STATE OF WASHINGTON
DEPARTMENT OF HEALTH
***NORTHWEST DRINKING WATER REGIONAL OPERATIONS***
*PO BOX 47800 MS:47822 OLYMPIA, WA 98504-7800*

March 5, 2024

BOARD OF DIRECTORS
WESTSIDE WATER ASSOCIATION
BOARD@WESTSIDEWATER.ORG

Subject: Westside Water Association, ID #94950
King County
2023 Sanitary Survey

Dear Members of the Board:

This letter is in response to our routine sanitary survey of the water system on November 14, 2023. Thanks to Doug Dolstad and Paul Huss for showing us around the system.

The purpose of the sanitary survey is to inspect the water system facilities, review operations and maintenance, and discuss ideas to help ensure the drinking water system will continue to be safe and reliable for years to come. These inspections are required by the drinking water regulations (WAC 246-290) every 3-5 years. We covered all eight EPA elements of a survey described in 40 CFR 142.16.

General Conclusions: The water system facilities were in good condition. It was great to see an active, forward-thinking board. Continue working with Brietta Carter to make improvements to your system.

2023 Sanitary Survey Issues: This report documents the information collected during the survey. Defects in your water system facilities or operations that need your immediate attention are listed below as Significant Deficiencies or Significant Findings. **Please respond to all items in the next 45 days.**

After completing, email verification of completion, including photographs and supporting narrative to nwro.sanitarysurveys@doh.wa.gov or mail to the address above in the letterhead. Please include your water system name, ID number and the date when you corrected the deficiencies. Ensuring your water system completes each corrective action is a high priority for the Office of Drinking Water. Failure to complete each of these corrections within the designated time may result in enforcement action. If you believe you need additional time to correct any defect, contact me at (564) 233-8721. Please explain your need for additional time.

**Significant Findings** - *Defects in your facilities or operations that need immediate attention.*

1. Disinfection of Back40 well is required. Please send verification that treatment has been connected or provide a schedule for installation.
2. It appears that Cove Tank has had unauthorized access, which poses a risk to your drinking water. Please submit a corrective action plan for restricting unauthorized access.

**Observations and Recommendations -** *to notify you of other violations of drinking water rules and to improve your technical, managerial, or financial capacity.*

3. Update your Small Water System Management Plan. Because a water system operates in a dynamic and changing world, it must amend its planning document from time to time. For example, the emergency response plan or operations and maintenance program may need edits to contact numbers or for new equipment procedures.
4. Continue working with Brietta Carter for the GWI retesting of Jack Spring (S02).
5. Follow your Capital Maintenance Plan to replace 10 meters a year. This will assist operators in detecting leaks in the system.
6. Chlorine residual should be measured at least five days a week at entry to distribution, as well as representative points in distribution per WAC 246-290-451(7).
7. Please note, that water systems need to develop and submit a Lead Service Line Inventory (LSI) by October 16, 2024. Please see the publication for additional guidance. https://doh.wa.gov/sites/default/files/2023-01/331-711.pdf
8. Please update the WFI form. You can find this form on the Sentry Internet Database. https://fortress.wa.gov/doh/eh/portal/odw/si/Disclaimer.aspx?Page=/portal/odw/si/findwatersystem.aspx

Please note that failing to correct a Significant Deficiency or Significant Finding or addressing it with an action plan by the designated due date will result in a Treatment Technique Violation.

Regulations establishing a schedule of fees for sanitary surveys have been adopted, WAC 246-290-990. To receive credit for the survey, a sanitary survey fee must be paid. The total cost is **$306.00**. An itemized invoice for this survey has been enclosed. Pay online with a credit card, debit card, or electronic check (ACH) using the Environmental Health Payment System at https://secureaccess.wa.gov/. Checks can be mailed to: Accounts Receivable DOH Sanitary Survey Program PO Box 1099 Olympia, WA 98507-1099.

If you have any questions or need additional information, please call me at (564) 233-8721 or email to nwro.sanitarysurveys@doh.wa.gov.

Sincerely,

Bethany Brunny, MPH
Sanitary Survey Program Manager
Office of Drinking Water
Washington State Department of Health

Enclosures – Invoice, Survey Report

ecc: Derek Pell, DOH
Brietta Carter, DOH
Doug Dolstad, Westside Water Association
Paul Huss, Island Water Management

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**ROUTINE SANITARY SURVEY REPORT**
November 14, 2023

**WESTSIDE WATER ASSOCIATION**
ID # 94950, King County

**Persons attending**
Doug Dolstad, Certified Operator, Westside Water Association
Paul Huss, Island Water Management
Steve Hulsman, DOH
Bethany Brunny, DOH

