



Town of Richmond, Rhode Island

Talia Jalette, MPA, Town Planner
Building, Planning, and Zoning Department
Town Hall
5 Richmond Townhouse Road,
Wyoming, RI 02898
www.richmondri.com

TO: Planning Board

FROM: Talia Jalette, MPA, Town Planner

DATE: March 18, 2024

RE: Planning Board Advisory Opinion to the Town Council – Combined application of the Town of Richmond, 5 Richmond Townhouse Road, Wyoming, RI 02898 for a proposed Comprehensive Plan Future Land Use Map (FLUM) Amendment and Zoning Ordinance Amendments affecting property located on KG Ranch Road (no address), Plat 3B, Lot 2-1. The proposal includes a Future Land Use Map Amendment from Conservation/Open Space (COS) to Public and Governmental (PUB), as well as a Zoning Map Amendment from COS to PUB.

Project Overview:

The Town of Richmond operates a community water system, which was “created in the early 1980s by the Rhode Island Water Resources Board in response to groundwater contamination from leaking underground gasoline tanks in Wyoming”¹. The water line supports commercial, industrial, educational, governmental, and residential uses from Richmond proper to East Wyoming, Wyoming, and Barbersville. The Finance Department serves as the “administrative arm of the system”², while it is “operated by a private contractor whose employees work closely with Town officials”³. The Town has retained Northeast Water Solutions, Inc. to serve in the latter capacity. Prior to October 1, 2022, the Town’s Water Operator was Laframboise Water Services.

Richmond’s water system, like any other that is licensed by the Rhode Island Department of Health, must comply with the provisions of State law that govern public drinking water sources. This includes monitoring the system for potential contaminants. Per the “First Amendment and Restatement of the Consent Agreement between Rhode Island Department of Health Center for Drinking Water Quality and Town of Richmond”, dated June 16, 2020, “[t]he purpose of coliform and E. coli monitoring is to determine if the protective barriers that keep coliform bacteria out of the PWS [public water system] have been breached or compromised”⁴. When water samples confirm the presence of impurities, assessments must be conducted by the water operator, in conjunction with the Rhode Island Department of Health.

¹ Town of Richmond, Rhode Island. (2021). *Comprehensive Community Plan Update – Town of Richmond, RI*. https://clerkshq.com/Content/Richmond-ri/CompPlan/Richmond_CompPlan2022.pdf.

² See 1.

³ See 1.

⁴ State of Rhode Island and Providence Plantations Department of Health Center for Drinking Water Quality and the Town of Richmond (2020). *First Amendment and Reinstatement of the Consent Agreement between Rhode Island Department of Health Center for Drinking Water Quality and Town of Richmond*.

Per the Consent Agreement, “a coliform treatment technique trigger occurs when a public water system of the Respondent’s size has two (2) or more total coliform-positive (TC+) routine/repeat samples in the same month, fails to collect every required repeat sample after any single total coliform-positive sample, or incurs an E. coli Maximum Contaminant Level (MCL) violation triggering the public water system to perform a Level 1 Assessment for total coliform or a Level 2 Assessment for E. Coli or recurring Level 1 Assessment triggers within a 12 month period.”⁵

As the Town’s water system “triggered five (5) Level 1 Assessments... because of the confirmed presence of total coliform”⁶ between 2018 and 2019, the parties tasked with maintaining the system were required to “take immediate action to correct sanitary defects, improve operation, provide necessary water treatment or make any other changes or additions deemed necessary by the Director to provide safe water”⁷. While “[a]ll sanitary defects identified in the [Town’s] Assessment have been corrected”⁸, “the continued presence of coliform means that unidentified ongoing sanitary defect(s) remain in the system.”⁹

One of the “best technology treatment techniques for achieving compliance with the treatment technique requires”¹⁰ would be to install a system that would disinfect groundwater “using strong oxidants such as chlorine, chlorine dioxide, or ozone that achieves 4-log (99.99%) inactivation of viruses”¹¹. This is the option the Town elected to pursue. Per the Consent Agreement, “[w]ithin 16 weeks of receiving the SRF [State Revolving Fund] financing, the [Town] shall install the 4-log chlorination system and notify the RIDOH project engineer of the completion of the installation so that a conformance inspection can be performed by RIDOH.”¹²

The Richmond Water Supply Board hired C&E Engineering to design the plans for the 4-log chlorination system. RIDOH issued Preliminary Approval for their design in May 2022. Per Finance Director Laura Kenyon, the Rhode Island Infrastructure Bank and the Rhode Island Department of Health are aware that the Town has sought funding from the former to satisfy the requirements of the latter. Per Bob Ferrari, an engineer and the President of Northeast Water Solutions, the Town was recently soliciting bids for a company that would install the system, and the selection of a qualified contractor would be imminent. He suggested that funding could be allocated as soon as the May 2024 Rhode Island Infrastructure Bank meeting.

Information about the Proposed Site:

The proposed location for the 4-log chlorination system is 0 KG Ranch Road, Plat 3B, Lot 2-1. It is a 29-acre irregularly shaped lot, with a very small amount of frontage on KG Ranch Road. The site is heavily vegetated.

Information about the Proposed Structure and its Siting:

The proposed 4-log chlorination system would be situated towards the frontage along KG Ranch Road. Per Northeast Water Solutions, the system “consists of three main parts; the injection of sodium

⁵ See 4.

⁶ See 4.

⁷ See 4.

