

RESOLUTION NO. 23-32

A RESOLUTION OF THE TOWN COMMISSION OF THE TOWN OF DUNDEE, FLORIDA MEMORIALIZING A DECLARATION OF EMERGENCY AS TO THE REPAIR, MAINTENANCE, AND MANAGEMENT OF THE HICKORY AND RINER CONCRETE GROUND STORAGE WATER TANKS; MAKING FINDINGS; MAKING A FINDING OF EMERGENCY UNDER STATE LAW AND SECTION 2-159(c)(2) OF THE CODE OF ORDINANCES OF THE TOWN OF DUNDEE; AND AUTHORIZING THE TOWN MANAGER TO TAKE ANY AND ALL NECESSARY FURTHER ACTIONS INCLUDING, BUT NOT LIMITED TO, NEGOTIATING AND APPROVING AN AGREEMENT WITH SOUTHERN CORROSION, INC. FOR THE EMERGENCY REPAIR, MAINTENANCE, AND MANAGEMENT OF THE HICKORY AND RINER CONCRETE GROUND STORAGE WATER TANKS.

WHEREAS, the Town of Dundee (the “Town”) is a Florida municipal corporation vested with home rule authority pursuant to the Municipal Home Rule Powers Act (F.S. Chapter 166) and Article VIII, §2 of the Florida Constitution; and

WHEREAS, pursuant to Section 2(b), Article VIII of the Florida Constitution and Chapter 166, Florida Statutes, the Town is vested with governmental, corporate, and proprietary powers to enable it to conduct municipal government, perform municipal functions, and render municipal services, including the general exercise of any power for municipal purposes; and

WHEREAS, circumstances have arisen requiring emergency action on the part of Town of Dundee management to ensure the health, safety, and general welfare of the citizens and residents of the Town of Dundee, Florida; and

WHEREAS, the Town Commission of the Town of Dundee (the “Commission”) acknowledges the health, safety, and general welfare concerns created by the need to have a fully operational regional water treatment plant(s) (the “WTPS”) in order to effectively maintain and provide potable water service(s) and operate the sewage disposal systems connected to the Town of Dundee utility system(s); and

WHEREAS, on November 3, 2021, the Florida Department of Health issued Warning Notice No. 21-653PW0485 – Tank Issues (G/1 – Tank #1) (a/k/a Hickory WTP)

and (Riner WTP Tank #2) (collectively the “Notices”) identifying deficiencies in reference to public drinking water requirements; and

WHEREAS, copies of the Notices are attached hereto as **Exhibit “A”** and made a part hereof by reference; and

WHEREAS, the Tank Inspection Reports for the Hickory WTP (G/1 – Tank #1) and Riner WTP (Riner WTP Tank #2) (collectively the “Reports”) dated January 23, 2021, describe and depict the deficient condition(s) and necessary repair(s) for the WTPS; and

WHEREAS, copies of the Reports are attached hereto as **Composite Exhibit “B”** and made a part hereof by reference; and

WHEREAS, the WTPS have a combined total capacity of 1,000,000 gallons per day (GPD) (Hickory WTP – 750,000 GPD and Riner WTP – 250,000 GPD); and

WHEREAS, the Commission acknowledges that, in order to perform the necessary repair(s), maintenance and management on and/or for the WTPS, the WTPS will likely be taken offline one (1) at a time which limits the total GPD treatment capacity; and

WHEREAS, the Commission acknowledges that the Town of Dundee has an immediate need for the emergency repair, maintenance, and management services related to the WTPS; and

WHEREAS, the Commission acknowledges that, in order to perform the necessary repair(s), maintenance and management on and/or for the WTPS, a multi-year repair, maintenance, and management plan is necessary; and

WHEREAS, on December 12, 2023, at a duly noticed public meeting, the Town Commission of the Town of Dundee acknowledges and agrees that circumstances and conditions continue to exist requiring the Town to direct and authorize the Town Manager to take any and all necessary further action(s) in order to negotiate, approve and enter into an agreement for the emergency repair(s), maintenance, and management of and/or for the WTPS in order to resolve the deficiencies identified by the Notices (see **Exhibit “A”**) and Reports (see **Composite Exhibit “B”**); and

WHEREAS, pursuant to Section 2-159(3)b of the Town of Dundee Code of Ordinances, the Commission acknowledges and agrees that the deficiencies identified by the Notices (see **Exhibit “A”**) and Reports (see **Composite Exhibit “B”**) constitutes an emergency purchase made in order to resolve a situation which is germane to the health,

safety, and general welfare of the citizens and residents of the Town of Dundee; and

WHEREAS, pursuant to Section 2-159(3)b of the Town of Dundee Code of Ordinances, the Commission acknowledges, agrees, and finds that any delay incident to complying with all governing rules, regulations, and procedures would be detrimental to the health, safety and general welfare of the Town of Dundee, its residents, and/or the general public; and

WHEREAS, the Town Commission of the Town of Dundee, Florida, finds that the approval and adoption of this Resolution is intended and necessary to enhance, protect, and preserve the present advantages that exist within the corporate limits of the Town of Dundee, Florida; is consistent with the public interest; and this Resolution is intended to promote, protect, and improve the public health, safety, and general welfare of the citizens and residents of the Town of Dundee, Florida.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COMMISSION OF THE TOWN OF DUNDEE, FLORIDA:

Section 1. Incorporation of Recitals. The above-referenced factual recitals (WHEREAS clauses) and referenced exhibits are incorporated herein as true and correct statements which form a factual and material basis for the adoption of this Resolution, and the Town Commission of the Town of Dundee, Florida, hereby adopts the above-referenced factual recitals as the legislative findings supporting the adoption of this Resolution.

Section 2. Emergency Finding. Pursuant to the Florida Department of Health issued Warning Notice No. 21-653PW0485 – Tank Issues (G/1 – Tank #1) (a/k/a Hickory WTP) and (Riner WTP Tank #2) (collectively the “Notices”), which are attached hereto as **Exhibit “A”** and made a part hereof, and Tank Inspection Reports for the Hickory WTP (G/1 – Tank #1) and Riner WTP (Riner WTP Tank #2) (collectively the “Reports”), which are attached hereto as **Composite Exhibit “B”** and made a part hereof, the Town Commission finds that an “emergency” as defined in Section 2-159(c)(2), Code of Ordinances of the Town of Dundee, exists.

The Town Commission finds that, pursuant to Section 2-159(c)(2), Code of Ordinances of the Town of Dundee, the Town is under a significant requirement such that

the delay incident in strictly complying with all of the current governing procurement rules, regulations, and procedures would be detrimental to the health, safety and general welfare of the Town of Dundee, its employees, its residents, and/or the general public.

Section 3. Authorization. Accordingly, the Town Commission directs, authorizes, approves, confirms, and ratifies: (1) the Town Manager's actions in negotiating, approving, and executing on behalf of the Town of Dundee, Florida, an agreement for the emergency repair(s), maintenance, and management of and/or for the WTPS in order to resolve the deficiencies identified by the Notices (see **Exhibit "A"**) and Reports (see **Composite Exhibit "B"**); (2) the Town Manager's actions in negotiating and entering into an agreement for the emergency repair(s), maintenance, and management of and/or for the WTPS in order to resolve the deficiencies identified by the Notices (see **Exhibit "A"**) and Reports (see **Composite Exhibit "B"**) on an emergency basis; and (3) the Town Commission of the Town of Dundee, Florida, further waives the requirement(s) of strict compliance with the Town's procurement code for the emergency repair(s), maintenance, and management of and/or for the WTPS in order to resolve the deficiencies identified by the Notices (see **Exhibit "A"**) and Reports (see **Composite Exhibit "B"**).

Section 4. Administrative Correction of Scrivener's Errors. Any provision in this Resolution may be renumbered or re-lettered and the correction of typographical and/or scrivener's errors which do not affect the intent may be authorized by the Town Manager or his/her designee, without the need of consideration by the Town Commission, by filing a corrected or recodified copy of same with the Town Clerk.

Section 5. Conflicts. All Resolutions in conflict with this Resolution are repealed to the extent necessary to give this Resolution full force and effect.

Section 6. Severability. If any section, subsection, sentence, clause, phrase of this Resolution, or the application thereof shall be held invalid by any court, administrative agency, or other body with appropriate jurisdiction, the remaining section, subsection, sentences, clauses, or phrases under application shall not be affected thereby. The Town Commission hereby declares that it would have passed this Resolution, and each section, subsection, clause, or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, and phrases be declared unconstitutional.

Section 7. Effective Date. This Resolution shall take effect immediately upon passage.

READ, PASSED AND ADOPTED at a duly called meeting of the Town Commission of the Town of Dundee, Florida, assembled on the 12th day of December, 2023.

TOWN OF DUNDEE

Samuel Pennant, Mayor

ATTEST WITH SEAL:

Trevor Douthat, Town Clerk

Approved as to form:

Frederick J. Murphy, Jr., Town Attorney

Mission:

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.

**Ron DeSantis**

Governor

Joseph A. Ladapo, MD, PhD

State Surgeon General

Vision: To be the Healthiest State in the NationNovember 3rd, 2021

Town of Dundee
P.O. Box 1000
Dundee, FL 33838

RE: Town of Dundee Public Water System
PWS ID No. 6530485

Warning Notice No. 21-653PW0485 - Tank Issues (G/1 - Tank #1)

A 750K-gallon ground water tank 5-year engineering inspection was conducted on January 23rd, 2021 by personnel under the responsible charge of a licensed professional engineer. While the tank interior and exterior appear to be in good condition, the following issues are to be addressed:

Deficiencies Observed//Recommendations:

The report states :

- *Significant corrosion is present on the interior plumbing, specifically the inlet structure.*
- *On the tank exterior, in addition tpo the screen, the egress point of the overflow should have a gasket and flapper valve.*
- *In accordance with current OSHA standards, an anti-skid product should added to the exterior ladder rungs, and a swing gate installed where the ladder meets the safety railing.*

NOTE: While no metal loss is apparent at this time the PE indicated that the utility should consider replacing the tank. Therefore, based on the PE's recommendations, it would be a good idea to consider budgeting for the replacement of the tank within the next 5 years.

In accordance with Chapter 62-555.350(2) of the Florida Administrative Code (F.A.C.):

“(2) Suppliers of water shall keep all necessary public water system components in operation and shall maintain such components in good operating condition so the components function as intended. “

Please review the above deficiencies and take the necessary step to address these issues to ensure the integrity of the coating system and continued protection of the water tank..

It is FDOH-Polk's desire that you are able to adequately address the aforementioned issue so that this matter can be closed.

Florida Department of Health in Polk County

ENVIRONMENTAL HEALTH DIVISION
2090 East Clower Street • Bartow, FL 33830-6741
PHONE: (863) 519-8330 • FAX: (863) 534-0245
<http://polk.floridahealth.gov/>

**www.FloridaHealth.gov**

TWITTER:HealthyFLA

FACEBOOK:FLDepartmentofHealth

YOUTUBE: fldoh

FLICKR: HealthyFla

PINTEREST: HealthyFla

Florida Health: the first accredited public health system in the U.S.

You may contact me at (863) 578-2033 if you have any questions. We look forward to your cooperation in resolving this matter.

Sincerely,

Alphonse Inevil

Digitally signed by alphonse.inevil@flhealth.gov
DN: cn=alphonse.inevil@flhealth.gov
Date: 2021.11.03 11:31:10 -04'00'

Alphonse Inevil / Compliance Officer



Alphonse Inevil, MS&E/M Ed.

**Environmental Specialist III
Environmental Health Division
Florida Department of Health in Polk County**

2090 East Clower Street, Bartow, FL 33830-6741

Office: (863) 578-2033 ; FAX: (863) 534-0245

Email: Alphonse.Inevil@flhealth.gov

<http://polk.floridahealth.gov/>

Mission: To protect, promote, and improve the health of all people in Florida through integrated state, county, and community efforts.

Email copy to:

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[Gerald Robinson] Gerald.robinson@flhealth.gov

[Darian S. Lalla] darian.lalla@flhealth.gov

[Henry Taghiof] hamid.taghiof@flhealth.gov

[Clifton Bernard] cbernard@townofdundee.com

[Tandra S. Davis] tdavis@townofdundee.com

[Brian Martin] bmartin@chastainskillman.com

[Carrie Ray-Murray] cray@townofdundee.com

EXHIBIT A

Mission:

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts



Ron DeSantis
Governor

Joseph A. Ladapo, MD, PhD
State Surgeon General

Vision: To be the Healthiest State in the Nation

November 3rd, 2021

Town of Dundee
P.O. Box 1000
Dundee, FL 33838

RE: Town of Dundee Public Water System
PWS ID No. 6530485

Warning Notice No. 21-653PW0485 - Tank Issues (Riner WTP Tank #2)

A 250K-gallon ground water tank 5-year engineering inspection was conducted on January 23rd, 2021 by personnel under the responsible charge of a licensed professional engineer. While the tank interior and exterior appear to be in good condition, the following issues are to be addressed:

Deficiencies Observed//Recommendations:

The report states :

- *Significant corrosion is present on the interior plumbing, specifically the inlet structure.*
- *On the tank exterior, the lid height of the hatch should be increased to at least 2”.*
- *A locking vandal guard should be installed on the exterior ladder, and perimeter lighting added to deter vandalism.*
- *In accordance with current OSHA standards, an anti-skid material should be installed on the rungs of the access ladder.*

NOTE: While no metal loss is apparent at this time the PE indicated that the utility should consider replacing the tank. Therefore, based on the PE's recommendations, it would be a good idea to consider budgeting for the replacement of the tank within the next 5 years.

