions



Photo 18: Isolated locations of stone spalls



Photo 19: Spalled stone on “door” walls

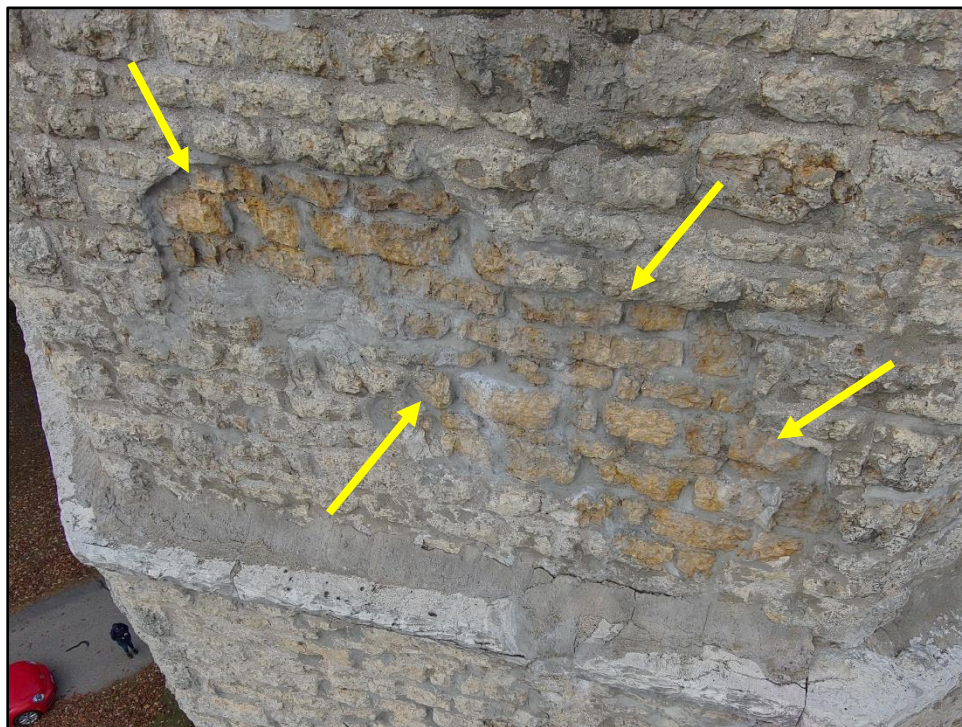


Photo 20: Area of spalled stone – top tier, southeast elevation



Photo 21: Stone deterioration at base of wall

Condition #3: Cracked Stone

Description: Stones in some locations have significant cracking. This is particularly prevalent in the arched stones at the entryway (Photos 22 and 23). Also see Condition #1 for cracking in stones at the belt courses.

Repair: For a long-term repair, these stones should be replaced. The cracking is too extensive for an in-place repair to be effective.

Priority Level: High



Photo 22: Cracked stone in entryway arch



Photo 23: Cracked stone in entryway arch

Condition #4: *Deteriorated Mortar Joints*

Description: The mortar joints are in various stages of deterioration.

The exterior wall joints have had a lot of spot repointing in the past (Photos 24 to 27), which is to be expected for most structures. It does appear that some of the previous mortar may be harder than appropriate, which may be the cause of some of the isolated stone spalling and cracking.

The interior wall joints are very loose and mortar is falling out of the joints and collecting on the floor (Photo 28).

Keeping mortar joints in good condition is key to the longevity of this structure. Given the age of the structure, we would anticipate that the original lime mortar used would be deteriorating and reverting to a sandy material. This is not necessarily an issue near the center of the wall as long as it is kept in place by the mortar on the wall faces.

Repair: Repoint loose mortar joints. The joints on the exterior should have a higher priority than those on the interior. Repointing can be performed in sections throughout the building over time, or when access is available. For the purpose of planning, it would be appropriate to assume that 5% to 10% of the building will need to be repointed. While most of the building is in good condition at this time, the joints will continue to deteriorate while planning progresses and if repairs are staged over time.

The mortar should be matched to the original mortar. Prior to performing any repair work on this building, the mortar should be analyzed to determine the composition of the appropriate repair mortar.

Priority Level: Medium



Photo 24: Different types of mortar



Photo 25: Different mortar at entry arch



Photo 26: Repointed joints at mid-height of tower



Photo 27: Repointing mortar at top of tower



Photo 28: Deteriorated joints on interior – dust on floor is deteriorated mortar

Condition #5: Crack in Wall

- Description:** A crack was noted on the interior of the structure above an opening on the north wall (Photo 29).
- Repair:** Repoint cracked mortar joints and epoxy or pin across cracks in the stone.
- Priority Level:** Monitor until interior repointing is performed, or unless additional movement occurs.

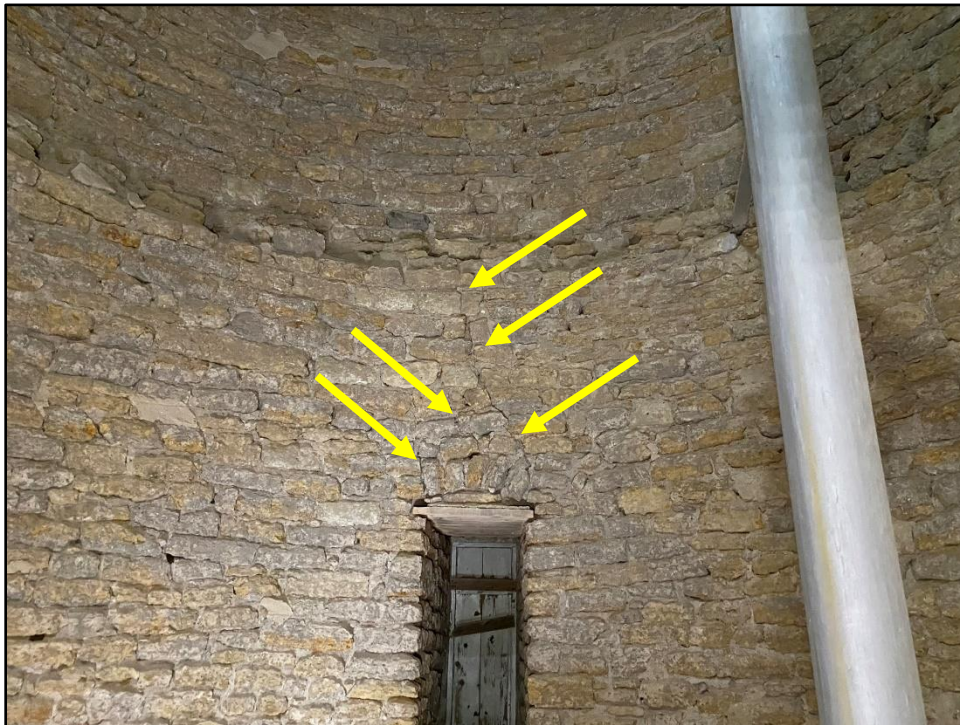


Photo 29: Crack on interior of tower

Condition #6: Concrete/Mortar Wash Missing and Cracked

Description: There has been a concrete or mortar wash placed at the base of the wall. It has fallen off in many locations and is cracked in other locations (Photo 30). The use of concrete or a hard mortar is not appropriate for this building.

Repair: When belt courses discussed in Condition #1 are being addressed, repair this as well. There may need to be stones replaced where they are cracked or spalled. Mortar joints should be replaced. If there is still a need for water deflection at this location, consider installing a mortar wash with a material matching the original building mortar, but anticipate that it will need to be maintained on a regular basis.

Priority Level: High – coordinate repairs with belt course repairs.