**2018 sanitary survey issues and their status**

1. Seals and screens must protect finished water from potential contamination. For the 100,000-gallon concrete storage tank, please plan to replace or retrofit the air vent with a design to protect against surface splatter and windblown contaminants. In addition, please add 24-mesh non-corrodible screen, tideflex, or flapper type valve on the overflow to provide a better insect barrier. *Completed 4/17/2020*

2. Verify seals and screens (with photos) on storage tank roof vents, access hatches, level indicator cable entry, overflow, and other penetrations are in excellent condition. *Completed 4/19/2019*

3. The 2017 Water Use Efficiency (WUE) report indicates the distribution system leakage (DSL) 3-year running average is 12.5%. Systems reporting a 3-year running average greater than 10% must develop a Water Loss Control Action Plan. Your goals to collect accurate data and replace mains can be described in your WUE report to meet this requirement. As a reminder, the system is due to update the WUE goals and hold a public meeting. *Ongoing. Conveyed that distribution leakage is down and meter replacement would be beneficial.*

4. Keep working on the planning document. Refer to the following guidance documents in refining key programs. Department publication 331-234, *Guidance Document: Cross-Connection Control for Small Water Systems*, and publication 331-018, *Wellhead Protection Program Guidance Document*. Well done on your asset management and capital improvement program. *Ongoing.*

5. Consider making security improvements at wellhead enclosures and storage tanks. Think about the delay, deter, detect approach to securing water system assets. Add locks on doors and add physical barriers to climbing the storage tanks to delay intrusion. Add ‘no

trespassing' signs to deter intrusion. The 2008 photo of the Green tank air vent shows tagging, which is evidence of unauthorized access to the tank. *There are locks on all doors in the system now but consider other methods to keep unauthorized access to Cove Tank.*

6. The approved ATEC filtration treatment system for arsenic removal is not in use. Continue to consider arsenic removal treatment of the Canyon Well (S06) as a way to increase source capacity. *Canyon Well has been disconnected.*

7. Well done on mapping your distribution and other system components in GIS. If you have access to the database file, consider using the attributes table to track a maintenance schedule. For example, adding a field to input the date of the storage tank cleaning. *Ongoing*

8. Please provide a better insect barrier on the hypochlorite solution tanks. I observed upward facing air vents. The air vents should be downward facing and covered with 24-mesh non-corrodible screen.

9. Check on the status of the required source monitoring. Think about collecting the complete inorganic and herbicide source monitoring samples now, before the compliance monitoring period ends. *Ongoing*

**System overview**
The system serves an upper pressure zone and two lower pressure zones by a combination of springs, wellpoints, and drilled well sources. Two storage tanks (total volume of 256,000-gallons), three booster pump stations (BPSs), and five pressure reducing valves (PRVs) feed water throughout the system. The disinfection treatment requirement for Sand spring (S01) and driven wellpoints (S03), and Canyon Well (S06) must be at least 6 milligrams-minutes per liter (CT6) before the first customer. The Anderson wellfield (S09) treatment provides CT6 for all but the first customer. The system has a detectable disinfectant residual requirement.

Since the last survey, Canyon Well (S06) has been physically disconnected from the system and is considered an emergency source. Well Back40 (S10) is a new source acquired by Westside Water and was approved in 2020. The water system intends to use it as a seasonal source. We discussed the need for disinfection treatment before use of Back40 (S10). It also needs to be verified if this source is used to determine approved connections. We also discussed your work with Brietta Carter on GWI retesting of Jack Spring (S02), an emergency source.

Anderson Wellhouse has a new generator for emergency power since last survey.

The system holds a green operating permit and has approval for 252 residential connections, 1 recreational/transient accommodation, and 6 non-residential services. They meet the certified operator requirement (WDM1, CCS).

**Sources and treatment**
The Association has developed the Anderson Wellfield (S09) as their primary production wells (Figure 1). The Anderson Wellfield is comprised of two wells.

- Anderson Well (S07). – Private well purchased for the system. 23gpm.
- Anderson Well #2 BNJ285 (S08). – Drilled well, 138-feet to first open interval.

The Herrin controller and pressure switch control the well pumps (Figure 5).

Hypochlorite disinfection provided on site to maintain a constant free chlorine residual in the distribution system. A single 30-gallon tote (4:1 solution of 12.5% sodium hypochlorite) and two LMI feed pumps provide treatment for Anderson Well and Anderson Well #2 (Figures 4-5).



*Figure 1. (Left) View of Anderson Well wellhouse and Anderson Well #2. Figure 2. (Middle) Anderson Well (S07). Figure 3. (Right) Anderson Well #2 (S08). No potentially hazardous contaminants in the sanitary control area.*


*Figure 4. (Left) Hypochlorite Solution set up outside Anderson Wellhouse. Figure 5. (Right) Controls for Anderson Wells.*

- Well Back40 BAH638 (S10). – Private well acquired by the system. Source approved 10/8/2020. 273 feet to first interval. 25 gpm.