In accordance with Chapter 62-555.350(2) of the Florida Administrative Code (F.A.C.):

“(2) Suppliers of water shall keep all necessary public water system components in operation and shall maintain such components in good operating condition so the components function as intended. “

Please review the above deficiencies and take the necessary step to address these issues to ensure the integrity of the coating system and continued protection of the water tank..

It is FDOH-Polk's desire that you are able to adequately address the aforementioned issue so that this matter can be closed.

**Florida Department of Health
in Polk County**
ENVIRONMENTAL HEALTH DIVISION
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www.FloridaHealth.gov
TWITTER: HealthyFLA
FACEBOOK: FLDepartmentofHealth
YOUTUBE: fldoh
FLICKR: HealthyFla
PINTEREST: HealthyFla

You may contact me at (863) 578-2033 if you have any questions. We look forward to your cooperation in resolving this matter.

Sincerely,

Alphonse Inevil

Digitally signed by alphonse.inevil@flhealth.gov
DN: cn=alphonse.inevil@flhealth.gov
Date: 2021.11.03 11:31:10 -0400

Alphonse Inevil / Compliance Officer



Alphonse Inevil, MSEE/M Ed.

Environmental Specialist III

Environmental Health Division

Florida Department of Health in Polk County

2090 East Clower Street, Bartow, FL 33830-6741

Office (863) 578-2033 FAX (863) 534-0245

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Mission: To protect, promote, and improve the health of all people in Florida through integrated state, county, and community efforts

Email copy to:

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[Gerald Robinson] Gerald.robinson@flhealth.gov

[Darian S. Lalla] darian.lalla@flhealth.gov

[Henry Taghiof] hamid.taghiof@flhealth.gov

[Clifton Bernard] cbernard@townofdundee.com

[Tandra S. Davis] tdavis@townofdundee.com

[Brian Martin] bmartin@chastainskillman.com

[Carrie Ray-Murray] cray@townofdundee.com

EXHIBIT B

Tank Inspection Reports

Inspection Standards

Condition Ratings	Inspection Findings	Change
Excellent	No deficiencies noted.	
Good	Minor deficiencies noted.	Item is functioning as designed.
Fair	Major deficiencies noted.	<i>Item in need of repairs to continue functioning as designed.</i>
Poor	Repair or Replacement is required immediately.	<i>Item may no longer function as designed.</i>

Items Needing Repairs -TANK 1 – Hickory Walk

Item/s	Condition	Repairs	Completed
External Ladder	Safety – Rungs not anti-skid	Anti-skid tape installed on rungs	Staff completed on 07-06-2022
Balcony & Railing	Safety - No Swing Gate in Place (ladder meets rail)	As noted.	Need Outside Contractor
Interior Reservoir-Inlet Structure	Severe corrosion (10 being least corrosion - given 1)	Major - Need of repairs to continue functioning as designed.	Need Outside Contractor
Interior Reservoir – Outlet Structure	Fair - Heavily rusted rating of 1, also corrosion and metal loss	Major - Need of repairs to continue functioning as designed.	Need Outside Contractor
Coating on interior, plumbing components and piping	Poor – coating staining, cracking, blisters of 1/2", delamination	Needs to be fixed immediately.	Need Outside Contractor
Security – Perimeter	Area around tank is not well lit.	As noted.	Need Outside Contractor
Security –Ladders	Outfit primary access ladder w/locking guard	As noted.	Need Outside Contractor
Security – Hatch	Hatch location not electronic monitored	As noted.	Need Outside Contractor
General Appearance	Staining, needs pressure washed and painted.	As noted.	

Additional Interior Tank Recommendation include:

- Tank interior rated as **Fair**, since significant corrosion is present on interior plumbing – inlet and outlet pipes – utility should consider replacement options of these items and coat the interior of tank. **Repairs to be made to continue functioning as designed.**

Additional Exterior Recommendation include:

- In addition to the screen, the egress point of the overflow should have a gasket and flapper valve. **Repairs to be made.**



Tank Inspection Report

Town of Dundee

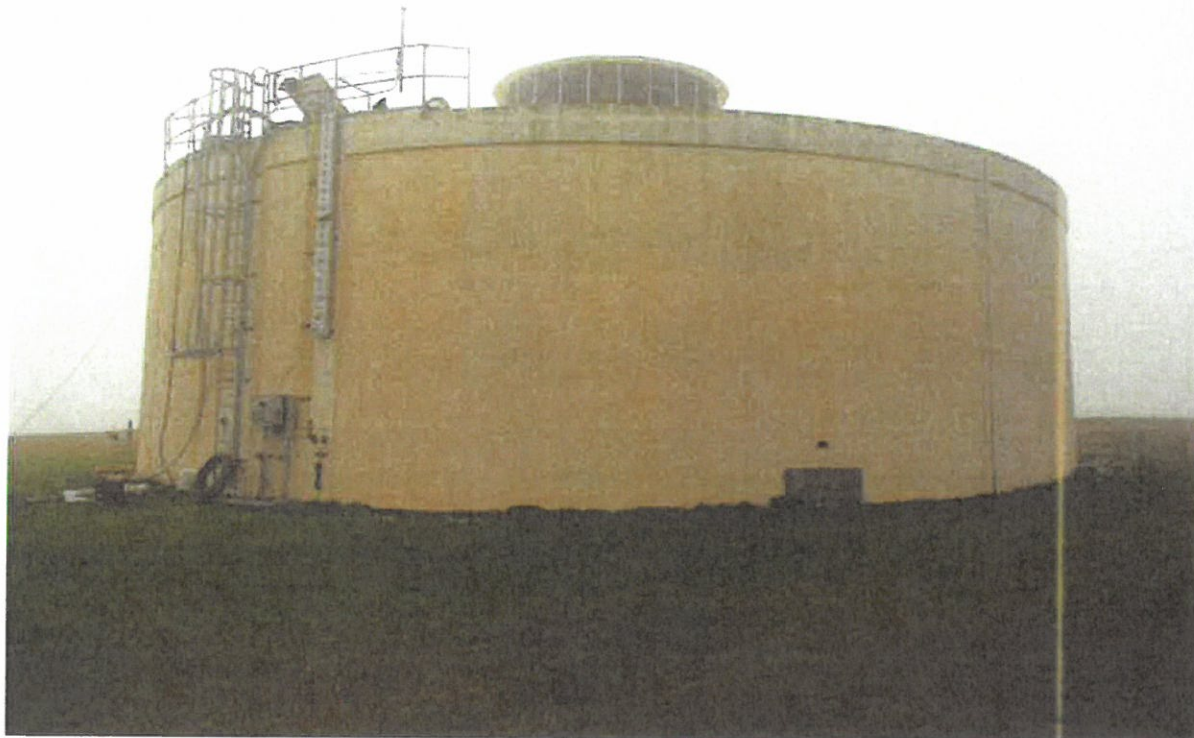
Tank No. 1

Liquid Engineering Corporation 55309

Tank Name:	Tank No. 1	Tank Type:	On-Grade
City:	Dundee	Tank Capacity:	750KG
State:	FL	Type of Construction:	Concrete
Built By:	Precon	Year Built:	2010
Cleaned and Inspected By: LEC Maintenance Team 10 – Team Leader: Ed Bomberger			
Project Date: January 23 rd , 2021			

GENERAL

This report is a supplement to the visual and video inspection undertaken for the Town of Dundee by Liquid Engineering Corporation of Billings, MT. Tank No. 1 is an on-grade concrete storage tank. The tank has a 750,000-gallon capacity and is 22' high and is approximately 76' in diameter.



STANDARDS

The inspection of this tank was performed by a dive maintenance technician using surface supplied air, totally encapsulated in a sealed dry suit mated to a sealed dry divers hard hat and conducted in accordance with all applicable OSHA, EPA, AWWA, NACE, SSPC and ADC requirements and/or recommendations.

The inspection consisted of a visual observation of the tank's interior and exterior components and coating system. The tank was not drained for the inspection and all interior assessment data was recorded using real time video with live voice narration. Exterior assessment data was documented using digital still photographs.

CONDITION OBSERVATIONS

Conditions noted during the field inspection are documented in the following pages and are supplemented with color photographs at the end of the report. Condition ratings used to describe the inspection findings are annotated as follows:

Excellent:	No deficiencies noted.
Good:	Minor deficiencies noted. Item is functioning as designed.
Fair:	Major deficiencies noted. Item is in need of repairs to continue functioning as designed.
Poor:	Repair or replacement required immediately. Item may no longer function as designed.

CONTAMINATION, HEALTH & SAFETY REPORT

Contamination and Health

- **Air Vents and Screens** – As opposed to a traditional air vent, the tank is equipped with an aeration unit and four integrated vents that act as emergency overflows. Each appears to be properly screened and in good condition.
- **Hatches** – The hatch is properly sealed and secured.
- **Roof / Wall Integrity** – No holes or standing water are reported on the roof or walls, but minor cracking is present in both locations.
- **Manway Integrity** – The manway is secure; there are no visible signs of leaking.
- **Water Clarity** – The water is clear and there is no odor or floating surface debris reported.
- **Telemetry Penetrations** – Each of the penetrations has a proper seal.

Facility Safety Compliance

- **External Ladder** – The exterior ladder measures 22' in height and is in overall good condition. It is equipped with a locking vandal guard, and although there are no missing or damaged rungs, they are not of anti-skid construction.
- **Rail & Rungs** – The rungs are spaced at 10" and have an 8 ½" toe depth. The rails are 2" in width and thickness, and the rail-to-rail span is 18".
- **Manway** – The manway measures 54" x 21" and has a bolted support.
- **Hatch** – The primary access way measures 38 ½" square. The hatch lip is 6" and the overlap is 2".
- **Balcony & Railing** – The walkway is 22' wide. It is surrounded by a 2-piece safety rail which measures 45" in overall height, 24" at mid-rail, and there is a 4" toe kick in place. It should be noted there is no swing gate in place where the ladder meets the railing.
- **Roof** – There are numerous safety tie-off points on the roof of the tank; each is in good condition.

INTERIOR RESERVOIR INSPECTION REPORT

Interior Reservoir Roof

- ✓ Vents – Only minor corrosion and staining is present on the interior portion of the vent structure.
- ✓ Roof Slabs – Staining and efflorescence are present in each quadrant and isolated areas of exposed reinforcement are noted in Quadrant 1 and 2. Efflorescence is simply mineral material leaching from the concrete; it will not affect the quality of the water within the reservoir.

Interior Reservoir Walls

- Wall to Roof Joint – The joint is in similar condition to the roof with staining and efflorescence reported.
- ✓ Wall Structure – Staining and cracking with efflorescence are present, but the walls appear to be in good condition overall. The cracking does seem to be limited to the lower wall area near the floor.
- Baffle Wall – The tank is equipped with a CMU baffle wall that runs from the 1 o'clock position to the 7 o'clock location. Staining and isolated efflorescence are noted, but it does appear to be sound.
- ✓ Ladder Structure – The fiberglass ladder shows staining, but the ladder, stainless steel hardware and stand-offs are in good condition. There is a safety climb system in place which appears to be securely attached and safe for use.
- ✓ Leaking – No indications of leaking are present from any portion of the walls.

Interior Reservoir Floor

Cracking

- Perimeter Joint – In addition to staining, the inspector reports cracking with efflorescence in each quadrant.
- Floor Slabs – Prior to beginning the final inspection, a skiff of sediment was removed allowing for a full evaluation of the slabs. The sediment ranged in depth from a skiff to nearly ½" in Quadrant 2. Staining and efflorescence are noted in each quadrant, and there is also an isolated area of minor cracking in Quadrant 4.

Interior Reservoir Plumbing Components

- Repair | • Inlet Structure – The inlet penetrates the floor of the tank and extends into the aeration unit before returning to the water column. Significant corrosion is reported on the pipe, which measures approximately 15" in diameter. Using the SSPC scale with "10" being the least corroded, the inlet is given a "1". The two PVC pipes that direct the water back into the tank appear stained but are otherwise in good condition.
- Repair | • Outlet Structure – The outlet is also located in Quadrant 1. It measures 20" diameter with a 7" silt stop riser. As is the case with the inlet, it is heavily rusted and rates as a "1". The inspector also reports corrosion with metal loss on the anti-vortex guard.
- • Drain – The 5 ½" floor drain is positioned near the inlet. Several rust nodules have formed along the perimeter of the penetration, but it does appear to be unobstructed.
- ✓ • Manway – The manway penetrates the lower wall of the tank in Quadrant 4. No corrosion is present, and there is adequate gasket material in place. The manway is rated as a "10".
- ✓ • Overflow – The overflows are located near the roof to wall joint in each quadrant. Each of the components is properly screened and all appear to be in good condition.
- Repairs Immediate | • Coating – The condition of the coating on the interior components is poor. In addition to staining, cracking and delamination, blisters averaging ½" are noted.
- ✓ • Leaking – No indications of leaking are present at any of the plumbing components.