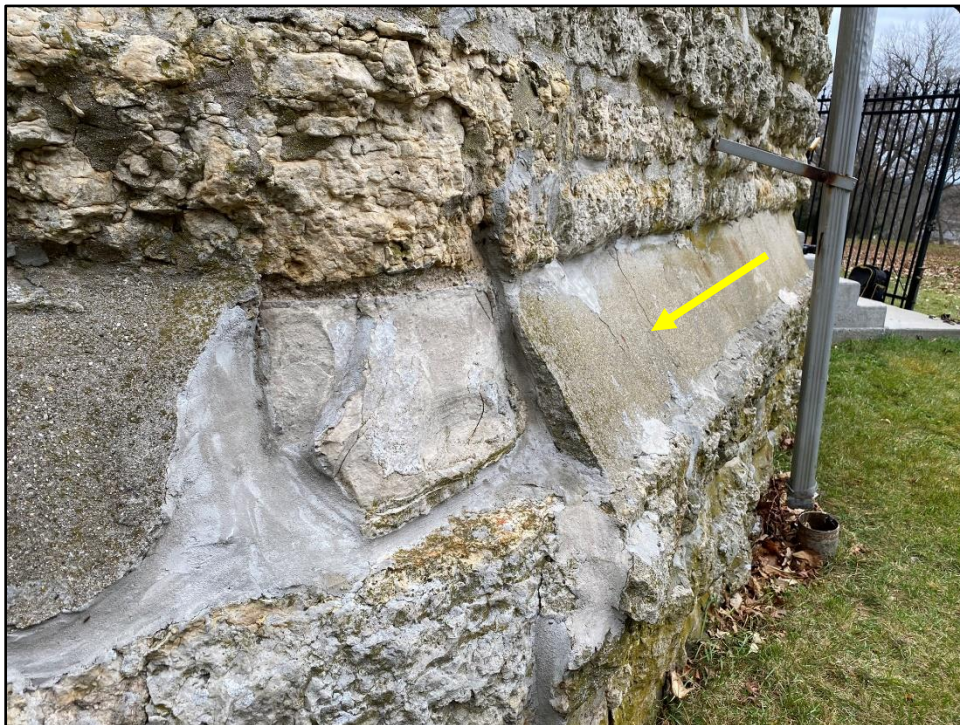


Photo 30: Cracked and missing concrete/mortar wash

Condition #7: Corroded Steel

- Description:** The steel beams and plate girders holding the tank have light corrosion, particularly near the masonry walls (Photos 31 to 33). The beams that form the floor below the tank also have corrosion at the exterior walls (Photos 34 and 35).
- The tank has some signs of corrosion on the exterior at the joints (Photo 36).
- The ladder on the interior of the structure has corrosion at the base and at some of the wall connections (Photos 37 and 38)
- Repair:** Perform some exploratory openings at locations where beams are bearing on walls. Exposing the steel members will determine whether repairs are needed. If repairs are needed it will likely involve welding new steel plates/angles/etc to the existing steel to replace the lost steel capacity.
- At a minimum, exposed steel members should be primed and painted to extend the life of the structure.
- Once water is removed from the tank, the interior should be inspected by a tank inspector to determine whether the tank itself, or its connections to the base, require repairs.
- The interior ladder's base and connections to the wall should be reinforced with new steel elements. The exterior platform and ladder should be inspected in greater detail when access is available, or when repairs begin.
- For all steel repairs, the weldability of the material should be determined by testing prior to implementing any repairs. Some steel of this age is not weldable. There is also a chance that some of the material is iron rather than steel.
- Priority Level:** High – beams and girders that are bearing on masonry. These are a higher priority because their condition will impact the longevity of any masonry repairs.
- High – Ladders or other access points
- Medium – All other locations



Photo 31: General light corrosion on support structure



Photo 32: Close up of tank supports at wall

There is a steel plate on top of the masonry that is corroding as well as the base of the tank

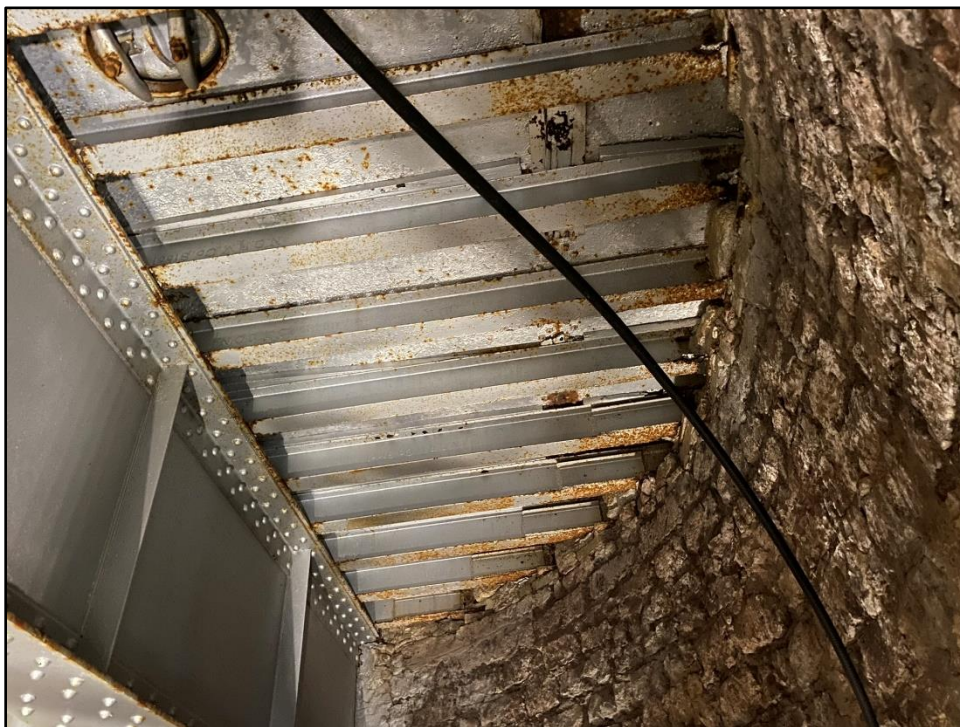


Photo 33: General surface corrosion of tank support beams with an increase near walls



Photo 34: Signs of floor beam corrosion at walls



Photo 35: Corroding floor beam at exit to exterior platform

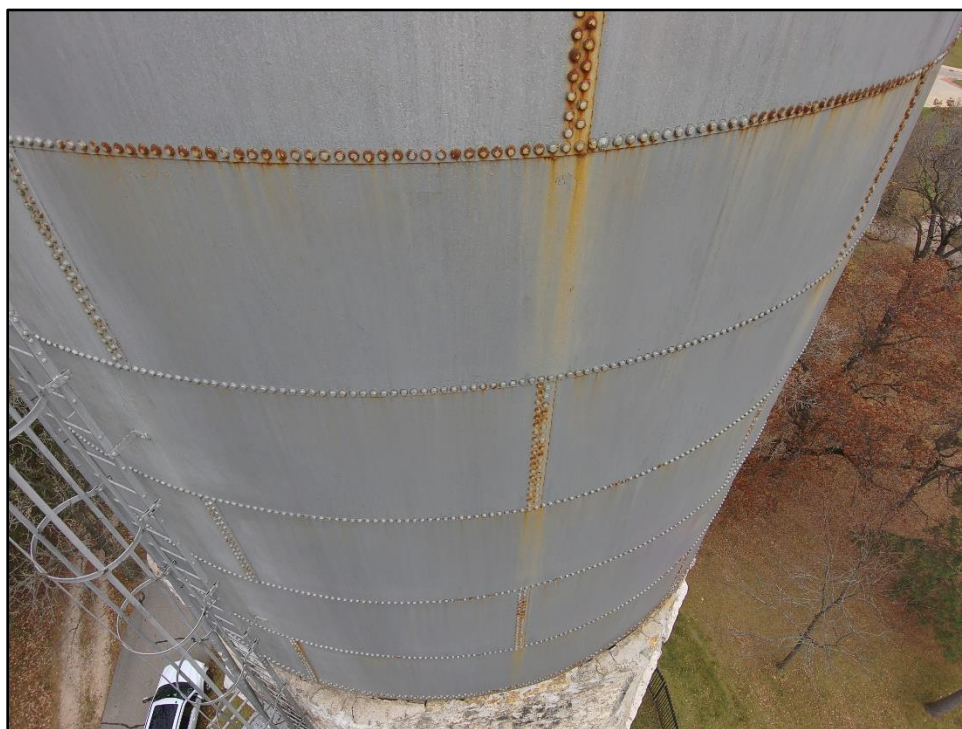


Photo 36: Rust staining on exterior of tank



Photo 37: Corroded ladder connections at wall



Photo 38: Base of interior ladder – corrosion on all pieces

Condition #8: Rotting Wood

Description: The wood panels over the access openings are rotting (Photo 39). This is not a significant concern in the overall scope of this structure. However, we recommend addressing it when there is access and when the surrounding masonry is being addressed.

Repair: Replace deteriorating wood in kind.

Priority Level: Low/Monitor



Photo 39: Minor wood deterioration at access panels

Structural Analysis

We performed a high level structural analysis of the tower with a focus on two main items. The first focus was on whether the masonry walls are close to their capacity. This analysis gives an indication about how much room there is for deterioration before there are global structural issues. The second focus was on the effects of removing the water from the tank. This analysis gives an indication of whether reinforcing would be necessary for the structure due to removing the water.

The results of both analyses were positive.

The masonry walls have plenty of capacity to undergo some deterioration before having global structural concerns. The current amount of deterioration to the masonry walls is not having a significant structural effect. Relatively speaking, if there is 2" of mortar loss in an 8 foot thick wall, that is equivalent to just over an 1/8" of mortar loss in a 12" brick wall. At the top of the tower, that same 2" mortar loss in a 3 foot thick wall is equivalent to 2/3" of mortar loss in a 12" brick wall. It becomes more important as the wall gets thinner, but neither of these mortar losses would cause a global structural concern in a standard building wall. The current amount of mortar loss is more of a concern with loosening stones than for the structure as a whole.

Recommendation: Maintain the mortar joints, particularly on the exterior faces, to keep the compression capacity of the structure. Keeping the old, loose mortar from falling out of the joints is the best way to keep the structure in good structural condition.

The second part of this analysis showed that it is acceptable to remove the water from the tank. There is no tension in the masonry portion of the structure even with the water removed from the tank. This is important because the deteriorating stone mortar joints have no capacity to withstand tension. As long as the structure stays in compression and the joints are maintained, the removal of the water will not have a deleterious effect.

The analysis does show a small amount of tension occurring at the base of the steel tank where it connects to the masonry under high wind conditions. Because any connections at the tank are only visible from the interior of the tank, we could not ascertain the strength of those connections. However, the beams and girders that support the tank are built into the masonry walls. The weight of the masonry surrounding these elements, particularly the girders, will provide some additional hold-down support for the tank.

Recommendation: After the water is removed from the tank, have the interior of the tank inspected for severe corrosion and to ensure that there are connections between the tank and the support structure.