⁸ See 4.

⁹ See 4.

¹⁰ See 4.

¹¹ See 4.

¹² See 4.

hypochlorite (NaOCl) into the water distribution system within the existing pumphouse and backup vault on Plat 3B, Lot 1-1, an appropriate length of distribution main to allow for chlorine contact time, and the construction of a chlorine monitoring station which continuously monitors the concentration of chlorine in the water supply. The chlorine monitoring station is a critical component because this system alerts the certified drinking water operator if the concentration of chlorine becomes too high or too low.”¹³ These site features require a certain amount of separation from each other. Per Northeast Water Solutions, “This monitoring station must be in the exact location proposed by the design engineer in order to allow for proper contact time between the chlorine injection point and the monitor point.”¹⁴

Informing the Building, Planning, and Zoning Department:

I became embroiled in this saga on February 8, 2024. I was contacted by Steve Kohm, an engineer with Northeast Water Solutions, who wanted to know if there were any planning steps required before permits could be pulled. I investigated the property (Plat 3B, Lot 2-1), and found that it is zoned COS (Conservation and Open Space). Per Chapter 18.12, Section 18.12.020(P) of the Richmond Zoning Ordinance, the COS district “is for recreation or conservation land owned by the town, the state, or the federal government, and for public or private land protected from development by open space, conservation, or preservation easements or restrictions.”

Per the District Use Table, the only allowed use on land zoned COS is horticulture. To allow for the construction of the 4-log chlorination system, the property will need to be rezoned from COS to PUB (Public and Governmental). An accompanying amendment to the Future Land Use Map in the Comprehensive Plan, to effectuate the same, will be required.

What is the PUB Zone?

Per Chapter 18.12, Section 18.12.020(Q), the Public and Governmental (PUB) zone is “for land owned by the town or by another governmental or quasi-governmental entity such as a chartered fire district or a regional school district.” Other properties that are zoned PUB include 252 Kingstown Road (Richmond-Carolina Fire District #2), 190 Kingstown Road (Richmond Elementary School), 5 Richmond Townhouse Road (Richmond Town Hall), 1168 Main Street (Richmond Police Station), and 21 Old Kenyon Road (the location of a 300,000-gallon water tank associated with the existing waterline).

Will this require the creation of a new Use Code?

Per Chapter 18.40, Section 18.40.030(A), “[t]own uses of a governmental nature in the PUB zoning district, and other town uses operated or maintained by the town on property owned or leased by the Town shall be exempt from the requirements of this Title, provided, however, that if construction of a building or enlargement of a building footprint is proposed, if a change in the use of a building is proposed that would require alteration of the site, if a parking area is being expanded, or if relocation of a street access point is proposed, the plans shall be referred to the planning board for advisory development plan review.”

In short, the public water system, and all of its associated trappings, constitute a Town use, on Town-owned property. As previously stated, the Finance Department plays an administrative role in the operation of the system. Use Code 310 (Municipal or quasi-municipal public safety or other facilities),

¹³ Northeast Water Solutions, Inc. Letter to Talia Jalette, Town Planner and Richmond Planning Board, March 18, 2024, *Richmond Water Supply Board (RI10000-40) 4-Log Chlorination Project Summary Supporting Zoning Recommendation*.

¹⁴ See 13.

which “include police stations, fire stations, community centers, and animal pounds” (Chapter 18.16, Section 18.16.020(310)) would fit the bill. The proposed structure is a municipal facility, as it houses equipment that is vital to the success of the municipal water system.

Can the Town Rezone the Property?

The land in question (Plat 3B, Lot 2-1) has been owned by the Town since 2006, when it was purchased from Aurelia E. Russell. While restrictions were placed on the property by the seller, use of the property “for the construction of structures and utility facilities reasonably necessary for the extraction of potable water from the Premises, and from other abutting property owned by the Town of Richmond, and for any ancillary services or activities related thereto”¹⁵ are allowed. Therefore, there is not anything in the deed that would preclude the rezoning of the property.

Amending the Future Land Use Map:

Any amendment to the Future Land Use Map is an amendment to the Comprehensive Plan, as the Future Land Use Map (FLUM) is part of the Comprehensive Plan. When contemplating an amendment to the FLUM, the Board should consider the subject property within the context of both current and future zoning designations and uses on adjacent parcels. The subject property is abutted by properties that are zoned R-3, R-2, and COS.

R.I.G.L. § 45-22.2-8(b)(3) states, in part, that “[a] municipality may not amend its comprehensive plan more than four (4) times in one calendar year.” As the calendar year began on January 1, 2024, the Town is not in danger of violating the aforementioned regulation.

Recommendation:

I would recommend that the Board vote to amend the Comprehensive Plan FLUM for Plat 3B, Lot 2-1 from COS to PUB.

Zoning Ordinance Amendments:

Per Chapter 18.58 - “Adoption and Amendment” of Richmond’s Zoning Ordinance, “a planning board recommendation to the Town Council concerning a proposed amendment to the zoning ordinance, whether the proposal originates from a property owner or from the planning board itself, shall include:

A. A statement about the consistency of the proposal to the comprehensive plan, including the plan’s goals and policies statement, implementation program, and all other applicable elements of the plan.

B. A statement concerning how the proposal addresses each of the purposes of zoning in R.I. Gen. Laws § 45-24-30 that are applicable to the proposal.”