EXTERIOR RESERVOIR INSPECTION REPORT

Exterior Reservoir Roof

- ✓ **Roof** – Light discoloration and moderate cracking are noted, but the roof does appear to be in satisfactory condition.
- ✓ **Vents** – No discrepancies are noted in regard to the vents / screens.
- ✓ **Roof Hatch** – The primary access hatch, hinges and lock and hasp, are in good condition overall.
- ✓ **Hatch Cage** – The rail surrounding the hatch appears to be securely attached and in good condition.
- ✓ **Coating** – The exterior coating is cracked and stained, but otherwise in satisfactory condition.

Exterior Reservoir Walls

- Staining cracks*
- ✓ **Roof to Wall Seam** – The seam shows staining but is sealed and in good condition.
 - **Wall Structure** – In addition to staining, the exterior wall slabs exhibit settling cracks in each quadrant.
 - **Coating** – The exterior coating / paint appears to be in good condition in all quadrants with very light organic staining present.

Foundation

- Staining*
- **General appearance**- Staining is the only irregularity noted in regard to the footing ring, and no indications of leaking or ground subsidence are present.

GENERAL TANK SECURITY

Security

- **Perimeter** – The area surrounding the tank is not well lit.
- ✓ **Fencing** – The tank is surrounded by a security fence, which was locked upon the crew's arrival.
- **Ladders** – The primary access ladder is not outfitted with a locking vandal guard.
- **Hatch** – The hatch location is equipped with a lock, but not electronic monitoring device.

SUMMARY

The **INTERIOR** of the tank appears to be in fair condition overall. Recommendations include:

- Significant corrosion is present on the interior plumbing, specifically the inlet and outlet pipes. No metal loss is apparent at this time, but the utility should consider replacement options.

The tank **EXTERIOR** appears to be in good condition. Recommendations follow:

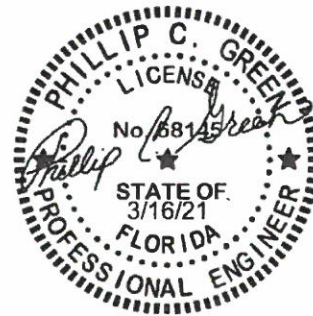
- In accordance with current OSHA standards, an anti-skid product should be added to the exterior ladder rungs, and a swing gate installed where the ladder meets the safety railing.
- In addition to the screen, the egress point of the overflow should have a gasket and flapper valve.

At a minimum, the utility should continue to clean and inspect this tank every three years. Preventive maintenance of this nature will ensure that the identified discrepancies in this tank are closely monitored and will provide a record of care in the future.

(As a disinterested third-party inspector, LEC does not engage in the construction or rehabilitation of potable water storage facilities. LEC will, in its commitment to our clients and upon request, identify to the client relevant entities that are professionally reliable and best capable of completing the recommended work, or assist the client in research tips that will enable them to make a decision that best serves the utility.)

DISCLAIMER

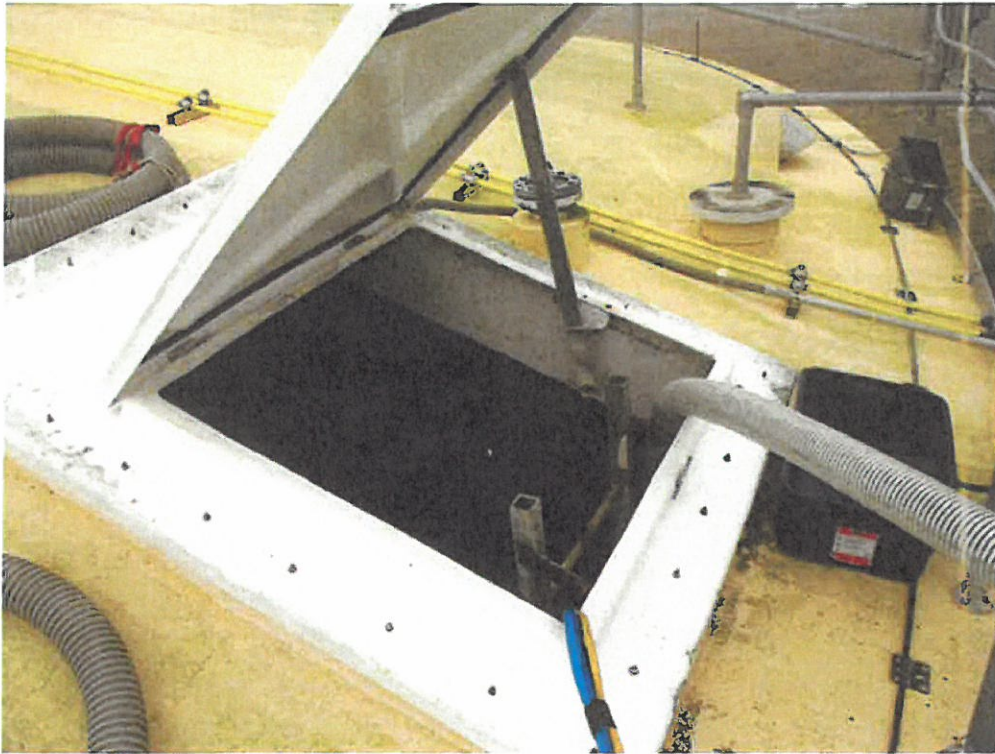
Unless otherwise noted, the findings documented in this report were neither prepared by nor reviewed by a Licensed Professional Engineer.



APPENDIX A

Photographs

Condition of Access Hatch



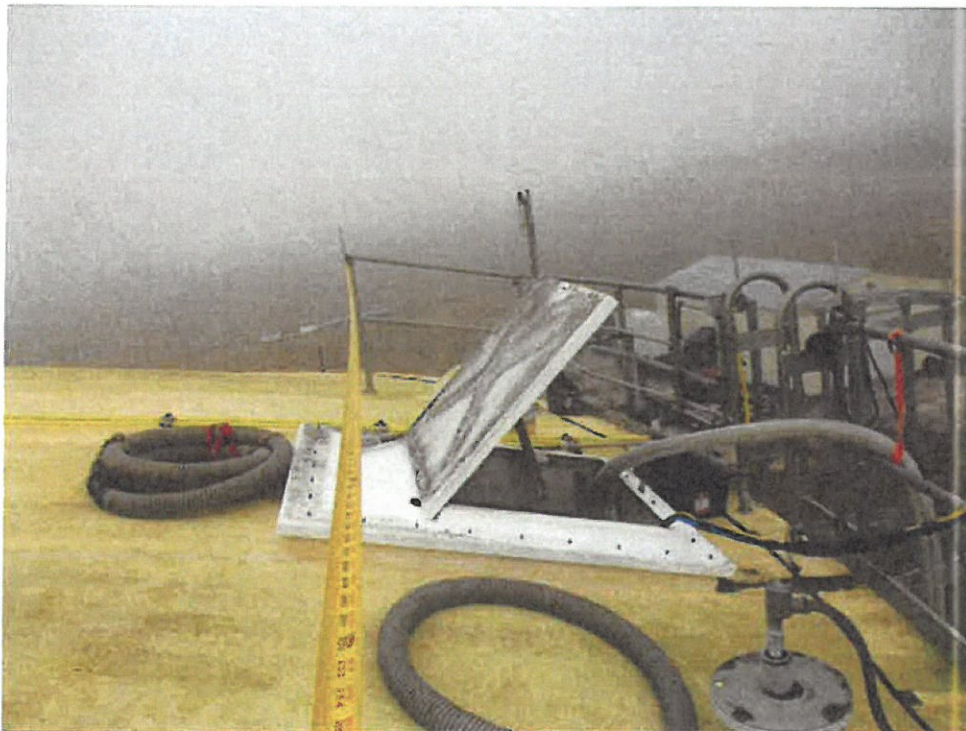
Cracking and Staining on Roof



Ladder Rungs (note lack of anti-skid surface)



Ladder and Safety Rail (note lack of swing gate)



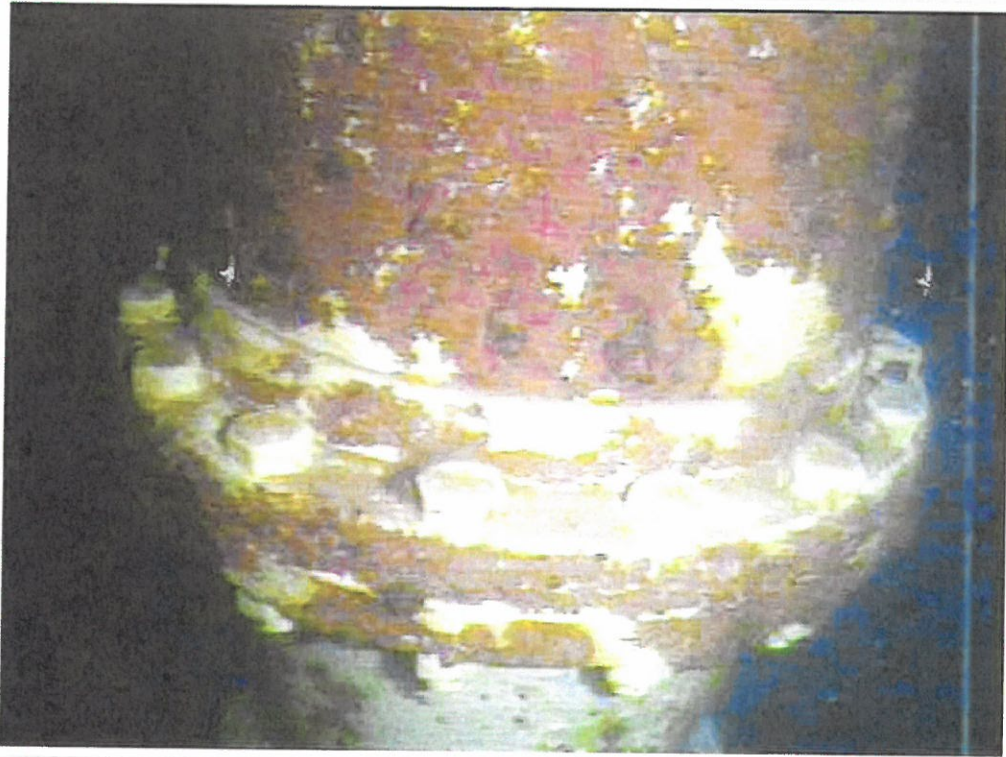
Condition of Outlet and Anti-Vortex Guard (note substantial corrosion)



Floor Drain (note rust nodules at perimeter)



Inlet Pipe (note coating failure and corrosion)



Condition of Baffle Wall



Isolated Cracking



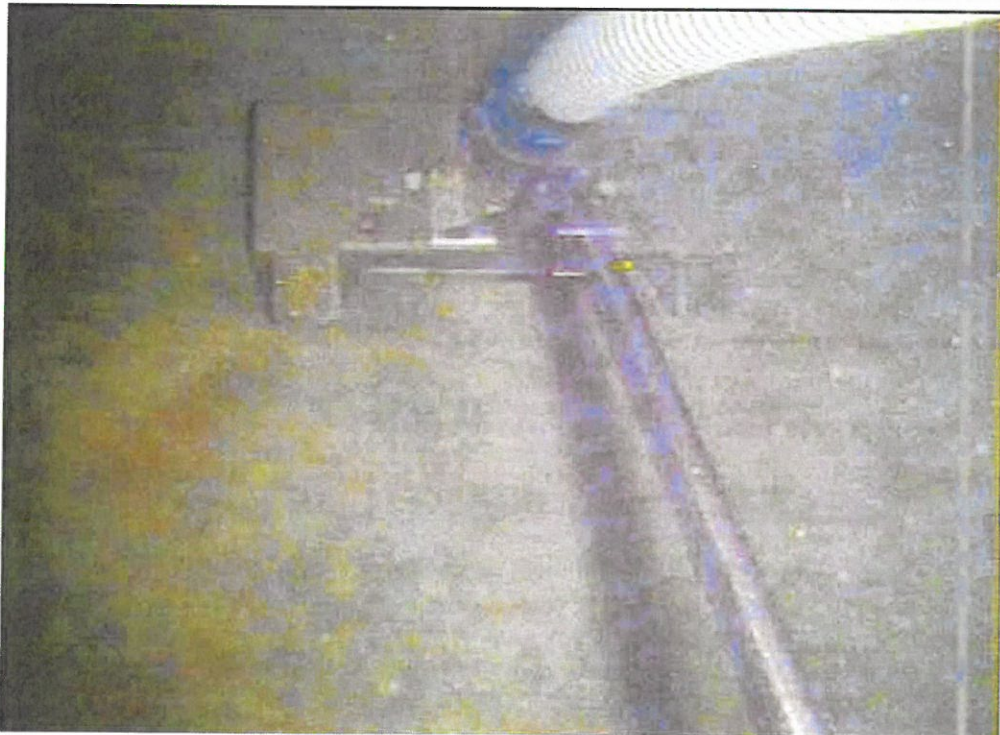
Upper Section of Baffle Wall and Aeration Returns