Recommendation

We recommend repairing this building using historically appropriate methods. The structure is stable and generally in good condition, with some elements in fair condition. The conditions discussed previously are all typical situations that are anticipated in a structure of this age and construction. In our opinion, there is no reason to demolish this structure at this time. There is certainly no reason to consider demolishing and then rebuilding the structure in kind.

The structure is safe at this time. The biggest hazard would be the potential for falling stones. The fence around the exterior protects the public from this potential hazard. While it's not possible to see into the future to determine when the structure would deteriorate to a point of larger scale hazard, it is not close to that state at this time. It will be important to address the high priority issues in the next few years, and the longer the work is postponed, the more extensive, and therefore expensive, it will be.

Opinion of Probable Construction Cost

The anticipated budget for performing the repair work described in this report is in the range of \$950,000 to \$1,100,000. This budget assumes that all of the work is performed at one time, during one project. Additional discussion of phasing and associated costs is provided in the next section.

This estimate has been provided by Structurewerks. They are a concrete and masonry restoration company located in southeast Wisconsin with significant experience in doing this sort of work.

McEnroe Consulting Engineers has been asked to provide an opinion on the potential cost for demolishing the tower to be used for funding discussions. The anticipated cost for demolition is in the range of \$600,000. This cost was developed using the RS Means Building Construction Cost Data book.

A more detailed description of each cost estimate is found in Appendix B.

Phasing Discussion

Often funding is not available to address all the issues in a building at the same time. In order to plan a phased approach to repairing this structure, we are recommending the following segments of work as a potential path forward. It may be that a different strategy is taken in the end, and that is fine. There are many ways to approach this, and there may be good reasons to choose something other than what is proposed here.

In a structure such as this, the access available to perform repairs will often drive the approach taken. If the structure was accessible from an aerial lift, it would be more feasible to break the repairs down into smaller phases. However, given the slope of the ground, particularly on the north and east sides, prohibit using a lift to access much of the tower. Also, repair work that involves removing stones would be nearly impossible from a lift due to weight limitations. Scaffolding would be the more effective means to access the exterior of the structure. Scaffolding will have a relatively high first cost. Once it is in place, it will typically make the most sense to repair all items in that area.

If spot repairs were needed in the interior of the tower, a small atrium style lift would work well for that. However, since the entire interior is in need of repointing, it would likely be more effective to build scaffolding on the interior.

The following phasing has been developed with the goal of determining the extent of work that can likely be completed for \$600,000 to match the estimated cost to demolish the building. Work that will not be able to be performed within that initial \$600,000 is then phased to spread out the cost over multiple years.

Note that the total cost of this phased approach is estimated to be \$1,330,000 which is roughly 30% higher than the cost to perform the project all at one time.

Phase 1

First, address the corroded steel at the platform below the tank. To do this, a contractor would access the interior of the tower with an atrium style lift to address any issues with the steel floor beams. Starting with this work will allow this platform to be used during construction for repairs at the top of the tower.

Second, repair and rebuild masonry at the top of the wall. Do this work in segments as to not destabilize the tank. Remove deteriorated masonry, expose corroded steel, clean and paint steel (augmenting if needed with new steel or welding plates), rebuild masonry with original stones and supplemental stones as needed using mortar and stones matched to the original.

Third, perform other masonry repairs on the exterior of the tower, starting at the top and continuing down as far as the budget allows. Based on the cost estimated performed as part of this study, it is anticipated that the top two levels of the exterior would be addressed as part of this phase. The scope of work could be adjusted to include more or less of the exterior based on budget available and the conditions found during construction.

Estimated cost of Phase 1: \$590,000.

Phase 2

Continue down the exterior of the building to perform the masonry repairs at the lower three levels of the tower. This would include addressing cracked stones and repointing mortar joints.

Estimated cost of Phase 2: \$420,000.

Phase 3

Repoint mortar joints on the interior. Address rotting wood doors and other miscellaneous items that can be accessed from the interior.

This can be performed in stages if desired however the costs will increase to create access to the interior for each phase. Another consideration may be that this interior work could be performed in the winter months when masons and scaffolding companies are less busy than the summer months. This could potentially allow for a reduction in cost.

Prior to performing the interior work, investigate the interior humidity levels under the new conditions with the decommissioned tank. If there is a major condensation issue on the interior, this may add to the joints failing prematurely. If this is the case, consider ways to add passive ventilation.

Estimated cost of Phase 3: \$320,000.

Ongoing Maintenance

There will also be ongoing maintenance costs for the building. For a building such as this, maintenance will typically consist of periodic repointing of mortar joints and addressing cracking stone. The cost of performing this work is highly dependent on the access needed. For work on the west and south sides of the building, it can be performed from an aerial lift and most of the costs will be for the labor and materials needed to perform the work. On the north and west sides of the tower, scaffolding will be needed to perform any work. This will greatly increase the cost of doing that work.

A building that has been repointed with good craftsmanship and materials should be able to last 30 to 40 years without repointing. Due to the high cost of accessing the structure, it is going to be very important to do a comprehensive repair of stone and mortar during the Phase 1 and Phase 2 repairs so that the length of time until repointing is needed is extended as long as possible.

Estimated cost for repointing 5% of mortar joints on west/south half of the exterior: \$30,000

Estimated cost for repointing 5% of mortar joints on east/north half of the exterior: \$80,000

Future Costs

All of the costs provided above are based on 2023 pricing. Obviously as work is phased into the future, inflation will increase the costs. Here is an example of how this might affect these costs, using a 5% per year increase for inflation:

Phase 1 performed in 2024: \$620,000

Phase 2 performed in 2026: \$486,000

Phase 3 performed in 2028: \$408,000

Total overall cost: \$1,514,000

Ongoing Maintenance performed in 2040:

West/south sides: \$70,000

North/east sides: \$183,000

Recommendations for next steps

We recommend the following items as next steps in the process of repairing and restoring this structure:

1. Engage a tank inspector to review the conditions inside the tank after it has been emptied.
2. Perform some material testing including mortar analysis and steel sampling. This will provide information critical to performing the repairs needed.
3. Explore whether there would be historic tax credits or other programs available to assist in funding repairs for this structure.
4. Perform some investigation openings in the top of the masonry structure. This will allow a view of the steel condition within the masonry as well as getting a better look at the overall mortar condition near the top of the wall. These two conditions have the most assumptions associated with the costs and overall impact on a repair project. Confirming these conditions early in the process would provide more confidence in the cost impacts of Phase 1 work. Given the high cost of access to the top of the tower that would be needed to perform ongoing maintenance, performing a comprehensive repair to the top levels during Phase 1 will lower the long term costs of maintaining this structure.
5. Use the findings of these steps to develop a long-term plan for preservation or restoration of the structure, then move into design for the first phase of work.

Limitations

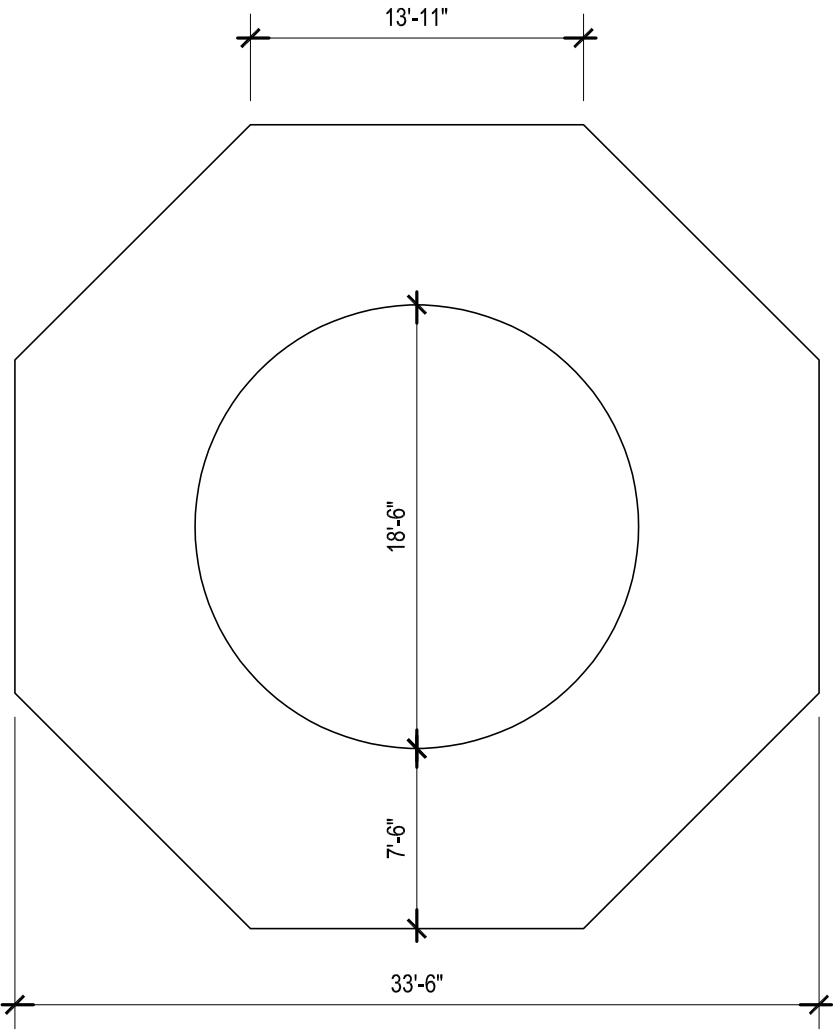
This report is based on conditions of structural elements that were readily observable at the time of investigation. No testing or inspections were performed. McEnroe Consulting Engineers does not accept responsibility for structural deficiencies not evident during an investigation of this type. All recommendations provided in this report are conceptual in nature and are not intended to be full details or specifications for construction.