Back40 (S10) is housed in a pumphouse that sits in a privately owned field. No contaminants were observed in the sanitary control area. Currently there is no treatment connected to Back40 (S10).

*Figure 6. (Left) Well Back40 (S10) pumphouse and controls. Figure 7. (Right) Well Back40 (S10).*

*Figure 6. (Left) Loose electrical conduit on Well Back40 (S10). Figure 7. (Right) Sealed electrical conduit on Well Back40 (S10) sent after survey.*

The spring source, wellpoints, and Canyon Well (when in use) are blended.

- Canyon Well (AHM851) (S06) –Physically disconnected and considered an emergency source. (Figures 8 and 9). When in use, they blend with the Sand Spring and Driven Wells to reduce arsenic loading to the system.
- Wellfield – Driven Wells 1-9 (S03) includes Wells 1-9 (S05) – Groundwater with hydraulic connection to surface water (Figure 10). (We were unable to access the driven wells during the survey.)
- Sand (S01) – the Sand Spring. Groundwater with hydraulic connection to surface water (Figure 11). (We were unable to access the Sand Spring collection site during the survey.)

Hypochlorite disinfection provides CT6 with at least 0.5ppm free chlorine residual at entry point to distribution. Treatment Plant Reports show that chlorine residual is being sampled at least five days a week at entry to distribution but is not being sampled at least five days a week at representative points in distribution.


*Figure 8. (Left). Canyon Well (S06). Figure 9. (Right). Canyon Well is physically disconnected from the system.*


*Figure 10. (Left). Wellpoints charging station. Figure 11. (Right) PVC pipe carrying water from springs and wellpoints from across the river.*


*Figure 12. (Left) Springs and wellpoints flow through the 1,100-gallon black collection chamber. Hypochlorite injection is after the overflow and before entering the 15,000-gallon fiberglass holding tank below the Canyon pump house. Figure 13. (Right). Controls inside Canyon pump house.*

***Other sources (we did not inspect during this visit)***

- Jack (GWI) (S02) – Emergency source. Springs with GWI determination of surface water source type.
- Shinglemill Creek / Spring (S04) – Emergency source. Surface water.

**Finished Water Storage**

**Green tank and 156th Street BPS**

All sources feed the 156,000-gallon steel tank (the Green tank) (Figure 14). The 156th Street BPS pressurizes the system from the Green tank (Figure 15). Entry point samples are collected are collected after the Green tank at the 156th Street BPS (Figure 15).

*Figure 14. (Left). Green Tank. Figure 15. (Right) 156th Street BPS and sample tap location.*

**Cove Tank and Cove Tank PS**

The 156th Street BPS feeds the 100,000-gallon concrete tank (the Cove tank) (Figure 16). The PRV, normally not in use, at the Green tank site allows the Cove tank to serve the system while the Green tank is offline. Cove Tank showed signs of unauthorized access, which puts the drinking water at risk (Figures 18-19).

*Figure 16. (Left). Cove Tank. Figure 17. (Middle). Screened overflow pipe. Figure 18. (Right). Hatch and gasket.*


*Figure 18. (Left). Tires and debris around tank possibly used to access the tank ladder. Figure 19. (Right) Graffiti on Cove tank PS.*

*Figure 20. Cove tank PS.*

**Distribution water quality**

Distribution consists of asbestos concrete, PVC, HDPE, PE, and wrapped steel. One 3-inch steel section of the main passes through private property and completes the loop in the northern part of the system.

***Water quality monitoring and reporting***

Required distribution monitoring includes 1) disinfectant by products, 2) lead and copper, 3) coliform, 4) detectable chlorine residual, and 5) asbestos. Violation letters were sent in 2021 for failing to monitor Nitrate and disinfection by products.

***Coliform monitoring and* E.coli *response plan***

This system is required to collect one routine sample per month. Since the last routine survey, all routine samples were satisfactory.

***Water Use Efficiency***
Based on your annual Water Use Efficiency reports, Distribution System Leakage has been creeping up over the past three years. One hundred percent of the connections are metered in the system. Following your Capital Maintenance Plan to replace 10 meters a year may aid leak detection.

Per the latest WUE Report (2022), efforts to minimize distribution system leakage (real and apparent) include, but are not limited to, the following:

- Investigated several leak detection technologies that have proven not to be cost effective.
- Leak detection meters are on all spur mains and at several locations on the main distribution system.
- Most leaks occur on the customer side and are quickly identified.
- ERWOW has assisted in the detection of leaks but also given false positives.
- Daily monitoring of source meter data.

***Cross connection control program (CCCP)***
The system does have a CCCP with authority in place through resolution and bylaws. There are no testable backflow prevention assemblies in the system. Potential cross-connection hazards include swimming pool and auxiliary water supplies (private wells used for irrigation, presumed not connected to the system).