Condition of Upper Walls



Condition of Floor Slabs (during sediment removal operations)



APPENDIX B

Liquid Engineering Corporation
Concrete Water Reservoir Inspection Report

Job Number: 55309 Utility: TOWN OF DUNDEE Tank: NO 1 Date: 1/23/2021
 Inspector: J. VISSER Dive Controller: L. HARGIS Capacity: 750KG Dimensions: 22' TALL 76' WIDE

CONCRETE CONDITION CODE							
A - Abrasion	D - Deformation	G - Contraction	J - Chalking	M - Erosion	P - Popouts	S - Spalling	V - Void
B - Bug Holes	E - Efflorescence	H - Deflection	K - Checking	N - Peeling	Q - Settling	T - Exposed Aggregate	X - Exposed Reinforcement
C - Cracking	F - Fissure	I - Delamination	L - Expansion	O - Curling	R - Stains		

QUADRANT 1
 QUADRANT 2
 QUADRANT 3
 QUADRANT 4

INTERIOR RESERVOIR ROOF

Roof Slab(s)	R, E, X	R, E, X	R, E	R, E
Expansion Joint(s)				
Support Beam(s)				
Beam Joint(s)				

General Appearance: Good Coating: N/A
 All expansion Joints: Uniform width: ----- Uniform Level: ----- Gaskets Intact: -----

INTERIOR RESERVOIR WALLS

Wall-Roof Joint	R, E	R, E	R, E	R, E
Wall Structure	R, C, E	R, C, E	R, C, E	R, C, E

General Appearance: Good Coating: N/A Leaking: None observed

~~**INTERIOR RESERVOIR SUPPORT COLUMNS**~~

Columns				
Column Capitals				
Column Bases				

General Appearance: ----- Coating: N/A

INTERIOR RESERVOIR FLOOR

Perimeter Joint	R, C, E	R, C, E	R, C, E	R, C, E
Floor Slabs	R, E	R, E	R, E	R, C, E

General Appearance: Good Coating: N/A Sump System: ----- Leaking: None observed
~~All expansion Joints~~ Uniform width: ----- Uniform Level: ----- Gaskets Intact: -----

Additional Comments:

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Liquid Engineering Corporation
Concrete Water Reservoir Inspection Report

Job Number: 55309
 Inspector: J. VISSER

Utility: TOWN OF DUNDEE
 Dive Controller: L. HARGIS

Tank: NO 1
 Date: 1/23/2021

SSPC Rating	
Grade	Description - Good Condition
10	No Rusting, or <0.01% of surface is rusted
9	Minor rusting, or <0.03% of surface is rusted
8	Isolated rust, <0.01% of surface is rusted

SSPC Rating	
Grade	Description - Fair Condition
7	Isolated rust, <.03% of surface is rusted
6	Extensive rusting, <1% of surface is rusted
5	Approximately 3% of the surface is rusted

SSPC Rating	
Grade	Description - Poor Condition
4	Approximately 10% of the surface is rusted
3	Approximately 17% of the surface is rusted
2	Approximately 33% of the surface is rusted
1	Approximately 50% of the surface is rusted
0	Approximately 100% of the surface is rusted

QUADRANT 1 **QUADRANT 2** **QUADRANT 3** **QUADRANT 4**

INTERIOR RESERVOIR PLUMBING COMPONENTS

	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion
Inlet Plumbing	1	Significant	N/A	-----	N/A	-----	N/A	-----
Outlet Plumbing	1	Significant	N/A	-----	N/A	-----	N/A	-----
Manways	N/A	-----	N/A	-----	N/A	-----	10	None Noted
Floor Drains	6	Significant	N/A	-----	N/A	-----	N/A	-----
Interior Overflow	N/A	-----	N/A	-----	N/A	-----	N/A	-----
Other Plumbing	N/A	-----	N/A	-----	N/A	-----	N/A	-----

Coating Deficiencies: Blistering Delamination Chalking Checking Cracking Cratering Pinholes Staining Sags/Runs

Over All Coating Condition Poor Average Blister Size 1/2"

Over All Structural Condition Good Weld Condition Good Average Pit Depth NONE

Repair Immediate

CONCRETE CONDITION CODE

A - Abrasion	D - Deformation	G - Contraction	J - Chalking	M - Erosion	P - Popouts	S - Spalling	V - Void
B - Bug Holes	E - Efflorescence	H - Deflection	K - Checking	N - Peeling	Q - Settling	T - Exposed Aggregate	X - Exposed Reinforcement
C - Cracking	F - Fissure	I - Delamination	L - Expansion	O - Curling	R - Stains		

QUADRANT 1 **QUADRANT 2** **QUADRANT 3** **QUADRANT 4**

EXTERIOR RESERVOIR ROOF

Roof Slab(s)	R, C	R, C	R, C	R, C
Expansion Joint(s)	-----			

General Appearance: Good Coating: N/A Vents: Good Level Indicator: Good

All expansion Joints Uniform width: ----- Uniform Level: ----- Gaskets Intact: -----

EXTERIOR RESERVOIR WALLS

Wall-Roof Joint	R	R	R	R
Wall Structure	R, C	R, C	R, C	R, C

General Appearance: Good Coating: Cracking Leaking: None observed

Overflow Structure: Good

All expansion Joints Uniform width: ----- Uniform Level: ----- Gaskets Intact: -----

EXTERIOR RESERVOIR FOOTINGS / FOUNDATION

Perimeter Joint	R	R	R	R
Footing Ring				

General Appearance: Good Coating: Good Leaking: None observed Ground Subsidence: None observed

~~All expansion Joints~~ Uniform Width: ----- Uniform Level: ----- Gaskets Intact: -----

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Potable Water Reservoir Contamination, Health and Safety Report (Primary)

Job Number: 55309

Utility: TOWN OF DUNDEE

Tank: NO 1

Inspector: J. VISSER

Dive Controller: L. HARGIS

Date: 1/23/2021

FACILITY SAFETY & HEALTH

Primary Air Vent	Type: Other	Screen : Good	Pressure Vacuum / Frost Proof: No
Exterior Overflow	Flapper: No	Screen: Yes	Gasket: No Condition: Good
Cathodic Protection	System Installed: No	Cathodic Access Covers #: 0	Properly Sealed: ----
Water Level Indicator	Type: Board	Condition: Fair	Penetration Points Properly Sealed: Yes
Heater System	Installed: No	Type: -----	
1st Access Hatch	Type: Square	Size: 38.5 in. (24" - 24" x 15" min)	Properly Sealed: Yes
Hatch Height: 6	in. (min 4")	Lid Height: 2 in (min 2")	Properly Secured: Yes
2nd Access Hatch	Type: -----	Size: in. (24" - 24" x 15" min)	Properly Sealed: ----
Hatch Height:	in. (min 4")	Lid Height: in (min 2")	Properly Secured: ----

Primary Manway

Locations	Wall: Q4	Leg:	Roof:	Riser Pipe:	Other:
Type and Size	Type: Other	Size: 54" X21" in (24" - 18"x22")			
Support Structure	Type: Bolted	Condition: Good			
WT Integrity	Leaks: No	Condition: Good			

Primary Exterior Ladder

Location	Wall: Q1	Leg:	Roof:	Riser Pipe:	Other:
Overall Ladder	Condition: Good	Height: 22'	Offset Landing: No		
Vandal Guard	Present: Yes	Locked: Yes			
Ladder Rails & Rungs	Condition: Good	Anti-Skid Rungs: No	Missing/Damaged Rungs: No		
Rung Spacing & Depth	Spacing: 10 in. (max 12")	Toe Depth: 8.5 in. (min 7")			
Rail Spacing & Size	Width: 2 in. (min 2")	Thickness: 2 in. (min 1/4")	Rail to Rail: 18 in. (min 16")		
Safety Climb System	Type: Cage	Condition: Good			

Primary Balcony & Railing

Location	On Roof: Q1/Q4	Around Bowl:	At Interior Landing:	Other:
Deck / Walkways	Condition: Good	Width: 22' in. (min 24")		
Top Rails	Condition: Good	Height: 45 in. (min 42" +/- 3")	Swing Gate Present: No	
Mid Rails	Condition: Good	Height: 24 in. (half the distance between top rail and floor)		
Toe Boards	Condition: Good	Height: 4 in. (min 4")		

Roof Integrity:	Holes: No	Cracking: Yes	Standing Water: No	Other:
Wall Integrity:	Holes: No	Cracking: Yes	Leaks: No	Other:
Safety Tie-Off Points	Type: Integrated/Structural	#: 10+	Condition: Good	

Antennas	Type: ----	#: 0	Location(s): Roof:	Bowl:	Leg:	Other:
-----------------	------------	------	--------------------	-------	------	--------

Water Clarity	General Appearance: CLEAR	Odor: NONE	Surface Debris: NONE
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Hypalon Floating Cover	Condition: ----	Holes: ----	Tears: ----
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Grounding System	Present: No
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DISCLAIMER

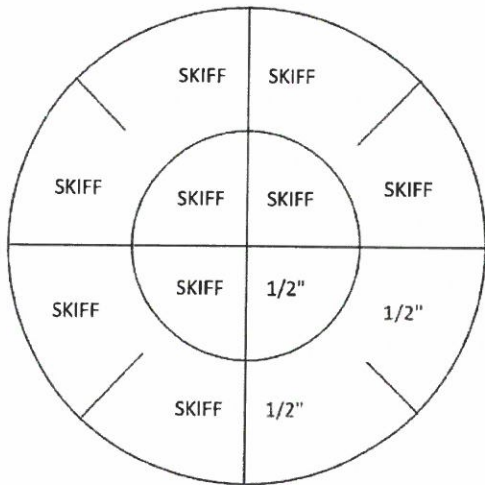
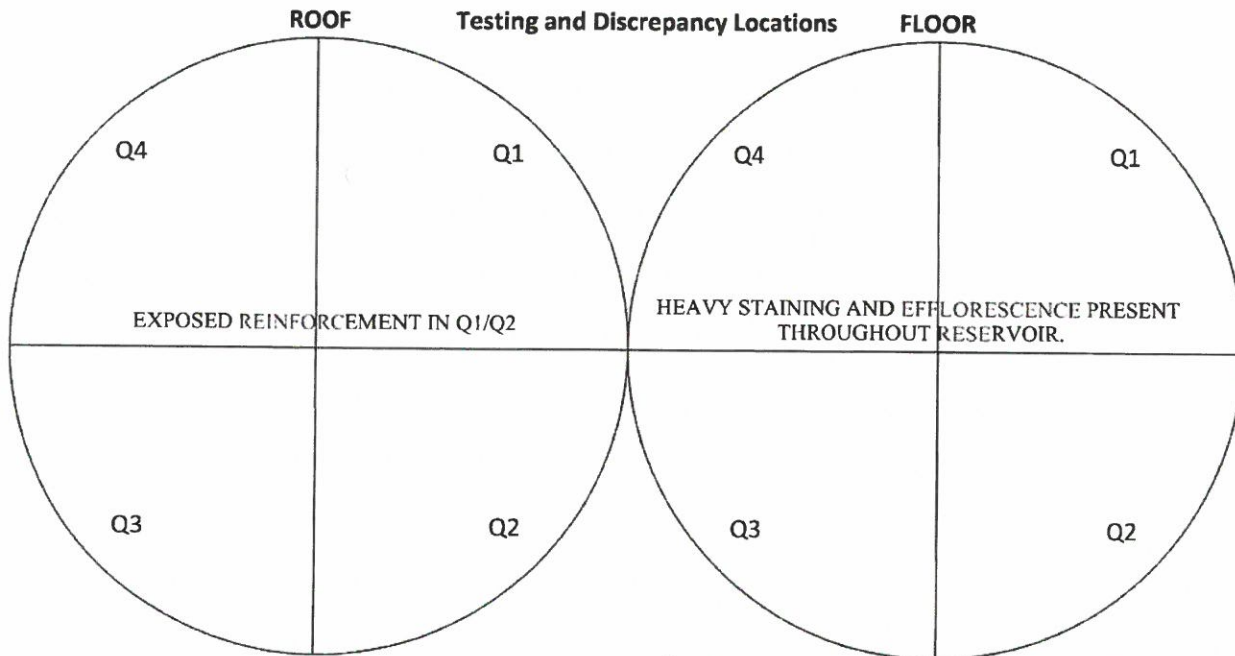
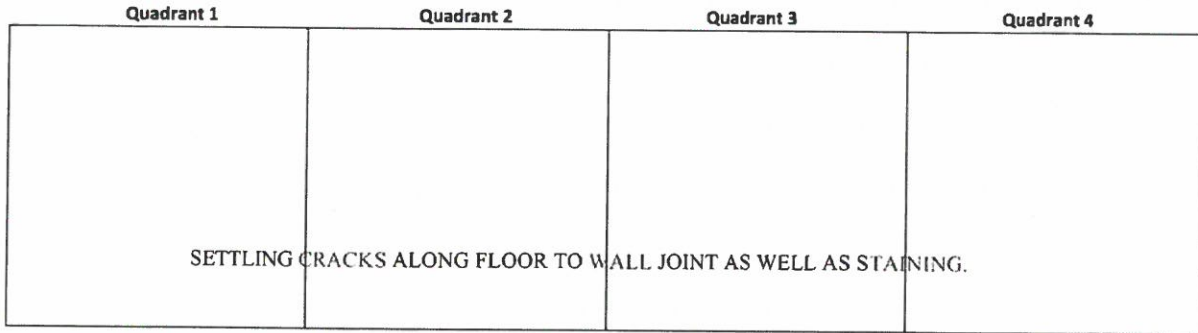
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Liquid Engineering Corporation
Circular Tank Diagram / Information Worksheet