All conditions discussed in this report are subject to change and are anticipated to change over time. As additional exploration is performed, the recommendations in this report may change based on newly available information.



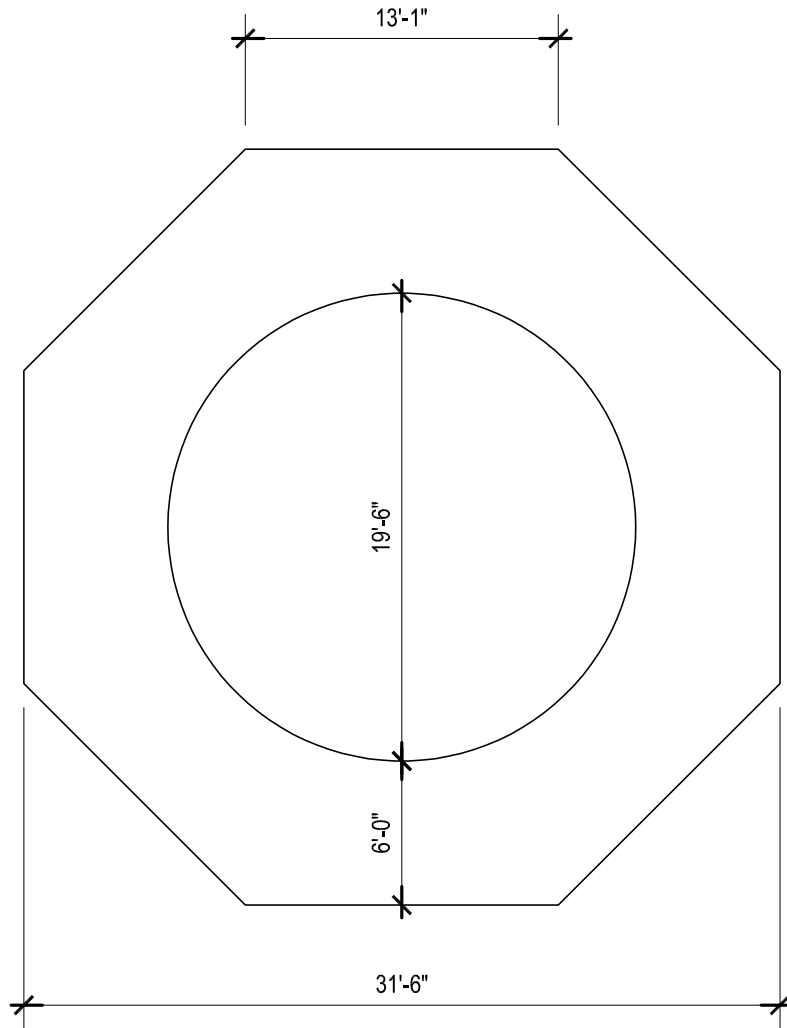
Appendix A

Level 1 (base)



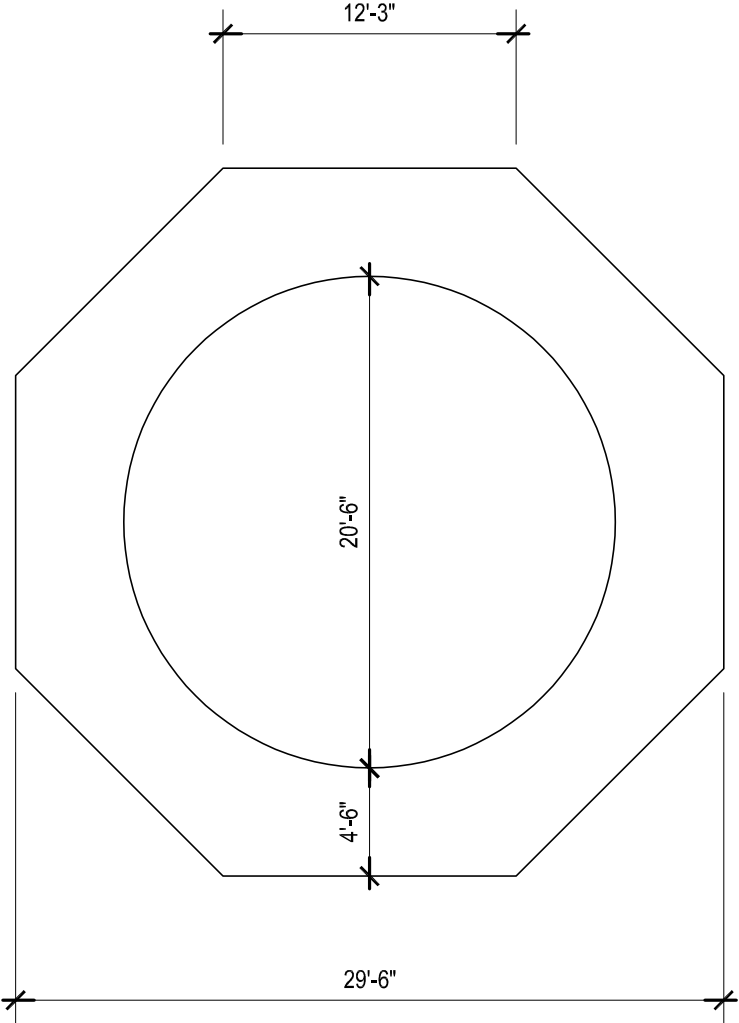
NOTE THAT ALL DIMENSIONS ARE ROUGH
ESTIMATES. EXACT MEASUREMENTS SHOULD BE
COLLECTED FOR ANY CONSTRUCTION WORK.

Level 2



NOTE THAT ALL DIMENSIONS ARE ROUGH
ESTIMATES. EXACT MEASUREMENTS SHOULD BE
COLLECTED FOR ANY CONSTRUCTION WORK.

Level 3



NOTE THAT ALL DIMENSIONS ARE ROUGH
ESTIMATES. EXACT MEASUREMENTS SHOULD BE
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STARIN PARK WATER TOWER

WHITEWATER, WISCONSIN

ISSUE DATE: 12/02/22

SHEET NAME:

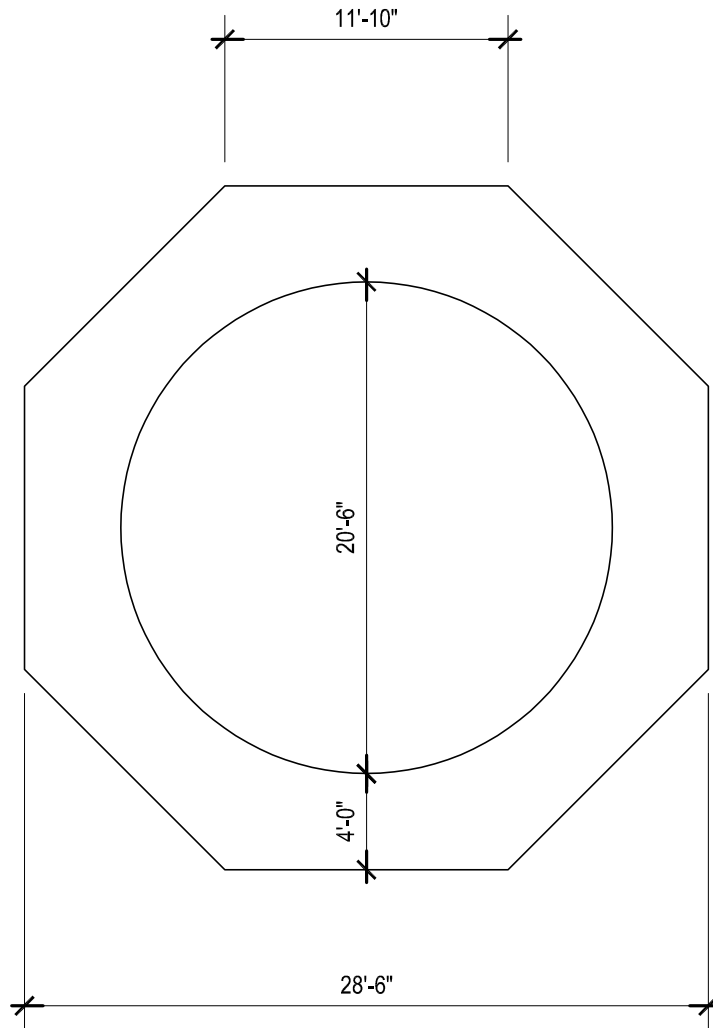
LEVEL 3 PLAN

SHEET NO:

S3

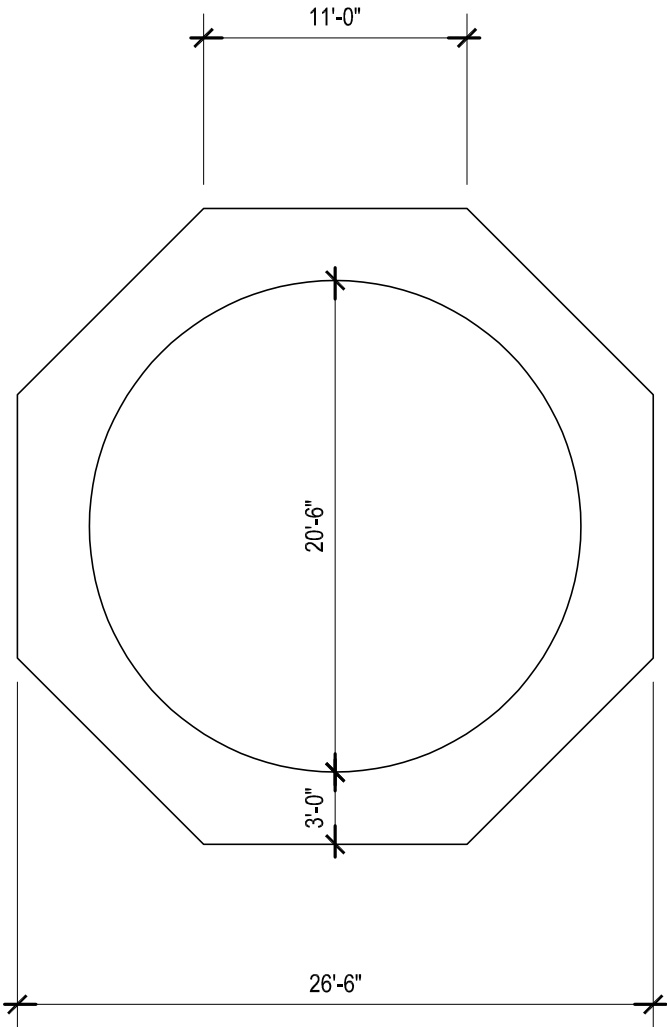
MCE PROJ NO: 22-37

Level 4



NOTE THAT ALL DIMENSIONS ARE ROUGH
ESTIMATES. EXACT MEASUREMENTS SHOULD BE
COLLECTED FOR ANY CONSTRUCTION WORK.

Level 5



NOTE THAT ALL DIMENSIONS ARE ROUGH
ESTIMATES. EXACT MEASUREMENTS SHOULD BE
COLLECTED FOR ANY CONSTRUCTION WORK.



STARIN PARK WATER TOWER

WHITEWATER, WISCONSIN

ISSUE DATE: 12/02/22

SHEET NAME:

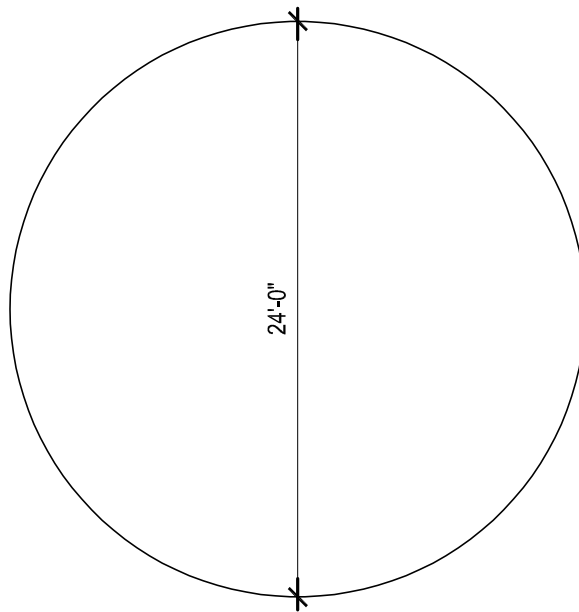
LEVEL 5 PLAN

SHEET NO:

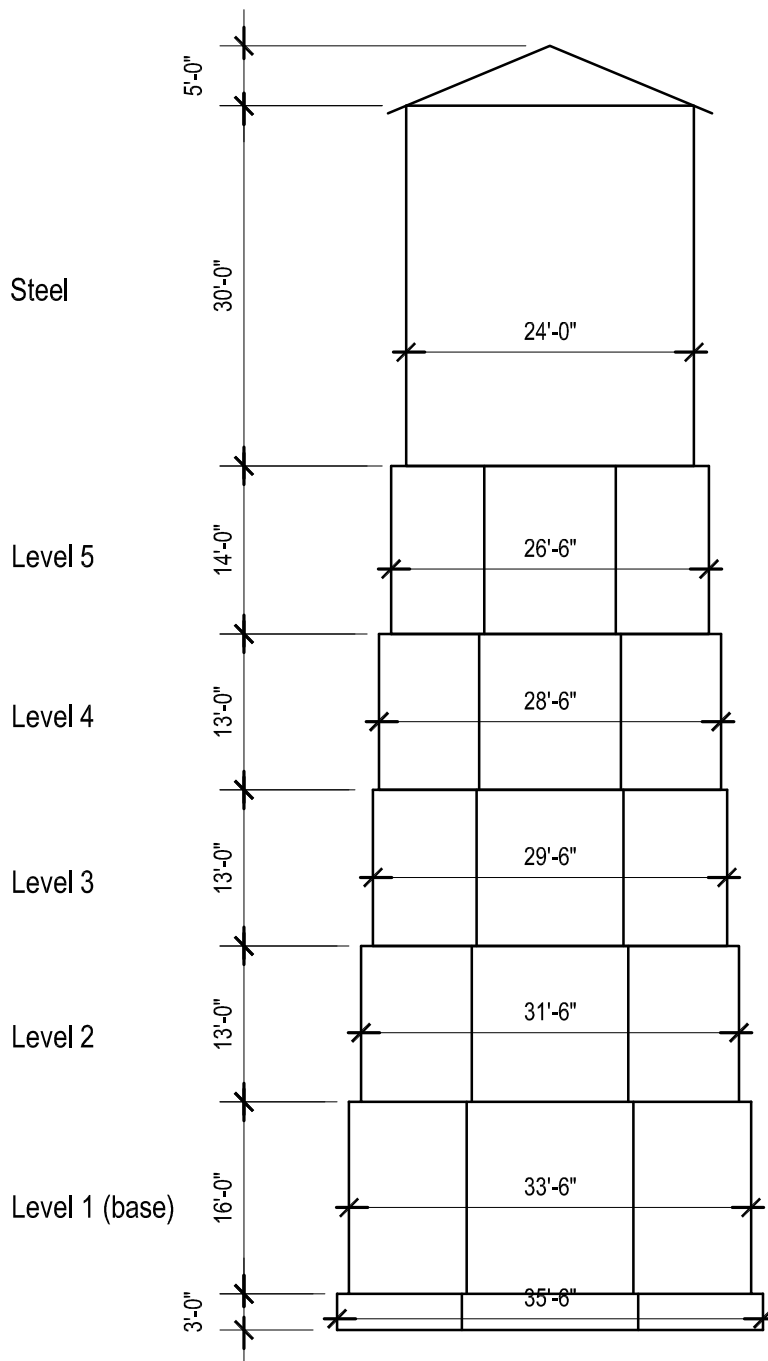
S5

MCE PROJ NO: 22-37

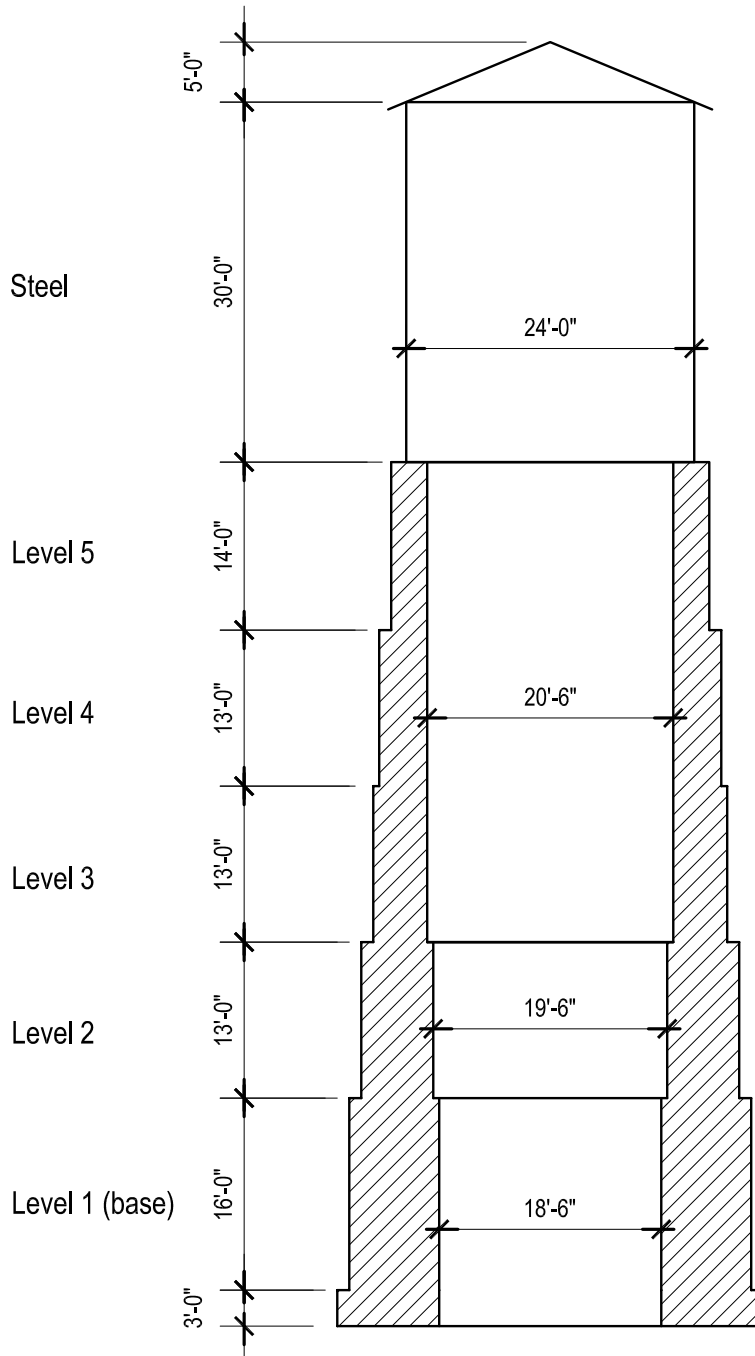
Steel Tank



NOTE THAT ALL DIMENSIONS ARE ROUGH
ESTIMATES. EXACT MEASUREMENTS SHOULD BE
COLLECTED FOR ANY CONSTRUCTION WORK.