Recommendation:

I would recommend that the Board vote to rezone Plat 3B, Lot 2-1 from COS to PUB, to allow for the construction of a 4-log chlorination system under Use Code 310.

Consistency with the Comprehensive Plan:

¹⁵ Washington County, Rhode Island, Vol. 0231: pp. 435-436.

Rezoning Plat 3B, Lot 2-1 from COS to PUB, to allow for the construction of a 4-log chlorination system under Use Code 310, would comport with the following elements of the Richmond Comprehensive Plan:

- *Economic Development Policy ED 3*: “Invest in public infrastructure to support appropriate light industrial and commercial development at specific locations in Wyoming.”

The Town’s water system is considered public infrastructure. The Consent Agreement between RIDOH and the Town requires the chlorination system to ensure water quality. Many businesses in Wyoming rely on the Town’s water system.

- *Public Services and Facilities Goal PSF 1*: “Protect the health, safety, and welfare of the citizens of Richmond by providing cost-effective public services that meet the Town’s needs.”

Again, the chlorination system ensures water quality. Approximately 10% of Richmond’s homeowners rely on the waterline for their potable drinking water.

The Board is welcome to adopt these, or other elements of the Richmond Comprehensive Plan.

Consistency with the Purposes of Zoning:

Rezoning Plat 3B, Lot 2-1 from COS to PUB, to allow for the construction of a 4-log chlorination system under Use Code 310, would comport with the following purposes of Zoning identified in R.I.G.L. § 45-24-30:

- R.I.G.L. § 45-24-30(a)(1): “Promoting the public health, safety, and general welfare.”
- R.I.G.L. § 45-24-30(a)(7): “Providing for the protection of public investment in transportation, water, stormwater management systems, sewage treatment and disposal, schools, recreation, public facilities, open space, and other public requirements.”

The Board is welcome to adopt these, or other elements of the purposes of Zoning.

Attachments:

- Memo from Northeast Water Solutions, dated 3/18/24, RE: Richmond Water Supply Board (RI1000040) 4-Log Chlorination Project Summary Supporting Zoning Recommendation
- First Amendment and Reinstatement of the Consent Agreement between Rhode Island Department of Health Center for Drinking Water Quality and the Town of Richmond, dated 6/16/20
- Warranty Deed between the Estate of Aurelia Russell and the Town of Richmond, recorded 10/20/06
- Letter from Rhode Island Department of Health to the Town of Richmond Public Water System, dated 5/12/22, RE: Preliminary approval, engineering application for 4-log disinfection system Town of Richmond Public Water System, RI 1000040

WARRANTY DEED

AURELIA E. RUSSELL, TRUSTEE OF THE AURELIA E. RUSSELL 2005 REVOCABLE TRUST DATED JULY 12, 2005, AS AMENDED, of 120 K.G. Ranch Road, Richmond, Rhode Island 02832, for consideration paid in the amount of \$583,000.00, receipt of which is hereby acknowledged, grants to **THE TOWN OF RICHMOND**, with offices located at 5 Townhouse Road, Wyoming, Rhode Island 02898, with **WARRANTY COVENANTS**, the following described Premises:

That certain lot or parcel of land, with all the buildings and improvements thereon, located on K G Ranch Road in the Town of Richmond, Rhode Island, identified as Lot 2 on Tax Assessor's Map 3B, and further designated and identified as Lot 1 on that plat entitled "Final/Minor Conservation Subdivision/Assessor's Map 3B Lot 2/Prepared for/Town of Richmond/Situated in the Town of Richmond, Rhode Island," said plat having been recorded in the Land Evidence Records of the Town of Richmond on October 27, 2006 as Map #366, Slide #356A.

This conveyance is made subject to the following restrictions:

1. That the Premises shall be maintained in an undeveloped and undisturbed state except for the use and maintenance of the existing trails and roads on the Premises by the Town of Richmond but not by members of the public, and except for the construction of structures and utility facilities reasonably necessary for the extraction of potable water from the Premises, and from other abutting property owned by the Town of Richmond, and for any ancillary services or activities related thereto;
2. That no hunting activity of any kind and no use or operation of recreation vehicles such as dirt bikes, all-terrain vehicles, and the like shall be allowed anywhere within the Premises;
3. That no paved street shall be constructed on that portion of the Premises with frontage on KG Ranch Road; and
4. That the Town of Richmond shall install and maintain a metal gate, with lock, at a portion of the Premises with frontage on KG Ranch Road

These above shall be considered to be restrictions running with the land, shall be permanent in duration, and shall be binding upon the Town of Richmond, its successors and assigns.

Subject to taxes assessed December 31, 2005, the balance of which are not yet due and payable.

No withholding is required under R.I.G.L. 44-30-71.3 in that the Grantor herein is a Rhode Island Trust as evidenced by Affidavit.

TAX \$ 2,332.00
 DATE 10-30-06
 RECORDER JH
 TOWN OF RICHMOND

003591

RHODE ISLAND
 REAL ESTATE CONVEYANCE TAX

IN WITNESS WHEREOF, the undersigned has hereunto set her hand and seal this 30 day of October, 2006.

Aurelia E. Russell
 AURELIA E. RUSSELL, TRUSTEE OF THE
 AURELIA E. RUSSELL 2005 REVOCABLE
 TRUST DATED JULY 12, 2005, AS AMENDED

STATE OF RHODE ISLAND

COUNTY OF Providence

In the City/Town of Richmond on this 30th day of October, 2006, before me personally appeared Aurelia E. Russell, Trustee of the Aurelia E. Russell 2005 Revocable Trust dated July 12, 2005, as amended, to me known and known by me to be the party executing the foregoing instrument, and she acknowledged said instrument and the execution thereof, to be her free act and deed in her capacity as Trustee.

