STATEMENT OF WORK
Kenai National Wildlife Refuge / U.S. Fish & Wildlife Service
Ranger Residence Water Filtration System

1.0 BACKGROUND

1.1 **The objective is to provide a whole house water filtration system at the Kenai National Wildlife Refuge, Ranger Residence, located at 33665 Keystone Drive, Soldotna, Alaska. Water filtration system shall be based on the water quality test results provided and upon completion treated water shall meet all Federal EPA and State of Alaska DEC drinking water standards and requirements.**

2.0 SCOPE OF WORK

2.1. Base Requirements

2.1.1. Demolition

A. Existing water filtration system located in the residence Mechanical Room shall be removed, to include all piping, supports and hangers that will not be utilized as part of the new system.

B. Existing water filtration system located under the sink in the Kitchen of the residence shall be removed to include all piping, supports and hangers.

2.1.2. Installation

A. Installation of the new water filtration system shall be as determined by the contractor and in compliance with the following:

(i) Filtration system shall be accessible for maintenance and monitoring and installed in accordance with the Uniform Plumbing Code and manufacturer's requirements.

(ii) Filtration system may be installed in the existing Mechanical Room of the residence or in the existing crawl space (approximately 48" vertical clearance).

(iii) Filtration system shall not impede access to existing electrical panels, boilers, valves or other mechanical system components.

(iv) Installation shall comply with all requirements of the National Electrical Code.

(v) Provide all piping, hangers and supports as required for the complete installation. New piping shall be compatible with and of similar size to the existing plumbing system piping.

(vi) Completed installation shall include connection of a cold water supply line from existing water piping to the existing drinking water spigot at the Kitchen sink.

2.1.3. System Requirements

A. The items covered by this specification are intended to represent a complete system furnished by one supplier / manufacturer, unless otherwise noted, of all the essential components with installation guidelines to preclude conflict with the performance requirements of the warranty.

(i) Maximum flow rate of 500 gpd.

(ii) Whole house system

(iii) All system replaceable and service components shall be commonly available, i.e. piping, fittings, filters, seals and gaskets.

B. The following water test results from August 2023 are provided for reference only. Prior to designing the filtration system, the contractor shall conduct water sampling and complete a full spectrum water analysis, analyzing at a minimum each of the following, to determine current conditions and system requirements.:

(i) Hardness as CaCO3 – 69.9 mg/L

(ii) Chloride – 2.42 mg/L

(iii) Conductivity – 178 umhos/cm

(iv) Floride – 0.154 mg/L

(v) Sulfate – 2.76 mg/L

(vi) Total dissolved solids – 113 mg/L

(vii) Alkalinity – 70 mg/L

(viii) Calcium – 11,100 ug/L

(ix) Arsenic – 10.7 ug/L

(x) Barium – 37.9 ug/L

(xi) HCO3 Alkalinity – 70 mg/L

(xii) Iron – 170 ug/L

(xiii) Magnesium – 10,200 ug/L

(xiv) Manganese – 87.7 ug/L

(xv) Nickel – 0.74 ug/L

(xvi) pH – 7.9

(xvii) Potassium – 3,790 ug/L

(xviii) Sodium – 11,600 ug/L

(xix) Non-detect: Total Nitrate/Nitrite-N, CO3 Alkalinity, Aluminum, Antimony, Cadmium, Chromium, Copper, Lead, OH Alkalinity, Selenium, Silver, Thallium, and Zinc.

3.0 EXECUTION

3.1. Contractor Qualifications

3.1.1. The Contractor shall have all certificates and licenses required by law for the execution of the work, and shall comply with all Federal, State, and local laws, ordinances, rules, regulations, and codes relating to performance of the work.

3.2. Submittals

3.2.1. <u>System Design</u>

A. Prior to the start of work, the contractor shall provide to the COR a copy of the full spectrum water analysis and documentation of system design indicating capability to meet all Local, State and Federal codes and regulations upon completion of the installation.

B. The contractor shall provide COR for approval, shop drawings indicating all system components and installation location. Drawings shall include sufficient detail to ensure maintenance accessibility and accessibility to other mechanical systems and components.

3.2.2. No permits are required for this contract.

3.3. Period of Performance and Schedule

3.3.1. All work shall be completed by 11/30/2026 from issuance of the Award by the Contracting Officer.

3.3.2. The contractor shall provide a preliminary work schedule to the Contracting Officer and COR within 10 days from the award.

3.3.3. Once initiated, all on-site work shall be completed within five working days, to include all demolition, installation and clean-up.

A. On-site work schedule shall be Monday through Friday, 8:00 a.m. to 4:00 p.m.

B. Demolition and installation processes shall not interfere with water service to the residence beyond the specified on-site working hours. At the end of each workday, full water service to the residence shall be restored.

3.4. Closeout

3.4.1. Following completion of system installation, the contractor shall complete water sampling and full spectrum drinking water analysis and testing to verify system compliance and adherence to EPA and State of Alaska DEC Drinking Water Standards. A copy of the water analysis report shall be provided to COR.