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Appendix B



December 12, 2022

Ms. Eileen McEnroe Hanks, PE
McEnroe Consulting Engineers
7251 W. North Ave. Suite 1
Wauwatosa, WI 53213

eileen@mcenroe-eng.com

RE: Starin Tower Rehabilitation

Dear Eileen:

Thank you for the opportunity to provide budgetary figures for the masonry restoration of the tower in Whitewater, WI. Structurewerks will provide the following scope of work per the engineers reports and estimated quantities of repairs:

SCOPE OF WORK:

- Exterior/Interior masonry restoration including the following:
 - Stone belt course replacement (82 each)
 - Masonry cleaning exterior
 - Replace mortar wash (504 LF)
 - Rebuild top of wall (320 SF)
 - Stone unit replacements not in belt course (29)
 - Arch stones (23)
 - Repointing of exterior joints (863 LF)
 - Repointing joints on interior (4,300 SF)
 - Crack repointing (15 LF)
 - Epoxy stone (14 locations)
 - Mortar wash at base of wall (120 LF)
 - Various steel repairs
 - Ladder repairs (10 locations)
 - Door replacements (5 locations)

The above work budget would be between \$950,000 - \$1,100,000.



Notes:

1. Scaffold access is included in our budget proposal. Rental of 4 months included.
2. Stone replacements are based on sourcing an approved similar type locally.
3. Budgets were assembled using estimated 2023 spring pricing. Costs and availability of products are subject to change. We reserve the right to reevaluate costs at the time of contracting.
4. Certain assumptions were made about size, depth of stone replacements. If it varies significantly, owner shall be contacted to review any cost implications.
5. Basic breakdown of costs would be as follows: Scaffold access 35%, interior restoration/steel repair/doors 20%, exterior restoration 45%.

If you have any questions, please contact me at (262) 408-3960.

Thank you for your continued interest in Structurewerks.

Sincerely,

Eric Johnson

Eric Johnson
VP Sales and Operations



January 4, 2023

Ms. Eileen McEnroe Hanks, PE
McEnroe Consulting Engineers
7251 W. North Ave. Suite 1
Wauwatosa, WI 53213

eileen@mcenroe-eng.com

RE: Starin Tower Rehabilitation – REV 1.4.22

Dear Eileen:

Thank you for the opportunity to provide budgetary figures for the masonry restoration of the tower in Whitewater, WI. Structurewerks will provide the following scope of work per the engineers reports and estimated quantities of repairs:

Phase 1 – Levels 4-5 only

SCOPE OF WORK:

- Exterior/Interior masonry restoration including the following:
 - Stone belt course replacement (19 each)
 - Masonry cleaning exterior
 - Replace mortar wash (161 LF)
 - Rebuild top of wall (320 SF)
 - Stone unit replacements not in belt course (29)
 - Repointing of exterior joints (800 LF total in phase 1 and 2)
 - Various steel repairs
 - Door replacements (3 locations)

The above work budget would be approximately \$590,000.

Phase 2 – Levels 1-3

SCOPE OF WORK:

- Exterior/Interior masonry restoration including the following:
 - Stone belt course replacement (63 each)
 - Arch stones (23)
 - Repointing of exterior joints
 - Crack repointing (15 LF)
 - Epoxy stone (14 locations)
 - Mortar wash at base of wall (120 LF)
 - Ladder repairs (10 locations)
 - Door replacements (2 locations)

The above work budget would be approximately \$420,000.

Phase 3 – Interior Work

SCOPE OF WORK:

- Interior masonry restoration including the following:
 - Repointing joints on interior (4,300 SF)

The above work budget would be approximately \$320,000.

Notes:

1. Scaffold access is included in our budget proposal. Rental of 4 months included.
2. Stone replacements are based on sourcing an approved similar type locally.
3. Budgets were assembled using estimated 2023 spring pricing. Costs and availability of products are subject to change. We reserve the right to reevaluate costs at the time of contracting.
4. Certain assumptions were made about size, depth of stone replacements. If it varies significantly, owner shall be contacted to review any cost implications.
5. Basic breakdown of costs would be as follows: Scaffold access 35%, interior restoration/steel repair/doors 20%, exterior restoration 45% for all phases of the project. The first phase scaffold budget is \$195,000, the second phase is \$50,000 and the third phase is \$80,000.



6. Exterior cleaning of the masonry would prefer to be completed in the first phase to be able to match mortar and stone samples properly. This represents about \$25,000 of the first phase allocation.
7. If separated into 3 phases over a 5-year period, many of the cost estimates are guesses beyond the first year. Uncompleted work could continue to cause larger quantities to be completed, labor and material costs are unknown that far in advance.
8. For future preservation efforts after the initial restoration, I would have a contractor perform a cursory review from the ground every 2 - 5 years and provide any recommendations. It would be recommended that maybe budgeting \$50,000 within the first 5 years would be prudent in case something is noticed and needs to be addressed.

If you have any questions, please contact me at (262) 408-3960.

Thank you for your continued interest in Structureworks.

Sincerely,

Eric Johnson

Eric Johnson
VP Sales and Operations

Starin Park Water Tower - Demolition

Engineer's Opinion of Probable Construction Cost

Project: Starin Park Water Tower Assessment

Date: 12/29/2022

Item	Description	Unit Cost	Quantity	Unit	Cost
1	Dumpster for Misc (40 CY - 10 ton capacity)	\$850.00	6	Week	\$5,100
2	Building Demo	\$2.13	67,000	CF	\$142,710
3	Foundation Demo	\$15.20	444	SF	\$6,749
4	Foundation Backfill	\$16.55	263	CY	\$4,354
5	Salvage Masonry - clean and stack on pallet	\$3.76	12,500	Each	\$47,000
6	Loading and Hauling up to 5 miles	\$15.50	2,500	CY	\$38,750
7	Dump Fees - 10% of masonry materials	\$81.00	300	Tons	\$24,300
8	40 Ton Crane Use	\$3,500.00	20	Days	\$70,000
9	Fence Removal	\$4.81	2,400	LF	\$11,544
10	Site Restoration (topsoil & seed)	\$24.25	667	SY	\$16,167
Subtotal:					\$366,674
General Conditions (gen req, bond, etc)					25% \$92,000
GC Overhead & Profit					10% \$46,000
A/E Design and Oversight					5% \$23,000
Contingency					15% \$80,000

Total: \$610,000

* All totals and subtotals are rounded up based on the level of detail in the design



Public Works Agenda Item

Meeting Date: January 10, 2023

Agenda Item: 4b. UTV/ATV on City Streets

Staff Contact (name, email, phone): Brad Marquardt, bmarquardt@whitewater-wi.gov, 262-473-0139

BACKGROUND

(Enter the who, what when, where, why)

Under the current ordinance, All-Terrain Vehicles (ATV) and Utility Terrain Vehicles (UTV) are permitted to operate on City owned streets within Jefferson County. According to the ordinance, the Public Works Committee is to monitor Jefferson County's review process and provide the city council with a report on Jefferson County's findings and actions no later than March 1, 2023.

Attached is the Jefferson County's Highway Committee Report to the full County Board. By unanimous consensus, the Highway Committee recommended to leave the ordinance in place without any adjustments at this time. The County Board discussed this item at their November 15, 2022. While minutes from this meeting are not available, a Highway Engineer for the County informed the City that the Board decided to keep the ordinance in effect as recommended by the Highway Committee.

Additionally, it has been requested that with the review of the current City ordinance that the Council consider allowing UTV/ATV's on all city streets that are in Walworth County also.

PREVIOUS ACTIONS – COMMITTEE RECOMMENDATIONS

(Dates, committees, action taken)

In November 2021, the City Council adopted Chapter 11.45-Operation of All-Terrain Vehicles (ATV) and Utility Terrain Vehicles (UTV) Allowed, of the Municipal Code.

FINANCIAL IMPACT

(If none, state N/A)

None at this time.

STAFF RECOMMENDATION

From the Public Works perspective, staff does not see an issue with the continuation of UTV/ATV's on city streets in Jefferson County. Walworth County does not have a countywide ordinance pertaining to UTV/ATV's, but is leaving it up to each jurisdiction. From the Public Works perspective, staff does not have an issue extending the use of UTV/ATV's to city streets in Walworth County. Staff's recommendation would be either 1) send this to the full Council for an update and consideration, or 2) forward to the City Attorney to update the ordinance to include Walworth County and then bring it to Council.