R. I. Linn
 NOTARY PUBLIC ANN M LINN
 My Commission Expires: 12/18/09

PROPERTY ADDRESS:

120 K.G. Ranch Road
 Richmond, RI 02832
 Assessor's Map 3B, Lot 2

Grantee's Mailing Address
 The Town Of Richmond
 5 Townhouse Road
 Wyoming, Rhode Island 02898

TOWN OF RICHMOND, RHODE ISLAND
 RECEIVED FOR RECORD
OCTOBER 30, 2006
 AT 2:43 PM M. BOOK 231 PAGE 435
 MARY E. MORGAN, TOWN CLERK

Northeast Water Solutions, Inc.

Memo

To: Talia Jalette – Richmond Town Planner; Richmond Planning Board
From: Northeast Water Solutions Inc.
CC: Karen Pinch - Town Administrator
Date: 3/18/2024
Re: Richmond Water Supply Board (RI1000040) 4-Log Chlorination
Project Summary Supporting Zoning Recommendation

This memo is being drafted in support of a positive recommendation from the Richmond Planning Board to the Richmond Zoning Board to allow a zone change for Plat 3B Lot 2-1 from Conservation Open Space (COS) to Public and Governmental (PUB). This zone change is being proposed to facilitate the installation of a remote chlorine monitoring station as detailed on the 4/2020 design plans by C&E Engineering and approved by Rhode Island Department of Health (RIDOH).

RIDOH has required Richmond Water Supply Board, who are the owners of Public Water System ID RI1000040, to address bacterial contamination through a 6/17/2020 consent agreement which is enclosed for review. To this end, Richmond Water Supply Board hired C&E Engineering to design a 4log chlorination system. Northeast Water Solutions Inc. became Richmond Water Supply Board certified operator on 10/1/2022 and NWSI is also assisting in the bidding and construction oversight of this 4log system. NWSI did not participate in this 4log system design or consent agreement negotiations on behalf of the public water system.

The proposed 4log chlorination system consists of three main parts; the injection of sodium Hypochlorite (NaOCl) into the water distribution system within the existing pumphouse and backup vault on plat 3B lot 1-1, an appropriate length of distribution main to allow for chlorine contact time, and the construction of a chlorine monitoring station which continuously monitors the concentration of chlorine in the water supply. The chlorine monitoring station is a critical component because this system alerts the certified drinking water operator if the concentration of chlorine becomes too high or too low. In the event of a high alarm the system will also automatically shut off the chlorine injection to ensure public safety.

The chlorine monitoring station designed by C&E Engineering proposed to be on Plat 3B Lot 2-1, consists of a 12'x16' fenced area with a weather proof locking enclosure constructed on a 6'x8' concrete slab. Within the fenced area there will also be a backup generator, propane tanks and concrete drywell. The monitoring station taps the distribution main with ½" service and this water is continually passed through a monitoring equipment and discharged to the drywell. This monitoring station must be in the exact location proposed by the design engineer in order to allow for proper contact time between the chlorine injection point and the monitor point. Because the chlorine monitoring station does not meet the only permitted use in the COS zone of horticulture, a zone change will be required for lot Plat 3B Lot 2-1 from Conservation Open Space (COS) to Public and Governmental (PUB).

State of Rhode Island and Providence Plantations Department of Health
Center for Drinking Water Quality



**IN THE MATTER OF:
TOWN OF RICHMOND
PWS # 1000040**

**FIRST AMENDMENT AND RESTATEMENT OF THE CONSENT AGREEMENT
BETWEEN RHODE ISLAND DEPARTMENT OF HEALTH CENTER FOR DRINKING
WATER QUALITY AND TOWN OF RICHMOND**

Whereas the Rhode Island Department of Health Center for Drinking Water Quality (hereinafter "RIDOH") and the Town of Richmond, PWS #1000040 (hereinafter "Respondent"), desire to amend and restate the Consent Agreement entered into on 12/19/2019 in order to revise certain deliverable deadlines, Both Parties wish to make these necessary change in this FIRST AMENDMENT AND RESTATEMENT OF THE CONSENT AGREEMENT.

Pursuant to R.I. Gen. Laws § 46-13-1 *et seq.*, 216-RICR-50-05-1, 42 U.S.C. § 300F *et seq.*, 40 CFR 141.1-141.861 (National Primary Drinking Water Regulations – NPDWR), § 23-65-4(1) *et seq.*, and 216-RICR-50-05-5, RIDOH and the Respondent enter into this FIRST AMENDMENT AND RESTATEMENT OF THE CONSENT AGREEMENT.

This Amendment was requested by the Respondent because, after a town meeting with the Finance Director and Solicitor, it was determined that the Respondent will need to bond, or otherwise borrow money, to complete the requirements of the Consent Agreement entered into on 12/19/2019. The Respondent has determined that the approval to borrow money will need to be received at the June Financial Town Meeting or its equivalent; therefore, the dates outlined in the 12/19/2019 Consent Agreement will be unattainable. This FIRST AMENDMENT AND RESTATEMENT replaces and supersedes the first CONSENT AGREEMENT.