Job Number 55309

Utility Name TOWN OF DUNDEE

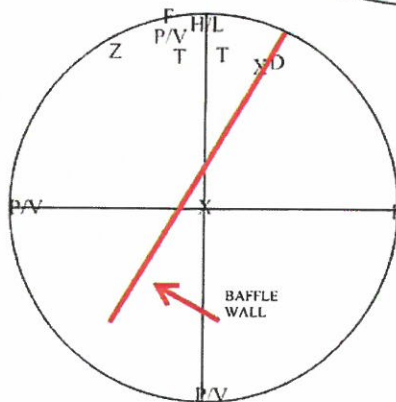
Tank Name NO 1



Sediment Depth Measurements

Average Sediment Depth = The sum of all measurements taken, divided by the number of measurements taken

Avg. Depth SKIFF **Cubic Yardage** N/A **Sediment Type** IRON/SAND



Plumbing & Structure location

Plumbing and structure codes
 O=Outlet X=Inlet Z=Manway
 V=Vent D=Drain S=Sump
 L=Ladder H=Hatch P=Overflow
 F=Float Level Indicator
 T=Telemetry

Column Placement

Type of Column ○ □ I
 Base Structure ▱ U Y I
 Top Structure ▱ U Y I

Column Construction -----

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Liquid Engineering Corporation
Rectangular Tank Diagram / Information Worksheet

Job Number 55309

Utility Name TOWN OF DUNDEE

Tank Name NO 1

Q-4	Q-1
Q-3	Q-2

Sediment Depth Measurements

Average Sediment Depth = The sum of all measurements taken, divided by the number of measurements taken

Avg. Depth Cubic Yardage Sediment Type

Plumbing & Structure location

Plumbing and structure codes
 O=Outlet X=Inlet Z=Manway
 V=Vent D=Drain S=Sump
 L=Ladder H=Hatch P=Overflow
 F=Float Level Indicator
 T=Telemetry

Column Placement

Type of Column ○ □ I
 Base Structure ▱ U / \ I
 Top Structure ▱ □ / \ I
 Column Construction -----

N	

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Potable Water Reservoir Security / Measurement Worksheet

Job Number 55309

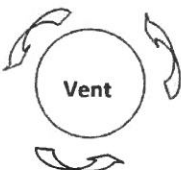
Utility Name TOWN OF DUNDEE

Tank Name NO 1

Security

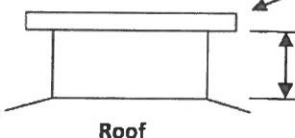
Is the area surrounding the tank well lit?	No
Is the tank surrounded by a Security Fence?	Yes
Are the access gates locked?	Yes
Is the tank equipped with a Vandal Guard on the primary access ladder?	Yes
If so, is the Vandal Guard locked?	Yes
Are the access roads in good repair?	Yes
Are all of the hatches equipped with electronic monitoring devices?	No
Are the external plumbing components housed in a secure vault or out-building?	Yes
Does the surrounding geography of the tank obscure it from public view?	No
Does the exterior of the tank show signs of trespass?	No

Measurements



Vent

Outside Circumference
N/A Inches



Roof

Flange Metal Thickness N/A Inches

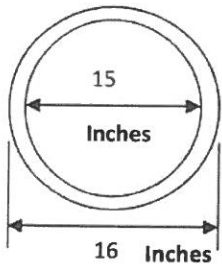
Roof to Screen or Flange N/A Inches

Flange N/A

Number of Bolt Holes N/A Inches

Size of Bolts N/A Inches

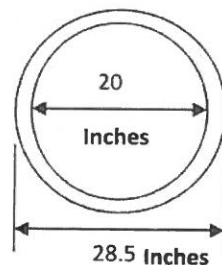
Inlet



15
Inches

16 Inches

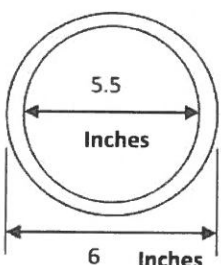
Outlet



20
Inches

28.5 Inches

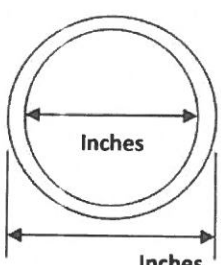
Drain



5.5
Inches

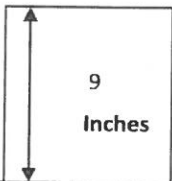
6 Inches

Overflow



Inches

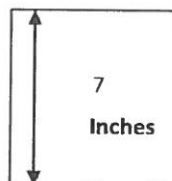
Inlet Riser



9
Inches

Floor

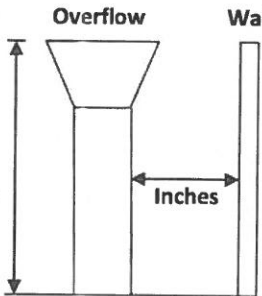
Outlet Riser



7
Inches

Floor

Overflow



Feet/Inches

Inches

Floor

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Liquid Engineering Corporation
Potable Water Reservoir Immediate Needs Assessment

Job Number: 55309

Utility: TOWN OF DUNDEE

Tank: NO 1

Inspector: J. VISSER

Dive Controller: L. HARGIS

Date: 1/23/2021

1. Health and Safety Items

- Safety Climb System Installation:
 Vent Screen Repairs:

2. Testing Items

- Dye Testing for Leak Evaluation:
 Presence of Lead Test (Interior/Exterior):

3. Repair Items

- Epoxy Coating Repairs:
 Temporary Leak Repairs:
 Float Operated Level Indicator Repairs / Maintenance:
 Hypalon Repairs:

4. Security Related Items *(Critical security upgrade information is immediately available)*

- Tank vents are not equipped with a security vent shroud:
 Tank hatches are not equipped with a security hatch locking device:
 Tank perimeter not adequately secured:

The above mentioned additional work is considered immediately necessary and is recommended to be completed. Some items may be completed in conjunction with work currently being performed while the crew is on site.

Reservoir Inspection Condition Supplemental

Upon entering the reservoir the diver noticed a skiff of sediment, however once he rounded the baffle wall this grew to approximately 1/2" of an iron sand based sediment. Once this was removed the diver looked at the floor and deemed it to be in good condition with staining present in all four quadrants. The floor to wall seam however exhibited evidence of settling cracks running along the perimeter of the reservoir with efflorescence forming around all of the cracks. Looking at the inlet plumbing which goes up towards the aerator it appears to have significant surface corrosion forming on the entire surface but is in good structural condition. The outlet pipe in the reservoir is in poor condition with heavy galvanic corrosion forming along the vortex guard, the outlet itself has large rust nodules forming but is unobstructed and in good structural condition. Overall the roof of the in quadrants 1 and 2 is in good condition with areas of exposed reinforcement but no other major discrepancies observed. The roof of the lower walls of the reservoir in all four quadrant have areas of cracking and efflorescence forming throughout. The upper walls of the reservoir have staining and efflorescence forming above the water line. on the opposite side of the baffle there is 2 PVC inlet pipes running from the aerator system of the roof of the reservoir to the floor, all of the concrete blocks supporting the inlet pipes are in good condition with no major discrepancies on any of the plumbing. The floor drain in the reservoir is in quadrant 1 where the opening of the inlet is and is in good condition with some large rust nodules forming. The roof of the reservoir in quadrant 3 of 4 is in good condition with no major discrepancies. The internal ladder in the reservoir is in good condition. The float level indicator is in good condition with heavy staining along the PVC structure it is inside of. The telemetry in the reservoir no longer seems to be hung properly and is likely not giving an accurate reading. overall the reservoir is in good condition with no major discrepancies to note.

Liquid engineering recommends another clean and inspect every 3 years.

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EXHIBIT B

Tank Inspection Reports

Inspection Standards

Condition Ratings	Inspection Findings	Change
Excellent	No deficiencies noted.	
Good	Minor deficiencies noted.	Item is functioning as designed.
Fair	Major deficiencies noted.	<i>Item in need of repairs to continue functioning as designed.</i>
Poor	Repair or Replacement is required immediately.	<i>Item may no longer function as designed.</i>

Items Needing Repairs -TANK 2- Riner

Item/s	Condition	Repairs	Completed
External Ladder	Safety – Rungs not anti-skid	Anti-skid tape has been installed on rungs.	Staff completed on 07-06-2022
Hatch	Safety – Hatch pip is 4" and current lid height is 1 ½".	AWWA standards lid height to be 2" - Increase height to 2"	Repair to AWWA standards.
Balcony & Railing	Safety – Tank is not equipped with safety rail	Noted to do.	Need Outside Contractor
Interior Reservoir-Inlet Structure	100% Surface corroded (10 being least corrosion -given 0)	Major - Need of repairs to continue functioning as designed.	Need Outside Contractor
Interior Reservoir – Outlet Structure	Extensive rusting in Q-1, rated as a 6.	Repairs to continue functioning as designed.	Need Outside Contractor
Coating on interior, plumbing components, and piping	Manway significant corrosion rating 5 – Coating on interior components is POOR staining, cracking, and delamination	Needs to be fixed immediately.	Need Outside Contractor
Security –Ladders	Outfit Primary access ladder w/locking vandal guard	Noted to do.	Need Outside Contractor
Security – Hatch	Hatch location not electronic monitored	Noted to do late as part of security project	Need Outside Contractor

Additional Interior Tank Recommendation include:

- Tank interior rated as **Fair** since significant corrosion is present on interior plumbing – specifically the inlet structure – utility should consider replacement options of these items and coat the interior of tank. **Repairs to be made to continue functioning as designed.**

Additional Exterior Recommendation include:

- Tank should continue to be cleaned and inspected every 3 years. This item will become a CIP budgeted item for maintenance. Preventative maintenance will ensure and identified discrepancies and provide close monitoring with record of same. **Future Budget years**



Tank Inspection Report

Town of Dundee

Tank No. 2

Liquid Engineering Corporation 55309

Tank Name:	Tank No. 2	Tank Type:	On-Grade
City:	Dundee	Tank Capacity:	50KG
State:	FL	Type of Construction:	Concrete
Built By:	Crom	Year Built:	1985
Cleaned and Inspected By: LEC Maintenance Team 10 – Team Leader: Ed Bomberger			
Project Date: January 23 rd , 2021			

GENERAL

This report is a supplement to the visual and video inspection undertaken for the Town of Dundee by Liquid Engineering Corporation of Billings, MT. Tank No. 2 is an on-grade concrete storage tank. The tank has a 250,000-gallon capacity and is 13' high and is approximately 57' in diameter.



STANDARDS

The inspection of this tank was performed by a dive maintenance technician using surface supplied air, totally encapsulated in a sealed dry suit mated to a sealed dry divers hard hat and conducted in accordance with all applicable OSHA, EPA, AWWA, NACE, SSPC and ADC requirements and/or recommendations.

The inspection consisted of a visual observation of the tank's interior and exterior components and coating system. The tank was not drained for the inspection and all interior assessment data was recorded using real time video with live voice narration. Exterior assessment data was documented using digital still photographs.

CONDITION OBSERVATIONS

Conditions noted during the field inspection are documented in the following pages and are supplemented with color photographs at the end of the report. Condition ratings used to describe the inspection findings are annotated as follows:

Excellent:	No deficiencies noted.
Good:	Minor deficiencies noted. Item is functioning as designed.
Fair:	Major deficiencies noted. Item is in need of repairs to continue functioning as designed.
Poor:	Repair or replacement required immediately. Item may no longer function as designed.

CONTAMINATION, HEALTH & SAFETY REPORT

Contamination and Health

- **Air Vents and Screens** – In addition to a traditional air vent, the tank is equipped with an aeration unit and four integrated vents that act as emergency overflows. Each appears to be properly screened and in good condition.
- **Hatches** – The hatch is properly sealed and secured.
- **Roof / Wall Integrity** – No holes or standing water are reported on the roof or walls, but minor cracking is present in both locations.
- **Manway Integrity** – The manway is secure; there are no visible signs of leaking.
- **Water Clarity** – The water is clear and there is no odor or floating surface debris reported.
- **Telemetry Penetrations** – Each of the penetrations has a proper seal.