3.4.2. Training

A. The contractor shall provide hands-on training for Refuge Maintenance staff in all requirements for maintenance and operation of the water filtration system. Hands-on training shall include instruction and demonstration and allow sufficient time for Refuge staff to simulate maintenance requirements and operations.

3.4.3. Operation and Maintenance Manuals

A. The contractor shall provide two copies of complete operation and maintenance manuals for the water filtration system. Maintenance manuals shall clearly identify all replaceable or consumable components with complete specification.

4.0 SUPPLEMENTARY INFORMATION

4.1. Project Location & Availability

4.1.1. Project Location

A. Project is located at
33665 Keystone Drive
Soldotna, AK
99669

B. The project site is accessible via road.

4.2. Technical Coordinators:

COR:
Clifton Peterson
Kenai NWR
Facilities Operations Specialist
PO Box 2139
Soldotna, AK 99669
Phone: 907-252-9351

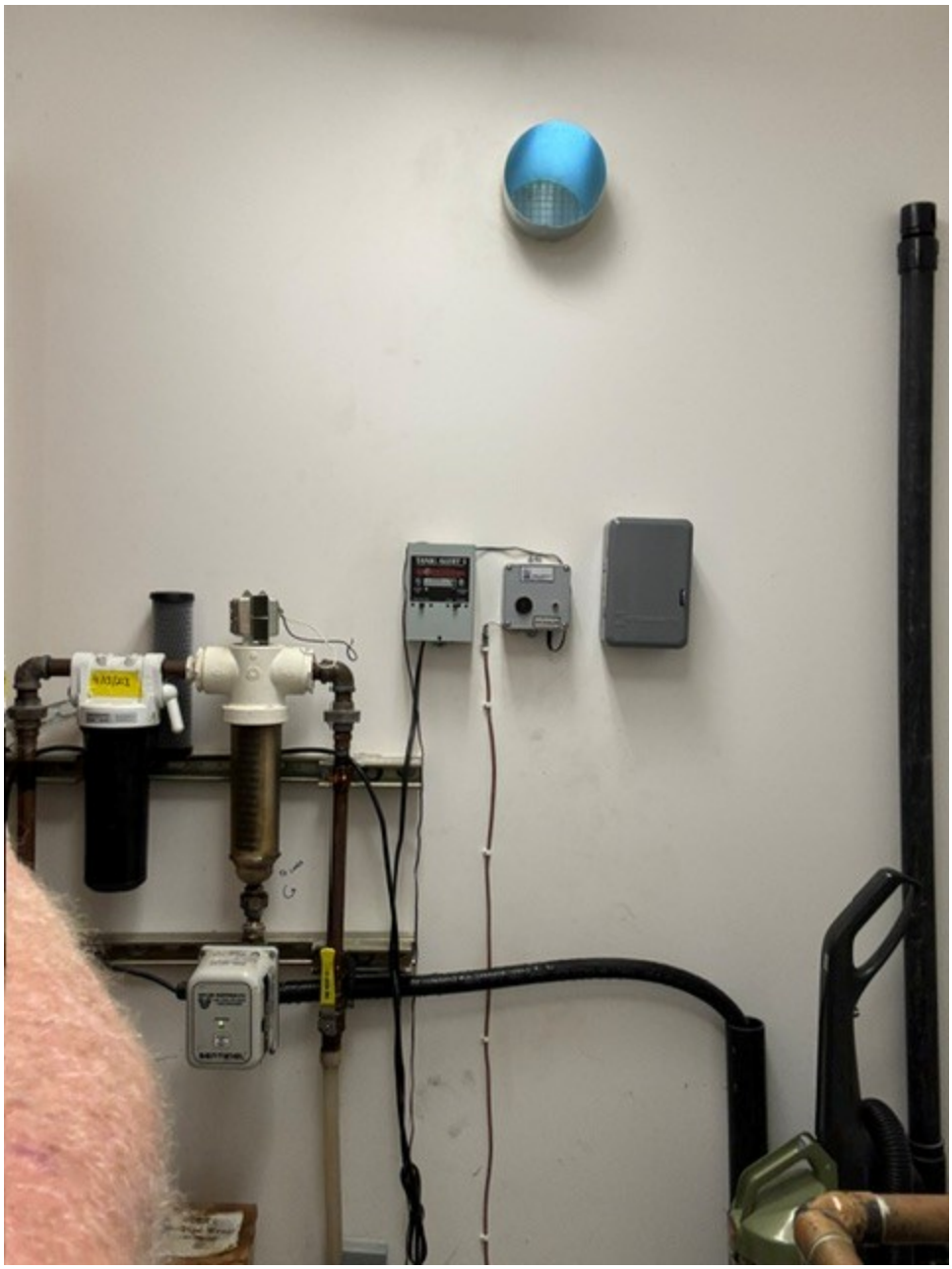
Station Manager:
Stephen A Miller
Kenai NWR
Refuge Manager
PO Box 2139
Soldotna, AK 99669
Phone: 907-621-6176

-END-

Attachments (Existing Photos) – 3

Existing water filters located in the Mechanical Room, to be removed.

Existing water filter located under the Kitchen sink, to be removed.

Existing drinking water spigot at the Kitchen sink to remain.

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