FINDINGS OF FACT

1. The Respondent is licensed by RIDOH as Public Water System #RI1000040 to operate a Community public water system.
2. The Respondent is required to comply with the provisions of R.I. Gen. Laws § 46-13-1 *et seq.* the *Rules and Regulations Pertaining to Public Drinking Water* [216-RICR-50-05-1] (hereinafter "PDW Regulations") promulgated thereunder, the R.I. Gen. Laws § 23-65-4(1) *et seq.* the *Certification of Public Drinking Water Supply Treatment and Public Water Supply Transmission and Distribution Operators* (hereinafter "Operator Certification Regulations") promulgated thereunder, and the Safe Drinking Water Act, 42 U.S.C. §300f *et seq.* and 40 CFR parts 141-143.
3. The Maximum Contaminant Level Goal (MCLG) for total coliforms is zero (0) (Section 1.16.4(A)(6)(a) of the PDW Regulations).
4. The purpose of coliform and E. coli monitoring is to determine if the protective barriers that keep coliform bacteria out of the PWS have been breached or compromised (Section 1.16.4(A)(4) of the PDW Regulations).
5. A coliform treatment technique trigger occurs when a public water system of the Respondent's size has two (2) or more total coliform-positive (TC+) routine/repeat samples in the same month, fails to collect every required repeat sample after any single total coliform-positive sample, or incurs an E. coli Maximum Contaminant Level (MCL) violation triggering the public water system to perform a Level 1 Assessment for total coliform or a Level 2 Assessment for E. Coli or recurring Level 1 Assessment triggers within a 12 month period.
6. During the past fifteen (15) months, the Respondent triggered five (5) Level 1 Assessments (hereinafter "Assessments") under Section 1.16.4(A)(6)(c) of the PDW

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Regulations because of the confirmed presence of total coliform. These Assessments were triggered in the months of August 2018, October 2018, May 2019, July 2019, and October 2019. These Assessments were alternately performed by Laframboise Water Services and RIDOH.

7. A Sanitary Defect is defined in Section 1.2(A)(112) of the PDW Regulations as a defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place. All sanitary defects identified in the Respondent's Assessments have been corrected. The August 2019 and October 2019 Assessments found no sanitary defects; however, the continued presence of coliform means that unidentified ongoing sanitary defect(s) remain in the system
8. When the water from a public water system is not safe or is subject to contamination, as determined by the Director, the person maintaining such public water system shall take immediate action to correct sanitary defects, improve operation, provide necessary water treatment or make any other changes or additions deemed necessary by the Director to provide safe water (Section 1.10(A) of the PDW Regulations).
9. Three best technology treatment techniques for achieving compliance with the treatment technique requirements are 1. maintenance of a disinfectant residual throughout the distribution system, 2. proper maintenance of the distribution system including main flushing programs and proper operation and maintenance of storage tanks and reservoirs, and 3. disinfection of groundwater using strong oxidants such as chlorine, chlorine dioxide, or ozone that achieves 4-log (99.99%) inactivation of viruses (Section 1.16.4(A) (6)(i)(4) of the PDW Regulations).
10. Community public water systems with chlorination treatment are subject to the Disinfection Byproducts Rule, Section 1.8 of the PDW Regulations.
11. The addition of a chlorination treatment system maintains the classification of the Respondent's treatment system of Class 1T as per Section 5.7 of the Operator Certification Regulations.
12. Respondent has read this Consent Agreement and understands that this Consent Agreement shall become binding once signed by the Respondent and RIDOH.
13. That Respondent hereby continues to acknowledge and waive:
 - a. The right to an administrative hearing on this matter;
 - b. The right to represent himself or be represented by an attorney of Respondent's own choosing at said hearing;
 - c. The right to produce testimony, witnesses, and evidence on Respondent's behalf; at a hearing; and
 - d. Any and all rights of appeal.

ACCORDINGLY, AND BASED ON THE FOREGOING

Pursuant to Rhode Island *Rules and Regulations Pertaining to Public Drinking Water*, 216-RICR-50-05-1 et seq., and RI Gen. Laws § 46-13-1 et seq., in lieu of regulatory action the parties agree on the following deliverables from the 12/19/2019 Consent Agreement, or as amended in bold, as follows:

1. On or before 1/6/2020, the Respondent shall perform an engineering evaluation of the capacity of the two storage tanks in relation to the system demand and submit a report of the findings to RIDOH. The evaluation should determine if increased water age, which results in water quality degradation, could be a contributing factor to the detections of coliform in the distribution system, and if the tanks could be operated at a lower level in order to reduce water age and maintain sufficient chlorine residual throughout the distribution system.
 - Received by RIDOH on time, on 1/6/2020. The RIDOH Comment Letter was mailed 3/11/2020. A response by the Respondent to this Comment Letter was submitted on 4/3/2020.
2. On or before 1/10/2020, the Respondent shall provide a letter to the Rhode Island Infrastructure Bank indicating the name of the project, the amount of money being requested and by what date the money will be needed. A template letter will be provided to Respondent by RIDOH. In addition to the letter, the last five years of financial information must be provided to RIIB.

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• **COMPLETED: 2/5/2020**

3. On or before 1/10/2020, the Respondent shall submit to RIDOH the final Environmental Assessment as required in Section 6.11 of the *Rhode Island Drinking Water State Revolving Fund* regulations, 216-RICR-50-05-6.