Facility Safety Compliance

- **External Ladder** – The exterior ladder measures 13' in height and is in overall good condition. It is equipped with a locking vandal guard, and although there are no missing or damaged rungs, they are not of anti-skid construction.
- **Rail & Rungs** – The rungs are spaced at 12" and have a 9" toe depth. The rails are 2" in width and thickness, and the rail-to-rail span is 18".
- **Manway** – The manway measures 30" x 17" and has a bolted support.
- **Hatch** – The primary access way measures 36" square. The hatch lip is 4" and the lid height is 1 ½". Current AWWA standards call for the lid height to be no less than 2".
- **Balcony & Railing** – The tank is not equipped with a safety rail.
- **Roof** – There are four safety tie-off points on the roof of the tank; each is in good condition.

INTERIOR RESERVOIR INSPECTION REPORT

Interior Reservoir Roof

- **Roof Slabs** – Although staining and cracking are present, the roof is found to be in good condition overall.

Interior Reservoir Walls

- **Wall to Roof Joint** – Staining is present in each section, and the inspector also reports an isolated area of cracking with efflorescence in Quadrant 2. Efflorescence is simply mineral material leaching from the concrete; it will not affect the quality of the water within the reservoir.
- **Wall Structure** – Staining and cracking with efflorescence are present, but the walls also appear to be in good condition overall.
- **Baffle Wall** – The tank is equipped with a CMU baffle wall that runs from the 2 o'clock position to the 8 o'clock location. Staining and adhered sediment are noted, but it does appear to be sound.
- **Leaking** – No indications of leaking are present from any portion of the walls.

Interior Reservoir Floor

- **Perimeter Joint** – Aside from staining, no irregularities are reported in regard to the perimeter joint.
- **Floor Slabs** – Prior to beginning the final inspection, a skiff of iron sediment mixed with debris was removed allowing for a full evaluation of the slabs. The sediment was evenly distributed throughout the floor area. Staining from the mineral content in the water is noted in each quadrant.

Interior Reservoir Plumbing Components

- **Inlet Structure** – The inlet penetrates the floor of the tank and extends into the aeration unit before returning to the water column. The inspector was unable to obtain a measurement of the pipe but does report that 100% of the surface is corroded. Using the SSPC scale with "10" being the least corroded, the inlet is given a "0".
- **Outlet Structure** – The outlet is located in Quadrant 1 and measures 18 ½" in diameter with a 4" silt stop riser. Extensive rusting is present, and it is rated as a "6". The anti-vortex structure shows staining but is otherwise in good condition.
- **Drain** – The 7" floor drain is positioned in a sump measuring 24" square and 28" deep. Rust nodules have formed along the perimeter of the penetration, but it does appear to be unobstructed.
- **Manway** – The manway penetrates the lower wall of the tank at the 3 o'clock location. Significant corrosion is present at the perimeter and on the faceplate, and the manway is given a "5".
- **Coating** – The condition of the coating on the interior components is poor. In addition to staining and cracking, areas of delamination are reported.
- **Leaking** – No indications of leaking are present at any of the plumbing components.

EXTERIOR RESERVOIR INSPECTION REPORT

Exterior Reservoir Roof

- **Roof** – Light discoloration and isolated cracking are noted, but the roof does appear to be in good condition overall.
- **Vents** – No discrepancies are noted in regard to the vents / screens.
- **Roof Hatch** – The primary access hatch, hinges and lock and hasp, are in good condition overall.
- **Hatch Cage** – The rail surrounding the hatch appears to be securely attached and in good condition.

Exterior Reservoir Walls

- **Roof to Wall Seam** – The seam shows staining but is sealed and in good condition.
- **Wall Structure** – In addition to staining, the exterior wall slabs exhibit minor cracking in each quadrant.

Foundation

- **General appearance**- The foundation is buried and could not be evaluated, but there are no indications of leaking or ground subsidence.

GENERAL TANK SECURITY

Security

- **Perimeter** – The area surrounding the tank is well lit to deter vandalism.
- **Fencing** – The tank is surrounded by a security fence, which was locked upon the crew's arrival.
- **Ladders** – The primary access ladder is not outfitted with a locking vandal guard.
- **Hatch** – The hatch location is equipped with a lock, but not electronic monitoring device.

SUMMARY

The **INTERIOR** of the tank appears to be in fair condition overall. Recommendations include:

- Significant corrosion is present on the interior plumbing, specifically the inlet structure. No metal loss is apparent at this time, but the utility should consider replacement options.

The tank **EXTERIOR** appears to be in good condition. Recommendations follow:

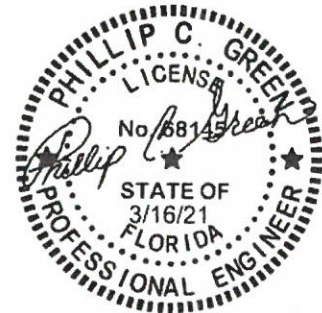
- The lid height of the hatch should be increased to at least 2".
- A locking vandal guard should be installed on the exterior ladder, and perimeter lighting added to deter vandalism.
- In accordance with current OSHA standards, an anti-skid material should be installed on the rungs of the access ladder.

At a minimum, the utility should continue to clean and inspect this tank every three years. Preventive maintenance of this nature will ensure that the identified discrepancies in this tank are closely monitored and will provide a record of care in the future.

(As a disinterested third-party inspector, LEC does not engage in the construction or rehabilitation of potable water storage facilities. LEC will, in its commitment to our clients and upon request, identify to the client relevant entities that are professionally reliable and best capable of completing the recommended work, or assist the client in research tips that will enable them to make a decision that best serves the utility.)

DISCLAIMER

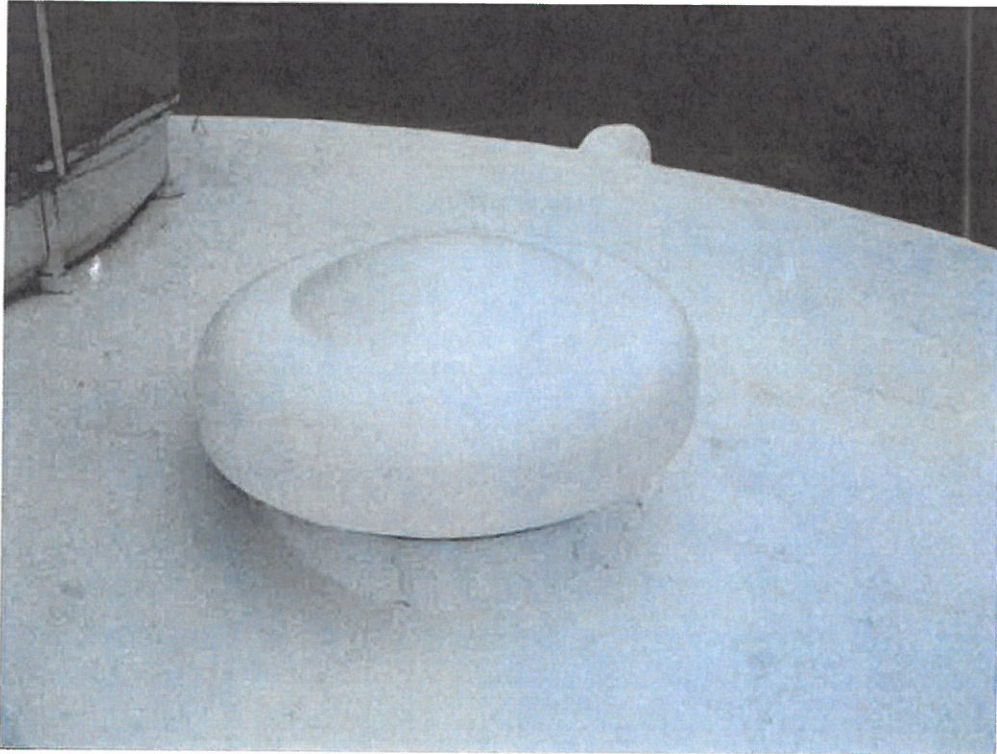
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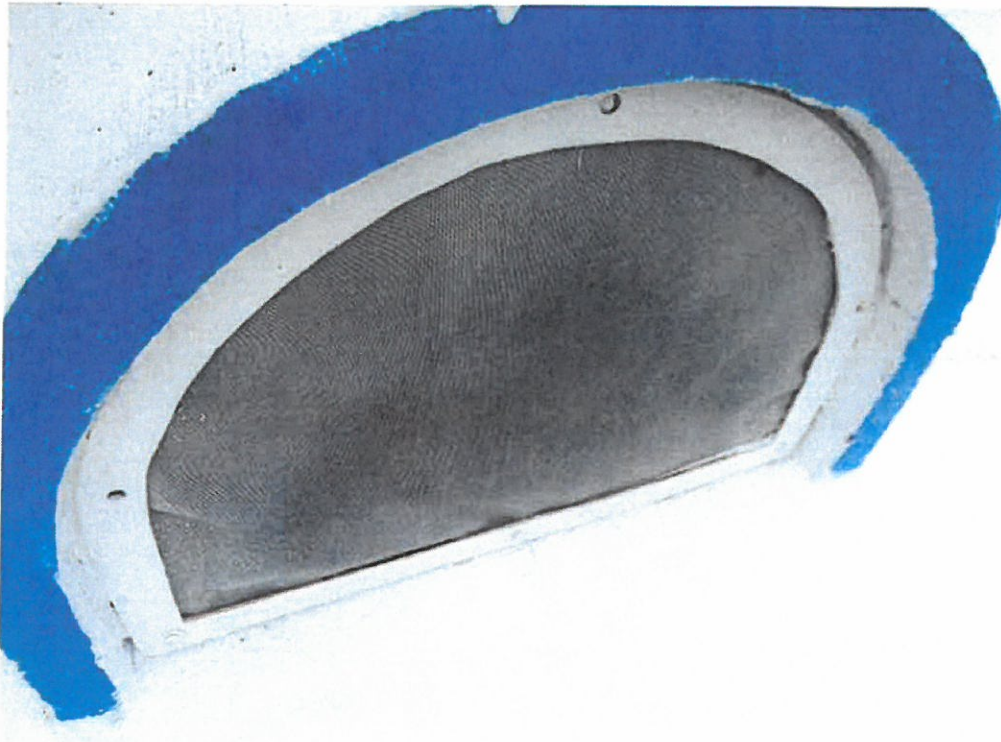
APPENDIX A

Photographs

Condition of Mushroom Vent



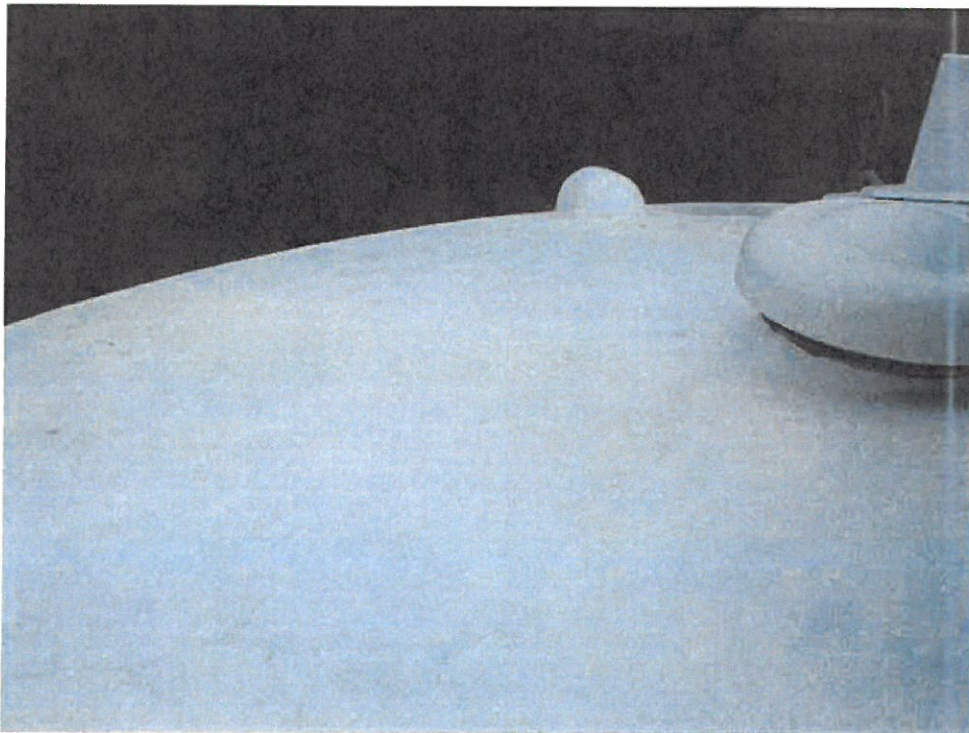
Typical Condition of Integrated Vent / Overflow (1 of 4)



Ladder Rungs (note lack of anti-skid surface)