ATTACHMENT(S) INCLUDED

(If none, state N/A)

- | |
|-----------------------------|
| 1. Highway Committee Report |
|-----------------------------|
-

October 25, 2022

Highway Committee Report

Subject: Jefferson County All-Terrain (ATV) and Utility-Terrain Vehicle (UTV) Route Ordinance

Background: Jefferson County Board passed the ATV/UTV Ordinance on April 20, 2021. The ordinance allowed ATV/UTV vehicles to utilize Jefferson County Highways in Jefferson County within limitations stated in the ordinance. The Ordinance stated a review of the recreation and economic benefits should be completed against any possible dangers including safety and health effects. Any findings and recommendations by the Highway Committee should be forwarded to the County Board as a communication by November 30, 2022.

Review/Comments

Traffic Safety Committee Information (Highway/Sheriff's Departments) – ATV/UTV Ordinance

The Traffic Safety Commission has placed this on the agenda numerous times since the Ordinance passed on April 20, 2021. The comments from the committee were mostly about educating the public on the ordinance, and discussing how the Ordinance affected local municipalities that did not have roads open to ATV's.

The Highway Department and Sheriff's Department have discussed the Ordinance numerous times since the Ordinance passed, including input at most of the Traffic Safety Committee meetings. There have been very few issues from the Ordinance, with most of the discussion centering on the initial posting of the Ordinance and questions regarding the details of the Ordinance.

Highway Committee Review

The Highway Committee discussed the ATV/UTV Ordinance for County Highways at the October 25, 2022 Highway Committee meeting. The Committee discussed general information regarding the Ordinance including the feedback from the Traffic Safety Commission. The Committee also discussed the adoption of similar ordinances from the majority of local government (Towns, Villages, Cities) agencies in Jefferson County. The unanimous consensus of the Committee was to leave the ordinance in-place without any adjustments at this time.

Respectfully submitted,

George Jaeckel

George Jaeckel, Chairman
Jefferson County Highway Committee



Public Works Agenda Item

Meeting Date: January 10, 2023

Agenda Item: 4c. Verizon Telecommunication Equipment

Staff Contact (name, email, phone): Brad Marquardt, bmarquardt@whitewater-wi.gov, 262-473-0139

BACKGROUND

(Enter the who, what when, where, why)

In December 2022, City staff received a request from Mountain, LTD on behalf of Verizon Wireless inquiring about the possibility of leasing ground and water tank space for the installation of new telecommunication equipment at the new Southwest Elevated Tank. They are proposing monthly rent payments of \$2,500 in exchange for a 100' x 100' ground space area. The request is for an initial lease term of 5 years with nine additional 5 year renewal terms. The rent escalator includes 10% per term (term being 5 years).

PREVIOUS ACTIONS – COMMITTEE RECOMMENDATIONS

(Dates, committees, action taken)

N/A

FINANCIAL IMPACT

(If none, state N/A)

Verizon's proposal of \$2,500/month would equal \$30,000/year for the first five years. With the escalator per term and a full 10 terms (50 years), the total payment to the Water Utility would be \$2,390,613.69. For comparison, the City's current lease with T-Mobile (formerly Sprint) on the Cravath Elevated Tank is currently yielding \$18,662/year. The Sprint lease is in the final renewal term of an overall 25 year period. The lease ends in July 2024. Whitewater Wideband is also located on the Cravath Tower. Their current payments are as follows:

2021: \$7,416.00

2022: \$7,638.48

2023: \$7,867.63

2024: \$8,103.66

2025: \$8,346.77

STAFF RECOMMENDATION

Strand reviewed the initial inquiry letter and provide some comments which are attached. In general, the lease term is fairly typical, but is open to negotiations, the proposed leased area seems to be more than what would be needed, and the escalator of 10% is fairly typical. The rent amount is within the range they have seen, but is very dependent on site and location availability. Staff recommends the Public Works Committee approve moving forward with leasing space to Verizon and send to the full Council to discuss negotiation terms in closed session if warranted.

ATTACHMENT(S) INCLUDED

(If none, state N/A)

- | |
|--|
| <ol style="list-style-type: none">1. Verizon Inquiry Letter2. Letter of Intent3. Strand's Comments |
|--|



City of Whitewater
Attn: Brad Marquardt
312 W. Whitewater Street
Whitewater, WI 53190

December 14, 2022

Rachael Ceckowski
Verizon Wireless
c/o MOUNTAIN Wireless
515 N. State Street, 14th Floor
Chicago, IL 60654

Dear Verizon Wireless,

The Owner agrees to a Letter of Intent with Verizon Wireless on the below lease terms for space at the property located in Whitewater, Walworth County, Wisconsin / Parcel ID: A277200001 [Whitewater South].

- Lease Term: Five (5) Year Initial Term with Nine (9) – Five (5) Year Renewal Terms
- Lease Area: 100' x 100' Area with Easements for Access and Utilities
- Rent Amount: \$2,500.00 per Month
- Term Escalator: 10% per Term (Term is every 5 years)

Following candidate approval by Verizon Wireless, a ground lease agreement will be provided for Owner review.

Please note, this letter does not create a binding agreement between the parties. The purpose of this letter is to establish the business term framework for a lease agreement and confirm Owner interest in entering into a lease agreement with Verizon Wireless. Though no binding agreement is created by signing this letter, Verizon Wireless's subsequent selection of this property is reliant on the enclosed terms.

Sincerely,

Owner Signature

Owner Name

Owner Email Address

Owner Phone Number

Date



Good afternoon. I spoke to a few folks internally briefly regarding this. As Mountain, LTD notes in their letter, this is just a general letter of intent and you'll be able to negotiate and discuss all of these items. We've reviewed documents from Mountain, LTD several times.

- Lease Term: 5-year terms are fairly typical with the option to either renew or renegotiate every 5 years.
 - Your attorney will likely be involved in the lease agreement and can review the renewal terms to protect your long-term interests, but that's something that can be discussed later.
- Lease Area (100' by 100'): This is a ton of space on the ground for what will likely be around a 12' by 30' building. This item likely deserves more discussion, and was the only item that alarmed me a little, but is again something that can be discussed later.
 - It's conservatively a 20' by 40' ground level structure if you include stoops and a potential generator.
 - I think you'd just want them to propose on your site what area they need and figure out the actual size you're willing to give them afterwards.
 - There's a few reasons they could want extra space (one example would be so they have space for a temporary tower to relocate their antennas to during tank rehabilitation), but I'd try to find out.
 - Likely, you'll want to set aside space for a temporary tower that all providers (and you for any municipal antennas that end up on the tower) can use rather than each provider.
- Rent Amount: We generally don't comment too much on the monthly rent as it's so site and location specific. We have clients who range between \$20,000 through \$70,000 per year per provider in rental income.
- Term Escalator: 10% per Term is fairly typical, but with inflation these days that may no longer be appropriate.
 - Again, your attorney will be involved in the lease agreement and should be able to set you up to be able to terminate the lease after any 5-year term if the rent no longer seems appropriate.



Rachael Ceckowski
MOUNTAIN LTD
Agent on Behalf of Verizon Wireless
515 N. State Street, 14th Floor
Chicago, IL 60654

December 14, 2022

City of Whitewater
Attn: Brad Marquardt
312 W. Whitewater Street
Whitewater, WI 53190

RE: Verizon Wireless Ground Lease Proposal – Whitewater, Walworth County, Wisconsin / Parcel ID: A277200001
[Whitewater South].

Dear Brad Marquardt:

Our firm represents Verizon Wireless in its project to improve its customer experience by leasing ground and water tank space for the installation of a new telecommunications equipment at the above property. Verizon Wireless has authorized our firm to propose monthly rent of \$2500.00 per month in exchange for a 100' x 100' ground space area at the above referenced property.

If interested, Verizon Wireless would work to identify a mutually agreeable location on the parcel for the lease area with associated easements for access and utilities.

If you are interested in leasing space at the above property at the authorized rent amount and terms laid out in the enclosed Letter of Intent, please sign and return the enclosed Letter of Intent to me via email to rceckowski@mountainltd.com. Please contact me with any questions via email or phone at (847) 254-3209.

Sincerely,

Rachael Ceckowski
Agent on Behalf of Verizon Wireless



Public Works Agenda Item

Meeting Date: January 10, 2023

Agenda Item: 4d. Tank Asset Management Program

Staff Contact (name, email, phone): Brad Marquardt, bmarquardt@whitewater-wi.gov, 262-473-0139

BACKGROUND

(Enter the who, what when, where, why)

With the new Southwest Elevated Tank now in service, city staff reached out to Veolia (the City's current provider) to inquire about a Tank Asset Management Program, similar to the one in place for the Cravath Elevated Tank. The Program covers ten years with preprogrammed annual payments. The Program covers annual tank inspections with reports, necessary cleanings/disinfections and repairs, emergency services, and power-washing. Renovation after the 10 year would include bringing the condition of the tower and coatings to like new conditions. Items include and overcoat painting of the exterior with appropriate surface preparation, blast and recoat the interior of the tank, damage to the tank is repaired and any appurtenances are brought up to the current standards.

PREVIOUS ACTIONS – COMMITTEE RECOMMENDATIONS

(Dates, committees, action taken)

N/A

FINANCIAL IMPACT

(If none, state N/A)

The ten year total of \$360,763 is broken into ten approximately equal payments. The Year 1 payment was reduced to be able to fit the payment into the 2023 budget. Additional money was added to Years 2 – 6 to make up the difference. The proposed costs are in line with the current costs associated with the Cravath Elevated Tank.