- The Respondent notified RIDOH that the Environmental Assessment is 75 percent complete. **NEW REQUIREMENT AND DEADLINE:** Submit this draft by 6/30/2020; the final Environmental Assessment must be submitted within 90 days of preliminary approval by RIDOH of the engineering design.

4. On or before 3/1/2020, the Respondent shall submit plans stamped and signed by a Rhode Island-registered professional engineer, along with specifications, calculations, manufacturer cut sheets, and NSF 60 and 61 certifications for a chlorination system that achieves 4-log (99.99%) inactivation of viruses as per Section 1.16.4(A)(6)(j)(4) and 1.10(A) of the PDW Regulations.

- Received by RIDOH on 5/15/2020 but bid specifications are needed in order for RIDOH to provide final approval for the State Revolving Fund (SRF) loan. **DEADLINE FOR BID SPECIFICATIONS: 6/29/2020.**

5. The Respondent shall respond to comments and questions in RIDOH engineering plan review letter(s) related to the 4-log chlorination system within 14 days or by the date included in the letter(s).

6. On or before 5/30/2020 or within six weeks of the final RIDOH engineering approval letter, whichever is later, the Respondent shall install the 4-log chlorination system and notify the RIDOH project engineer of the completion of the installation so that a conformance inspection can be performed by RIDOH.

- **NEW DEADLINE:** Within 16 weeks of receiving the SRF financing, the Respondent shall install the 4-log chlorination system and notify the RIDOH project engineer of the completion of the installation so that a conformance inspection can be performed by RIDOH.

7. The Respondent shall begin compliance monitoring of the 4-log chlorination system the day after final approval of the 4-log chlorination system by RIDOH in accordance with Section 1.13.4(B) of the PDW Regulations, which will be outlined in the final approval letter by RIDOH.

8. In accordance with Section 1.7.7(D)(4)(g), the respondent shall begin increased lead and copper monitoring after receiving final approval of the 4-log chlorination system. The first 6-month monitoring period will begin the day after receiving final approval of the 4-log chlorination system. The Respondent shall be required to take 20 first-draw, cold water, 1-liter samples, from filter-free taps at residences selected according to the EPA Lead and Copper Rule (LCR) Tier Schedule criteria, which is enclosed. The Respondent shall fill out the enclosed LCR sample site selection form with the new sample tap locations and submit a copy of it to RIDOH for review and approval before collecting the first lead and copper samples following installation of the 4-log chlorination system. The Respondent shall submit lead and copper results to RIDOH by 7/10/2020.

- **NEW DEADLINE:** The deadline to submit lead and copper results to RIDOH is revised from 7/10/2020 to the 10th day of the month following the first six-month period of monitoring.

9. On or before 3/1/2020, the Respondent shall submit a report demonstrating how a detectable chlorine residual will be maintained throughout the distribution system in accordance with Section 1.16.4(A)(6)(j)(2) of the PDW Regulations using operational methods such as flushing and/or reduced storage. This report shall include an evaluation of whether a residual of 0.2 mg/L or greater will be maintained, as future PDW Regulations may define "disinfectant residual" in the distribution system as a minimum of 0.2 mg/L. If the Respondent is unable to demonstrate that a detectable chlorine residual will be maintained using operational methods, this report shall include plans stamped and signed by a Rhode Island-registered professional engineer, along with specifications, calculations, manufacturer cut sheet and NSF 60 and 61 certifications for the installation of chlorine booster station(s) in the location(s) necessary to achieve detectable chlorine residual throughout the distribution system.

- **NEW DEADLINE: 7/15/2020**

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10. On or before 5/30/2020 or within six weeks of the final RIDOH engineering approval letter, whichever is later, the Respondent shall install chlorine booster station(s) determined by the Respondent and RIDOH to be necessary to achieve detectable residual throughout the distribution system.

- **NEW DEADLINE:** If the Respondent and RIDOH determine that the installation of chlorine booster station(s) is necessary to achieve detectable residual throughout the distribution system, within 16 weeks of receiving the SRF financing, the Respondent shall install the chlorine booster station(s).

11. On or before 4/30/2020, the Respondent shall submit a Monitoring Plan for the Disinfection Byproducts Rule (DBPR) in accordance with Section 1.8 of the PDW Regulations, which will be specified in a letter from the RIDOH DBPR rule manager that will be sent to the Respondent on or before 1/30/2020.

- **NEW DEADLINE:** The deadline to submit the Monitoring Plan for DBPR is revised from 4/30/2020 to 7/31/2020. The requirements document was emailed to the Respondent by RIDOH on 2/7/2020.

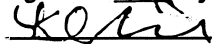
12. Should Respondent fail to meet the requirements of this FIRST AMENDMENT AND RESTATEMENT OF THE CONSENT AGREEMENT and the written requirements of any additional fully executed Amendments, the Respondent would be subject to full regulatory compliance by RIDOH under R.I. Gen. Laws § 46-13-1 et seq. the *Rules and Regulations Pertaining to Public Drinking Water* [216-RICR-50-05-1] (hereinafter "PDW Regulations") promulgated thereunder, the Safe Drinking Water Act, 42 U.S.C. §300f et seq. and 40 CFR parts 141-143. Non-Compliance with this FIRST AMENDMENT AND RESTATEMENT OF THE CONSENT AGREEMENT may include violations and increased administrative penalties, and a Notice of Hearing on Violations of the RI *Rules and Regulations Pertaining to Public Drinking Water* pursuant to RI Gen. Laws §42-35-1 et seq. requesting the Hearing Officer to order compliance with this FIRST AMENDMENT AND RESTATEMENT OF THE CONSENT AGREEMENT.