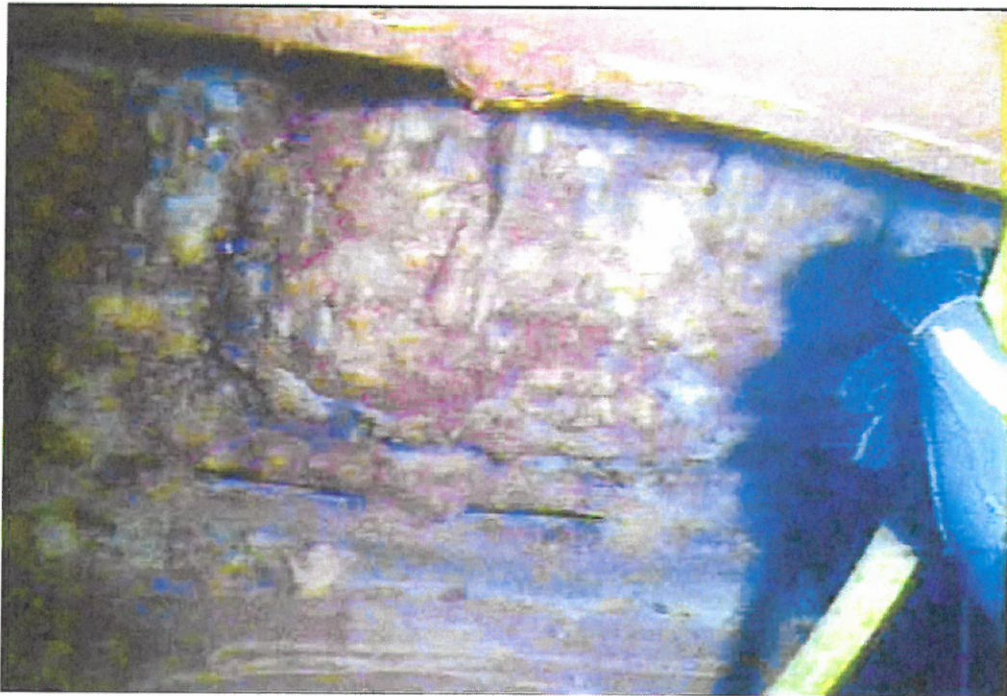
Condition of Roof Slabs (note staining and minor cracking)



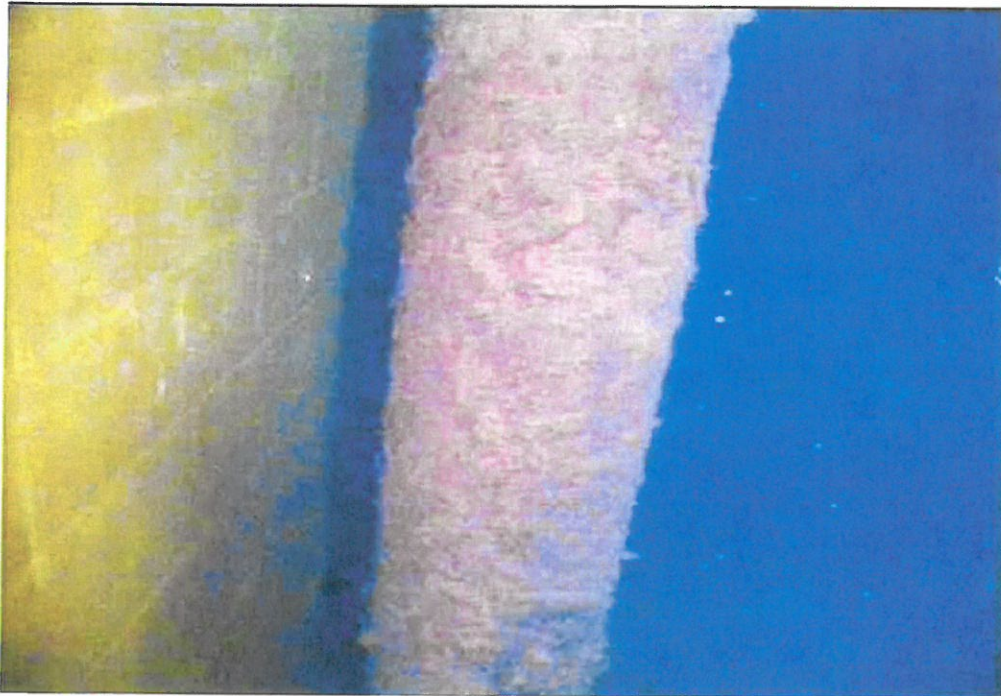
Condition of Outlet and Anti-Vortex Guard



Manway (note heavy corrosion of faceplate)



Inlet Pipe (note significant corrosion)



Condition of Baffle Wall and Aerator Ports



Drain Sump



Minor Cracking on Upper Wall



APPENDIX B

Liquid Engineering Corporation
Concrete Water Reservoir Inspection Report

Job Number: 55309 Utility: TOWN OF DUNDEE Tank: NO 2 Date: 1/23/2021
 Inspector: E. BOMBERGER Dive Controller: J. VISSER Capacity: 250KG Dimensions: 13' H x 57' DIA

CONCRETE CONDITION CODE							
A - Abrasion	D - Deformation	G - Contraction	J - Chalking	M - Erosion	P - Popouts	S - Spalling	V - Void
B - Bug Holes	E - Efflorescence	H - Deflection	K - Checking	N - Peeling	Q - Settling	T - Exposed Aggregate	X - Exposed Reinforcement
C - Cracking	F - Fissure	I - Delamination	L - Expansion	O - Curling	R - Stains		

QUADRANT 1
 QUADRANT 2
 QUADRANT 3
 QUADRANT 4

INTERIOR RESERVOIR ROOF

Roof Slab(s)	R, C	R, C	R, C	R, C
Expansion Joint(s)				
Support Beam(s)				
Beam Joint(s)				

General Appearance: Good Coating: N/A
~~All expansion joints: Uniform width: Uniform Level: Gaskets intact:~~

INTERIOR RESERVOIR WALLS

Wall-Roof Joint	R	R, C, E	R	R
Wall Structure	R, C, E	R, C, E	R, C, E	R, C, E

General Appearance: Good Coating: N/A Leaking: None observed

~~**INTERIOR RESERVOIR SUPPORT COLUMNS**~~

Columns				
Column Capitals				
Column Bases				

General Appearance: ----- Coating: N/A

INTERIOR RESERVOIR FLOOR

Perimeter Joint	R	R	R	R
Floor Slabs	R	R	R	R

General Appearance: Good Coating: N/A Sump System: Good Leaking: None observed

~~All expansion joints: Uniform width: Uniform Level: Gaskets intact:~~

Additional Comments:

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Liquid Engineering Corporation
Concrete Water Reservoir Inspection Report

Job Number: 55309
 Inspector: E. BOMBERGER

Utility: TOWN OF DUNDEE
 Dive Controller: J. VISSER

Tank: NO 2
 Date: 1/23/2021

SSPC Rating	
Grade	Description - Good Condition
10	No Rusting, or <0.01% of surface is rusted
9	Minor rusting, or <0.03% of surface is rusted
8	Isolated rust, <0.1% of surface is rusted

SSPC Rating	
Grade	Description - Fair Condition
7	Isolated rust, <0.03% of surface is rusted
6	Extensive rusting, <1% of surface is rusted
5	Approximately 3% of the surface is rusted

SSPC Rating	
Grade	Description - Poor Condition
4	Approximately 10% of the surface is rusted
3	Approximately 17% of the surface is rusted
2	Approximately 33% of the surface is rusted
1	Approximately 50% of the surface is rusted
0	Approximately 100% of the surface is rusted

QUADRANT 1
QUADRANT 2
QUADRANT 3
QUADRANT 4

INTERIOR RESERVOIR PLUMBING COMPONENTS

	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion	SSPC Rating	Corrosion
Inlet Plumbing	0	Significant	N/A	-----	N/A	-----	N/A	-----
Outlet Plumbing	6	Significant	N/A	-----	N/A	-----	N/A	-----
Manways	N/A	-----	5	Significant	N/A	-----	N/A	-----
Floor Drains	N/A	-----	N/A	-----	6	Significant	N/A	-----
Interior Overflow	N/A	-----	N/A	-----	N/A	-----	N/A	-----
Other Plumbing	N/A	-----	N/A	-----	N/A	-----	N/A	-----

Coating Deficiencies: Blistering Delamination Chalking Checking Cracking Cratering Pinholes Staining Sags/Runs

Over All Coating Condition Poor

Average Blister Size N/A

Over All Structural Condition Fair

Weld Condition ----

Average Pit Depth N/A

CONCRETE CONDITION CODE

A - Abrasion	D - Deformation	G - Contraction	J - Chalking	M - Erosion	P - Popouts	S - Spalling	V - Void
B - Bug Holes	E - Efflorescence	H - Deflection	K - Checking	N - Peeling	Q - Settling	T - Exposed Aggregate	X - Exposed Reinforcement
C - Cracking	F - Fissure	I - Delamination	L - Expansion	O - Curling	R - Stains		

QUADRANT 1
QUADRANT 2
QUADRANT 3
QUADRANT 4

EXTERIOR RESERVOIR ROOF

Roof Slab(s)	R, C	R, C	R, C	R, C
Expansion Joint(s)				

General Appearance: Good Coating: Good Vents: Good Level Indicator: Damaged

~~All expansion Joints Uniform width: ----- Uniform Level: ----- Gaskets Intact: -----~~

EXTERIOR RESERVOIR WALLS

Wall-Roof Joint	GOOD CONDITION			
Wall Structure	C	C	C	C

General Appearance: Good Coating: Good Leaking: None observed

Overflow Structure: Good

~~All expansion Joints Uniform width: ----- Uniform Level: ----- Gaskets Intact: -----~~

EXTERIOR RESERVOIR FOOTINGS / FOUNDATION

Perimeter Joint	UNABLE TO EVALUATE			
Footing Ring	UNABLE TO EVALUATE			

General Appearance: ----- Coating: N/A Leaking: None observed Ground Subsidence: None observed

All expansion Joints Uniform Width: ----- Uniform Level: ----- Gaskets Intact: -----

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Potable Water Reservoir Contamination, Health and Safety Report (Primary)

Job Number: 55309

Utility: TOWN OF DUNDEE

Tank: NO 2

Inspector: E. BOMBERGER

Dive Controller: J. VISSER

Date: 1/23/2021

FACILITY SAFETY & HEALTH

Primary Air Vent	Type: Mushroom	Screen : Good	Pressure Vacuum / Frost Proof: No
Exterior Overflow	Flapper: No	Screen: Yes	Gasket: No Condition: Good
Cathodic Protection	System Installed: No	Cathodic Access Covers	#: N/A Properly Sealed: ___
Water Level Indicator	Type: Electronic	Condition: Good	Penetration Points Properly Sealed: Yes
Heater System	Installed: No	Type: -----	
1st Access Hatch	Type: Square	Size: 36 x 36	in. (24" - 24" x 15" min) Properly Sealed: Yes
Hatch Height: 4	in. (min 4")	Lid Height: 1.5	in (min 2") Properly Secured: Yes
2nd Access Hatch	Type: -----	Size:	in. (24" - 24" x 15" min) Properly Sealed: ___
Hatch Height:	in. (min 4")	Lid Height:	in (min 2") Properly Secured: ___

Primary Manway

Locations	Wall: Q1	Leg:	Roof:	Riser Pipe:	Other:
Type and Size	Type: Other	Size: 30 X 17	in (24" - 18"x22")		
Support Structure	Type: Bolted	Condition: Good			
WT Integrity	Leaks: No	Condition: Good			

Primary Exterior Ladder

Location	Wall: Q1	Leg:	Roof:	Riser Pipe:	Other:
Overall Ladder	Condition: Good	Height: 13'	Offset Landing: No		
Vandal Guard	Present: No	Locked: ---			
Ladder Rails & Rungs	Condition: Good	Anti-Skid Rungs: No	Missing/Damaged Rungs: No		
Rung Spacing & Depth	Spacing: 12	in. (max 12")	Toe Depth: 9	in. (min 7")	
Rail Spacing & Size	Width: 2	in. (min 2")	Thickness: 2	in. (min 1/4")	Rail to Rail: 18 in. (min 16")
Safety Climb System	Type: None	Condition: ---			

~~Primary Balcony & Railing~~

Location	On Roof:	Around Bowl:	At Interior Landing:	Other:
Deck / Walkways	Condition: ---	Width:	in. (min 24")	
Top Rails	Condition: ---	Height:	in. (min 42" +/- 3")	Swing Gate Present: ---
Mid Rails	Condition: ---	Height:	in. (half the distance between top rail and floor)	
Toe Boards	Condition: ---	Height:	in. (min 4")	

Roof Integrity:	Holes: No	Cracking: Yes	Standing Water: No	Other:
Wall Integrity:	Holes: No	Cracking: Yes	Leaks: No	Other:
Safety Tie-Off Points	Type: Integrated/Structural	#: 4	Condition: Good	
Antennae	Type: ---	#:	Location(s): Roof:	Bowl: Leg: Other:
Water Clarity	General Appearance: CLEAR	Odor: NONE	Surface Debris: NONE	
Hypalon Floating Cover	Condition: ---	Holes: ---	Tears: ---	
Grounding System	Present: No			