STAFF RECOMMENDATION

By implementing a program such as this, the Water Utility can incorporate the costs on an annual basis rather than waiting for a one time bigger cost where borrowing would more than likely need to occur. The current program with the Cravath Street elevated tank has been in service since at least 2009 and works very well. Staff's recommendation is for the Public Works Committee to recommend approval of the Tank Asset Management Program to the full Council.

ATTACHMENT(S) INCLUDED

(If none, state N/A)

1. Tank Asset Management Program

Tank Asset Management Program

for the City of Whitewater, WI
Southwest Elevated Tank 750K
Gallon

Presented by Jim Moody
12/01/22



VEOLIA ADVANCED SOLUTIONS USA

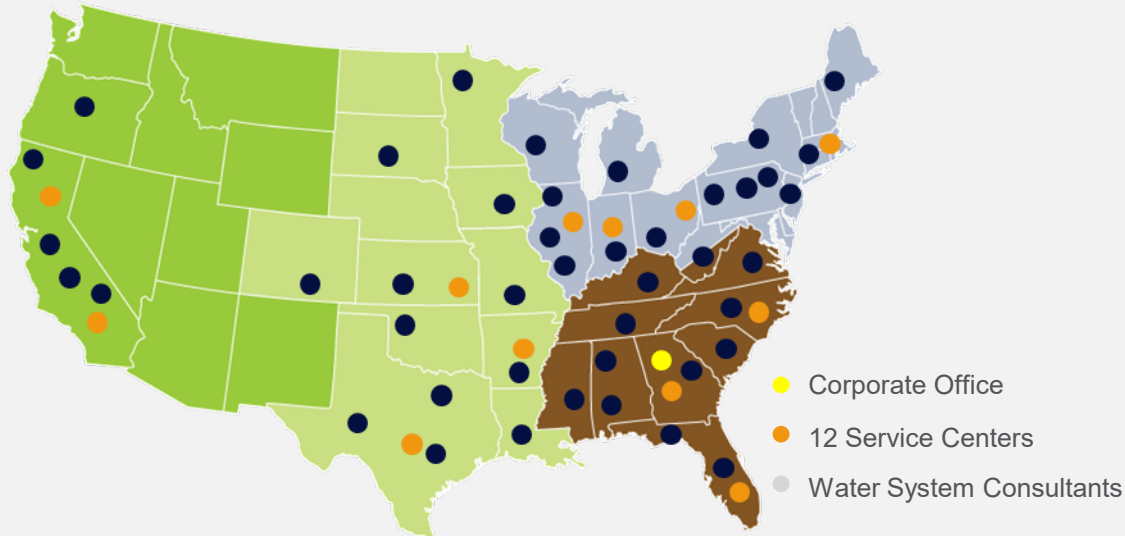
WATER ASSET MANAGEMENT SOLUTIONS' LEADER

4,000+
Municipal & industrial customers

8,000+
Water assets managed

40
Water System Consultants

Technical & Financial
Strength from a global partner



LINES OF BUSINESS

Tank Services

Steel and concrete tanks

Water Quality

Mixers, RCS, TRS

Concrete and Plant Rehabilitation Services

Treatment Plants, Filters, MBRs

Distribution system Services

SIPP, Pipe Condition Assessment

Metering Services

AMI, Smart meters, AMP™



SERVICES DESIGNED AND DELIVERED WITH QUALITY & SAFETY FIRST

HIGHEST SAFETY AND QUALITY STANDARDS

ISO 9001:2015 certified company

All work, surface preparation and coating applied are completed in accordance with:

- Manufacturer's recommendations
- **OSHA** Regulations
- **SSPC** Standards
- **AWWA D100 and AWWA D102** Specifications
- **ANSI/NSF Standard 61** Requirements
- **EPA**



HIGHLY QUALIFIED PERSONNEL

All of our inspectors and Director of Safety & Health are **NACE Certified**.

All employees climbing and working on tanks are required to attend our 40-hour annual training program and pass exams on more than 14 topics including: Confined space, fall protection, lead exposure, CPR techniques, etc.



PROVEN EXPERIENCE IN WATER TANK MAINTENANCE

We know what it means to maintain your tank because we have been doing it since 1963 and we pioneered the tank maintenance program in 1985.

We now have over 5,000 tanks on a tank asset management program nationwide.

1500+
Renovations in 2022

5000+
Tanks currently in program

6000+
Inspections and washouts every year



100+ Years
Oldest tank in the program

50 Years
Of asset maintenance service

120+
Crew typically active across the nation



ASSET MANAGEMENT PROGRAM PEACE OF MIND SOLUTION

High value **sustainable solution** that ultimately saves the tank owner time and money, and limits most of the aggravation of owning a storage tank.



- ✓ Annual tank inspections with reports on safety, sanitation, structure, security and coatings
- ✓ Cleanings/disinfections and repairs
- ✓ **Lifetime warranty on coatings as long as the tank is on the program**
- ✓ Artwork and logo design and application
- ✓ **Future tank rehabilitations**
- ✓ Emergency services provided within 48 hours
- ✓ **Exterior Powerwash every 5 years**
- ✓ **Set annual budget figure eliminates unplanned expenditures**
- ✓ No Change Orders
- ✓ Supports GASB 34 Compliance, lowering depreciation costs
- ✓ Dedicated Customer Service



City of Whitewater, WI - Southwest Elevated Tank

VEOLIA ASSET MANAGEMENT PROGRAM - SCHEDULE OF WORK

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-14
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033-2036
750K Pedisphere	Visual	Visual	ROV	Visual	Washout	Visual	Visual	ROV	Visual	Washout	Expected Renovation based on inspection results
SPREAD	\$ 5,000	\$36,920	\$38,046	\$39,211	\$ 40,417	\$41,666	\$37,820	\$39,158	\$40,545	\$ 41,980	
Total Annual	\$ 5,000	\$36,920	\$38,046	\$39,211	\$ 40,417	\$41,666	\$37,820	\$39,158	\$40,545	\$ 41,980	
Quarterly	\$ 1,250	\$ 9,230	\$ 9,512	\$ 9,803	\$ 10,104	\$10,417	\$ 9,455	\$ 9,790	\$10,136	\$ 10,495	
Monthly	\$ 417	\$ 3,077	\$ 3,171	\$ 3,268	\$ 3,368	\$ 3,472	\$ 3,152	\$ 3,263	\$ 3,379	\$ 3,498	



THANK YOU



Public Works Agenda Item

Meeting Date: January 10, 2023

Agenda Item: 4e. BIL Update

Staff Contact (name, email, phone): Brad Marquardt, bmarquardt@whitewater-wi.gov, 262-473-0139

BACKGROUND

(Enter the who, what when, where, why)

The City submitted a number of applications for both Surface Transportation Program (STP) – Urban, and STP – Local projects through the Bipartisan Infrastructure Law (BIL). The City was notified in September 2022 that Walworth Avenue from Janesville Street west to the County line was selected as a STP – Urban project and Innovation Drive from Howard Road to Technology Drive was selected as a STP – Local project. The City also teamed with the Town of Cold Spring to submit an application on the Town's behalf for Howard Road from State Highway 59 south to the County line. This project was also approved as a County STP – Local project.

Staff recently reached out to the State and found out all three projects are tentatively scheduled for construction in 2025.

PREVIOUS ACTIONS – COMMITTEE RECOMMENDATIONS

(Dates, committees, action taken)

N/A

FINANCIAL IMPACT

(If none, state N/A)

None at this time.

STAFF RECOMMENDATION

This item is for an update only on the timing of the projects. The State will be sending out State Municipal Agreements sometime in early 2023. Action will be required at that time to proceed with the projects.

ATTACHMENT(S) INCLUDED

(If none, state N/A)

1. N/A



Public Works Agenda Item

Meeting Date: January 10, 2023

Agenda Item: 4f. Water Storage Building Task Order

Staff Contact (name, email, phone): Brad Marquardt, bmarquardt@whitewater-wi.gov, 262-473-0139

BACKGROUND

(Enter the who, what when, where, why)

Included in the 2022-2023 CIP budget was the construction of a new storage building for the Water Department. Staff investigated designing and bidding this project in-house, but after discussions with Strand and our Building Inspectors, staff decided it would be best to have it designed by a professional. City staff does not have the knowledge to navigate state building codes and produce state approved plans. Additionally, change orders during the construction phase can be much costlier than hiring a professional upfront to develop the plans.

PREVIOUS ACTIONS – COMMITTEE RECOMMENDATIONS

(Dates, committees, action taken)

Council approved the 2022-2023 CIP budget with the adoption of the 2022-2023 budget in November 2021.

FINANCIAL IMPACT

(If none, state N/A)

Strand is still in the process of fine tuning the Task Order. Costs will be provided at the Public Works Committee meeting if not before.

STAFF RECOMMENDATION

Staff's recommendation would be to approve the Task Order. As mentioned above, staff is not very well versed in the design and construction of a building. Staff is also looking for approval at the January meeting rather than waiting another month to give the go ahead to Strand so they can begin their work. The desire is to have this constructed by the end of 2023.

ATTACHMENT(S) INCLUDED

(If none, state N/A)

1. N/A – The Task Order is still being developed.