13. Upon the satisfaction of the requirements of this FIRST AMENDMENT AND RESTATEMENT OF THE CONSENT AGREEMENT, this matter shall be resolved.

14. This FIRST AMENDMENT AND RESTATEMENT replaces and supersedes the first CONSENT AGREEMENT.

15. This FIRST AMENDMENT AND RESTATEMENT OF THE CONSENT AGREEMENT shall become a public record.

Signed this 16th day of June, 2020.



KAREN PINCH

PWS # RI1000040

TOWN OF RICHMOND

Ratified by the RI Department of Health
on the 17th day of June, 2020.



JUNE A. SWALLOW, CHIEF
CENTER FOR DRINKING WATER QUALITY
RHODE ISLAND DEPARTMENT OF HEALTH



Department of Health
Three Capitol Hill
Providence, RI 02908-5097
TTY: 711
www.health.ri.gov

Certified Mail

May 12, 2022

Karen Pinch
Richmond Water Department
2 Richmond Townhouse Road
Richmond, RI 02898

7021 0350 0000 6383 9092

RE: Preliminary approval, engineering application for 4-log disinfection system
Town of Richmond Public Water System, RI 1000040

Dear Ms. Pinch,

The Rhode Island Department of Health, Center for Drinking Water Quality (DWQ) has reviewed the Application for Approval Public Water System Plans and Specifications, to install a sodium hypochlorite system providing 4-log treatment to the primary well, well No.1, and the emergency well, well No.2, for Richmond Water Department PWS, received on May 15, 2020.

Our review included an evaluation of the application package relative to the following:

- the *Rhode Island Drinking Water State Revolving Fund* regulations (216-RICR-50-05-6);
- the *Public Drinking Water Regulations* (the "Regulations"), 216-RICR-50-05-1;
- the *Recommended Standards for Water Works*, issued by the Water Supply Committee of the Great Lakes - Upper Mississippi River Board of State and Provincial Public Health and Environment Managers (Ten State Standards); and
- applicable American Water Works Association standards.

Upon review of the application/bid specifications, RIDOH hereby issues **Preliminary Approval** for this project, with the following conditions:

1. At all times, the system shall be in compliance with the Public Drinking Water Supply Act (RIGL 46-13) and the Regulations as promulgated thereunder. Any and all conditions of approval shall have the same force and effect as regulations promulgated under the Act.
2. The bid specifications must be submitted to RIDOH to demonstrate that all required SRF documentation are included and up to date. Please note, a few documents required to be included in the bid specifications have recently changed (attached). These new documents must be included along with all the other required SRF documents. **Please note, the bid**

specifications must be submitted to RIDOH for review and approval prior to advertisement of request for proposals.

3. Per CT calculations, when the lowest temperature is 5°C, the CT required for 4-log is 8. According to the flowrate studies conducted for the system, verification of the CT calculations, and determination of the free chlorine residual to achieve 4-log inactivation at or before the first customer must be made. Changes to the chlorine injection rates/concentrations and the alarm set point must be made accordingly. The plan sheets must be revised accordingly to reflect the changes. **Please note, the revised CT calculations and plan sheets must be submitted to RIDOH for review and approval prior to advertisement of request for proposals.**
4. An NSF 61 certified static mixer must be installed immediately downstream of the chlorine injection point. The plan sheets that are to be resubmitted per item #3 above must include the static mixer. **The NSF 61 certification must be provided to RIDOH prior to advertisement of request for proposals.**
5. An alarm system must be provided associated with the chlorine analyzer to ensure 4-log treatment is being achieved at all times. Continuous monitoring equipment, including a low-chlorine alarm system, and recording of the lowest residual chlorine concentration of the day are required. If the continuous monitoring equipment fails, chlorine residuals must be taken daily from the approved sampling location during the hour of peak flow until the continuous chlorine monitoring system is returned to service (within 14 days). If the continuous monitoring system fails and the daily chlorine residual falls below the minimum required chlorine residual, as determined in item #2 above, follow-up chlorine residual grab samples must be taken every 4 hours until the chlorine residual is restored to at least the required minimum chlorine residual as determined in item #2 above.
6. The results of the Compliance Monitoring (daily peak flow residual or daily minimum continuous residual) must be reported to the Groundwater Rule manager, Christina Millar, monthly by the 10th of the following month. In addition to the daily minimum residuals, this report must include the items on the enclosed example report.
7. If the requirements, as determined in item #2 above, are not met for longer than 4 hours, the Center for Drinking Water Quality must be notified as soon as possible, but in no case later than the end of the next business day.
8. For the Disinfection Byproducts Rule, the Town of Richmond will be required to sample **two individual samples per year**. One sample site must be the highest TTHM location in the distribution system, and the other individual sample site must be the highest HAA5 location in the distribution system. The first sampling location will be labeled DS001-DBPR1, and the second location will be labeled DS001-DBPR2. These samples will be collected in July as this is the hottest month in Richmond, RI. The Town of Richmond will submit a monitoring plan (attached) to RIDOH that meets the above requirements. Prior to finalizing the sampling locations, the DBPR monitoring plan must be submitted to RIDOH for review and approval **prior to advertisement of request for proposals**. See the

attached guidance for how to choose monitoring sites and the form for the finalized DBPR monitoring plan.