DISCLAIMER

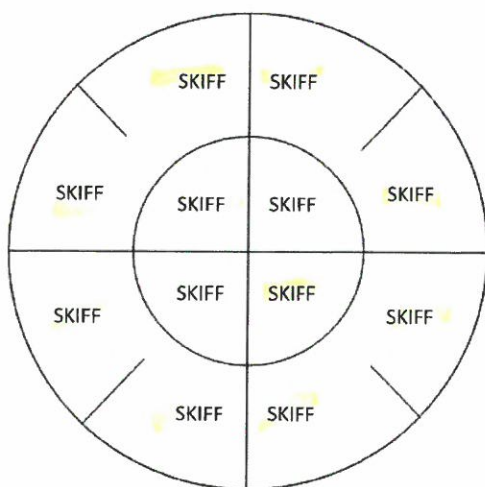
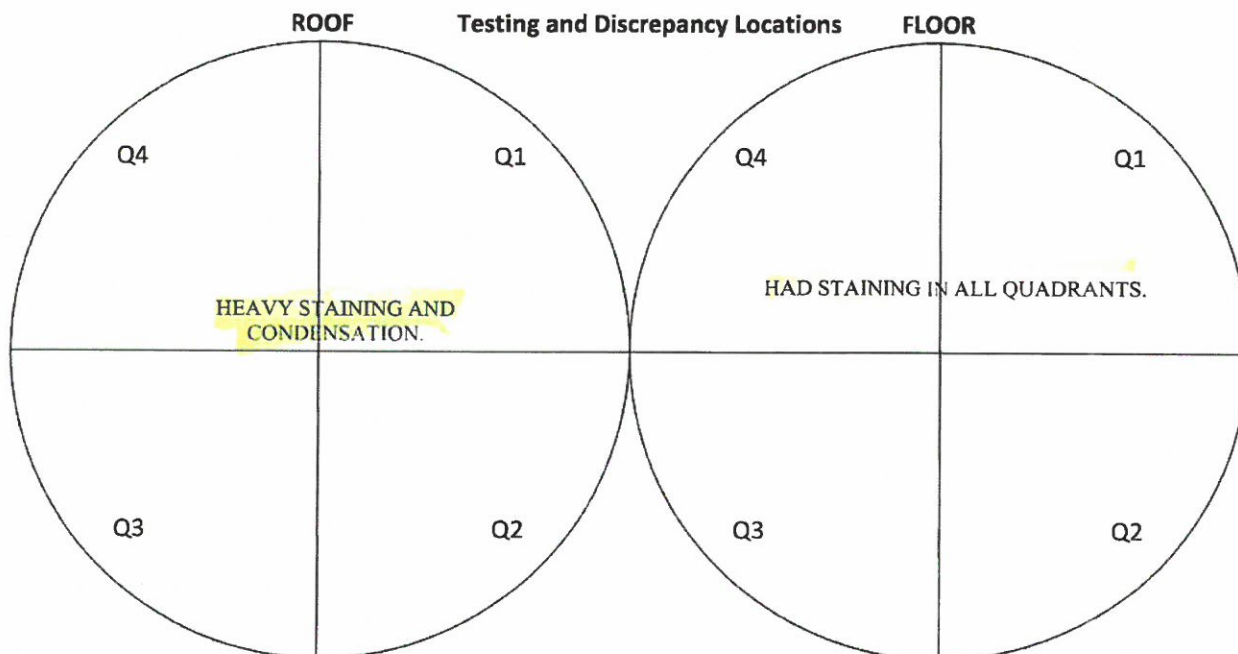
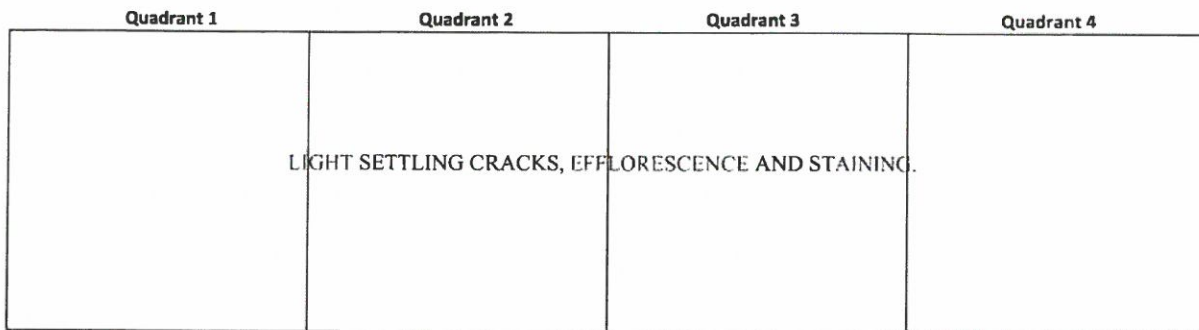
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Circular Tank Diagram / Information Worksheet

Job Number 55309

Utility Name TOWN OF DUNDEE

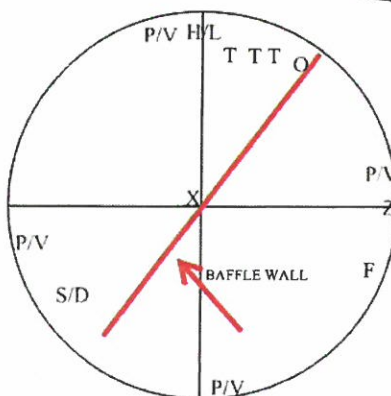
Tank Name NO 2



Sediment Depth Measurements

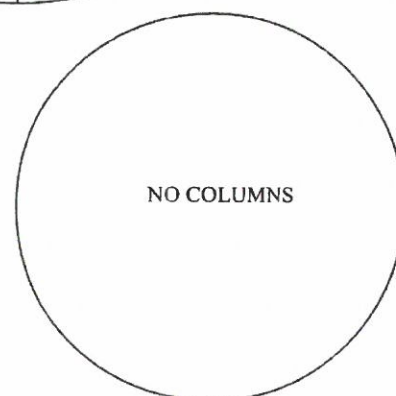
Average Sediment Depth = The sum of all measurements taken, divided by the number of measurements taken

Avg. Depth SKIFF **Cubic Yardage** N/A **Sediment Type** IRON



Plumbing & Structure location

Plumbing and structure codes
 O=Outlet X=Inlet Z=Manway
 V=Vent D=Drain S=Sump
 L=Ladder H=Hatch P=Overflow
 F=Float Level Indicator
 T=Telemetry



Column Placement

Type of Column ○ □ I
 Base Structure [base symbols] [top symbols]
 Top Structure [base symbols] [top symbols]
 Column Construction -----

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Liquid Engineering Corporation
Rectangular Tank Diagram / Information Worksheet

Job Number 55309

Utility Name TOWN OF DUNDEE

Tank Name NO 2

Q-4	Q-1
Q-3	Q-2

Sediment Depth Measurements

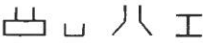

Average Sediment Depth = The sum of all measurements taken, divided by the number of measurements taken

Avg. Depth Cubic Yardage Sediment Type

Plumbing & Structure location

Plumbing and structure codes
 O=Outlet X=Inlet Z=Manway
 V=Vent D=Drain S=Sump
 L=Ladder H=Hatch P=Overflow
 F=Float Level Indicator
 T=Telemetry

Column Placement

Type of Column ○ □ I
 Base Structure 
 Top Structure 
 Column Construction -----

N	

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Potable Water Reservoir Security / Measurement Worksheet

Job Number 55309

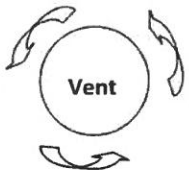
Utility Name TOWN OF DUNDEE

Tank Name NO 2

Security

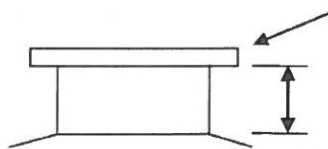
Is the area surrounding the tank well lit?	Yes
Is the tank surrounded by a Security Fence?	Yes
Are the access gates locked?	Yes
Is the tank equipped with a Vandal Guard on the primary access ladder?	No
If so, is the Vandal Guard locked?	N/A
Are the access roads in good repair?	Yes
Are all of the hatches equipped with electronic monitoring devices?	No
Are the external plumbing components housed in a secure vault or out-building?	Yes
Does the surrounding geography of the tank obscure it from public view?	No
Does the exterior of the tank show signs of trespass?	No

Measurements



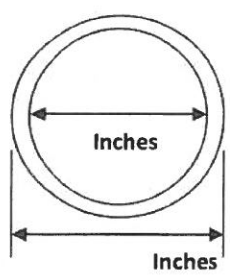
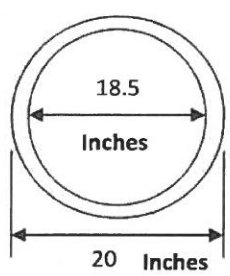
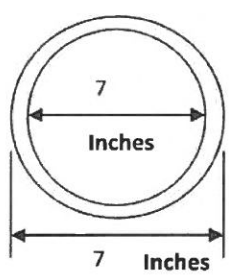
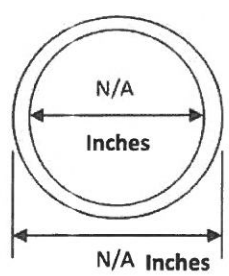
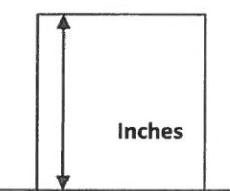
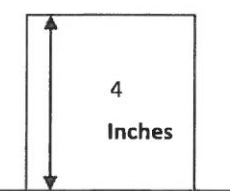
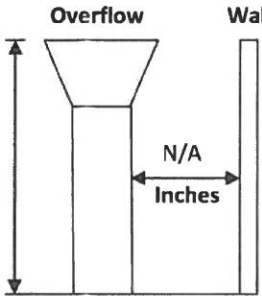
Vent

Outside Circumference
96 Inches



Roof

Flange Metal Thickness	N/A	Inches
Roof to Screen or Flange	9	Inches
Flange	No	
Number of Bolt Holes	N/A	Inches
Size of Bolts	N/A	Inches

Inlet	Outlet	Drain	Overflow
			
UNABLE TO MEASURE			
			
Floor	Floor		Floor

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Liquid Engineering Corporation
Potable Water Reservoir Immediate Needs Assessment

Job Number: 55309

Utility: TOWN OF DUNDEE

Tank: NO 2

Inspector: E. BOMBERGER

Dive Controller: J. VISSER

Date: 1/23/2021

1. Health and Safety Items

- Safety Climb System Installation:
 Vent Screen Repairs:

2. Testing Items

- Dye Testing for Leak Evaluation:
 Presence of Lead Test (Interior/Exterior):

3. Repair Items

- Epoxy Coating Repairs:
 Temporary Leak Repairs:
 Float Operated Level Indicator Repairs / Maintenance:
 Hypalon Repairs:

4. Security Related Items *(Critical security upgrade information is immediately available)*

- Tank vents are not equipped with a security vent shroud:
 Tank hatches are not equipped with a security hatch locking device:
 Tank perimeter not adequately secured:

The above mentioned additional work is considered immediately necessary and is recommended to be completed. Some items may be completed in conjunction with work currently being performed while the crew is on site.

Reservoir Inspection Condition Supplemental

Upon entering the reservoir, the diver noted a "skiff" of iron on the floor, in all quadrants. The diver also noted a film-like substance mixed in with the sediment, as well as some areas of accumulated flakes of iron/debris. As the sediment was removed, only staining was observed on the floor slab. The outlet is equipped with an anti-vortex plate, that appears to be properly secured. The outlet does exhibit significant corrosion/rust noduling on the flange and hardware, but appears to be intact and free of obstruction. Extensive corrosion was noted on the inlet, but does appear to be intact. In Quadrant 3, the diver located the drain, which is located in a 24" x 24" x 28" sump. The drain does exhibit significant corrosion/rust noduling, but does appear to be free of obstruction. The PVC pipe that runs along both sides of the baffle appears to be in good condition. There are a few anchor points that have broken, no longer supporting the PVC pipe properly. The baffle wall was found to be in good condition, with only staining and adhered sediment noted. Throughout all quadrants of the walls, heavy staining, adhered sediment, and superficial settling cracks were observed. No evidence of leaking was found on the walls. The manway exhibits significant galvanic corrosion, but appears to be properly sealed with the gasket in place. The float-level indicator is present, but the cable is no longer connected from the float to the target board. The float guide wires were found to be intact, however. All telemetry appears to be in good working condition. Throughout all quadrants of the roof, the diver noted staining and light settling cracks. All four (4) of the integrated overflows were found to be in good condition and properly screened. The primary vent was also found to be intact and properly screened. No discrepancies were observed on the access hatch or internal ladder. The hatch was found to be properly sealed/secured.

Liquid Engineering Corporation recommends that this reservoir be cleaned and inspected every 3 years.

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