9. The operations and maintenance (O&M) manual and logbook for the public water system must be updated to include the operations and maintenance requirements for the chlorination system. The manual and logbook must be maintained on site by the system operator and made available to RIDOH for review upon request.
10. The Emergency Response Plan (ERP) must be updated to incorporate the chlorination treatment as appropriate. The ERP must be maintained on site by the system operator and made available to RIDOH for review upon request.
11. In accordance with Section 1.5 of the Regulations, all equipment, piping and materials, associated appurtenances, and chemicals shall be designed specifically for use in public water systems and shall conform to ANSI/NSF Standards, particularly Standards 60 and 61. **If any materials or chemicals used deviates from that included in the application, manufacture cut sheets and the NSF 60/61 certifications must be provided to RIDOH.**
12. All work must be completed in accordance with the approved plans and specifications. Any revisions to the approved plans and specifications must be submitted to RIDOH for approval. RIDOH may require a new application if the revisions are deemed significant.
13. The final environmental assessment for a finding of no significant impact must be submitted to RIDOH by **August 11, 2022.**
14. Inform RIDOH when the project goes out to bid.
15. Submit a digital copy of the finalized bid document that goes out to bid, this document should be the exact same document that is presented to all potential bidders.
16. Ensure that bidders complete the Disadvantage Business Enterprise (DBE) forms as provided in the specifications for this project. **Failure to include these documents will deem a bid submission invalid and incomplete for consideration.**
17. Provide RIDOH notification as to date, time, and location of pre-bid meeting.
18. Provide a copy of the letter of Intent to Award.
19. Ensure that the selected bidder, i.e. contractor, submits the DBE work plan and receives an approved DBE work plan from the State's Office of Diversity, Equity and Opportunity (ODEO). The contract **shall not be awarded** until the DBE plan is approved by ODEO.
20. Provide a copy of the Notice of Award and Contract.
21. Provide a copy of the Notice to Proceed.

22. Inform RIDOH of the pre-construction meeting.
23. Debarment & Suspension certification forms must be submitted to RIDOH for the primary contractor and all subcontractors prior to initiation of construction.
24. Ensure that the contractor is fully familiar with the Davis Bacon requirements including documents that are required to be posted in a location easily seen by all workers on the project.
25. Ensure that the contractor is fully familiar with the Rhode Island prevailing wages requirement to maintain a daily log and submit monthly certified payrolls as required in the *Rhode Island Rules and Regulations Relating to Prevailing Wages*.
26. Per Federal requirements, initial and final employee interviews for Davis-Bacon Labor Standards must be conducted. A representative sample of interviews is required for the contractor and each subcontractor on the job site.
27. Ensure that the contractor is fully familiar with the *Drinking Water State Revolving Fund* requirements pertaining to *American Iron and Steel*. Manufactures AIS certification letters must be provided prior to installation of any iron or steel components.
28. Mount the Drinking Water State Revolving Loan sign in a location within the vicinity of the project as required by the *Drinking Water State Revolving Fund Program*.
29. All work shall be accomplished in a manner to minimize bacterial contamination. Upon completion of the installation, appropriate chlorination shall be undertaken to ensure no bacterial contamination. All work shall be accomplished in a manner to minimize bacterial contamination. Upon completion of the installation, appropriate chlorination shall be undertaken to ensure no bacterial contamination. Once chlorination of the system is completed, one sample each at the entry point to the distribution system and at the routine original distribution monitoring locations must be taken and analyzed for the presence/absence of total coliform bacteria at a laboratory licensed by the State of Rhode Island. The results can only be acceptable when the samples are absent for coliform bacteria. If these samples show the presence of coliform bacteria the system may not be placed into service and must be re-disinfected, re-sampled and re-tested in order to achieve the above stated results. All results shall be submitted to RIDOH electronically by a laboratory using the Compliance Monitoring Data Portal (CMDP) system.
30. As-built drawings of the system must be submitted once the system has been inspected and RIDOH is satisfied with the construction of the system.
31. Once construction is substantially complete, a conformance inspection must be completed. The chlorination system cannot be brought on-line until such inspection has occurred and RIDOH is satisfied that the system was constructed in accordance with the approved plans or any subsequent approved changes to the plans. Please contact the undersigned to schedule the conformance inspection.

32. If at any point in time the water system loses pressure below 20 psi, the water system will be required to issue a precautionary boil water notice until the work is completed, pressure is restored, the wells & distribution system are disinfected, flushed, and an absent coliform sample is taken from the routine sampling location. Notify RIDOH immediately if/once this happens.
33. The 4-log chlorination system must be installed and RIDOH must be notified that the project is ready for the conformance inspection **within sixteen (16) weeks of receiving DWSRF financing.**

The project will receive final approval once construction is completed, the system is properly disinfected, satisfactory sample results are received and approved by RIDOH, and satisfactory completion of the conformance inspection. If you have any questions, please do not hesitate to contact me at 401-222-7775 or email me at hui.chen@health.ri.gov.

Sincerely,



Hui (Barbara) Chen
Environmental Engineer
Center for Drinking Water Quality

CC: Thomas B. Nicholson, C&E Engineering
Zhengkai (Zack) Li, RIDOH
Carlene Newman, RIDOH
Christina Millar, RIDOH
Sonia Frias, RIDOH