

EXHIBIT B**Statement of Work
Domestic (Potable) Water System
and
Aquifer water (NON potable) Water system****I. GENERAL INFORMATION:**

The United States Embassy, London requires professional services and contractor cost proposals to perform preventive maintenance services of the facility's Potable water and non-potable Water Systems.

II. PROJECT REQUIREMENTS:

Description Volume of Domestic Water:

- Two raw water storage tanks 135,000 liters x 2 = 270,000 liters.
- Two treated water storage tanks 70,000 liters x 2 = 140,000 liters
- One Re-claimed water (Non potable) storage tank 60,000 liters

III. GENERAL REQUIREMENTS:

The Contractor under this SOW will be responsible for labor, tools, and materials required to carry out all preventive maintenance as outlined in this SOW. Embassy staff should have service manuals for all equipment included in this SOW. If they do not, the Contractor will assist Embassy Staff in obtaining the manuals and ensure they have been received.

IV. SCOPE OF WORK - PREVENTIVE MAINTENANCE

1. Contractor shall provide all materials, supervision, labor, tools and equipment to perform preventive maintenance. All personnel working in the vicinity shall wear and /or use safety protection while all work is performed. Any questions or injuries **shall** be brought to the attention of the Post Occupation Safety and Health Officer (POSHO). Material Safety Data Sheets (MSDS) shall be provided by the Contractor for all HAZMAT materials. Copies will be provided to the COR for approval.
2. At a minimum, the following work must be done:
 - The Service program shall consist of the embassy facility management staff conducting routine (daily/weekly) operator testing of the potable water treatment systems and maintaining the records for review by the contractor. The Contractor will be responsible for conducting a technical analysis of the routine potable water treatment testing results from the embassy during their monthly maintenance visits. The Contractor will direct and train the embassy facility management staff to make any changes to the treatment plant operations to reestablish effective and efficient potable water treatment to meet water quality standards.
 - Chemicals must comply with the Environmental Protection Agency (EPA) regulations, ANSI/NSF Standard 60 Certification and be handled in accordance with occupational safety requirements. Employ personal protection against corrosive or hazardous treatment chemicals as appropriate.
 - Be familiar with the Material Safety Data Sheets of any chemicals used in the water treatment program.

- Assure that the embassy water treatment specialists understand the proper operation and maintenance of the equipment and correct any deficiencies found with on-site personnel’s familiarizations with equipment.
- Water treatment must be based on proven standard engineering practices and Embassy specific water treatment goals.
- Follow treatment as directed by manufacturer.
- Maintenance includes chemicals, chemical feeding, maintaining proper water conditions, controlling bleed off, protecting idle equipment, and record-keeping.
- Ensure chemicals are properly stored, test equipment clean, and that chemicals have not passed expiration date.
- All tests shall conform to the manufacturer test procedures and standard values.
- Maintain records and test results.
- Review daily logs for trends.
- Check chemical levels in the chemical addition tanks. Adjust if necessary.
- Verify maintenance records for all components of the water treatment system.
- Check total and free chlorine and pH in all domestic water tanks. Adjust the Chlorine dosing as needed. Report and recommendation shall be submitted to the COR.
- Check Water fountains or other taps that provide potable water for consumption and analyze for coliform bacteria and E.coli. The maintenance contract requires testing of drinking water taps, on the embassy compound for coliform bacteria. 10% of tap/drinking fountains shall be randomly chosen, sampled, and analyzed. The drinking water tap that is hydraulically furthest from the water treatment system should be sampled every month.
- The water treatment Contractor shall determine the dosage levels of chemicals and stay within the specified operating parameters:

Parameters	Maintenance Levels
<u>For Maintenance of Potable Water Quality Treatment Goals</u>	
Chlorine Residual	0.2 – 0.5 mg/L in all parts of the distribution system
Microbiological and Chemical constituents	Treated water meets U.S. Environmental Protection Agency Primary and Secondary Drinking Water Regulations (40 CFR Parts 141-143)

<i>For Maintenance of Piping and Equipment</i>	
Corrosion on mild steel	Less than 2.0 mpy
Pitting attack on mild steel	None
Corrosion on copper alloys	Less than 0.2 mpy
Scaling and deposition	None
Microbiological fouling	1. No visible deposits 2. No health hazards. 3. Total Heterotrophic Plate Count (HPC) less than 500/CFU

4. The Contactor's service proposal shall include, **at a minimum**, the following service visits:

a) **Monthly** (twelve times per year):

- i. Check temperatures at taps (nearest outlet, furthest outlet, and long branches to outlets) and representative hot and cold outlets, Calorifier outlet temperature and Calorifier return temperatures. Record all actions undertaken within the onsite logbook.
- ii. Check total/free chlorine & pH of all domestic water tanks.
- iii. Check TVC, Coliforms & E-Coli in Drinking Water Outlets. At least six (6) samples. Two (2) sample to be taken from two furthest outlets from the water treatment plant.

b) **Quarterly** (four times per year):

- i. Legionella sample. At least 8 samples per visit from the potable water system and 4 samples from the non-potable water system.

c) **Semi-Annual** (two times per year)

- i. Service of **two Water Softener x2, two Multimedia filers x2 and four Carbon filters x4**: Strip down head assembly, assess condition and repair minor faults. Examine condition of resin vessels, brine tanks and related components and repair minor faults (if possible). Reassemble, Sterilize, test regenerate, and monitor each stage for correct operation and completion. Compile full report and advise if further actions are necessary. (Includes service spares kit; any additional parts extra).

a) **Annually** (one time per year):

- i. Clean and Chlorination of the potable water cold-water storage tanks and all associated domestic water services in accordance with British standards (x4 concrete tanks).
- ii. **In the Base Year ONLY**: Clean and Chlorination of the Non-potable water cold-water storage tanks and all associated domestic water services in accordance with British standards (x1 tank). Non-potable water tank shall be cleaned on Sunday only (8:00 am – 5:30 pm).
- iii. Legionella Risk Assessment: Carry out a full risk assessment of the domestic water services, (hot, cold and mains supply) and any other water systems present, and to

identify any water system(s) or part(s) thereof which could potentially cause the proliferation of water borne bacteria including legionella pneumophila.

- iv. Legionella Awareness Training Course: the course shall accommodate up to 15 candidates. The course shall include:
 - Introduction.
 - What is Legionella?
 - Susceptibility
 - Symptoms /effects of the disease.
 - Outbreaks.
 - Legislation.
 - Controlling the bacteria.
 - Completing logbooks and record keeping.
 - Written Assessment - Marked.
 - Questions and Discussion
- v. Well Water: Sample the well water to check the pH, Alkalinity, TDS, turbidity, Total iron, Total Manganese, Nitrite, Nitrate, Total Hardness, Ammonia. Report and Recommendations shall be provided to the COR. Well water is used for toilet flushing, interior gardens irrigation and make-up water for the exterior pond.
- vi. Cleaning and Sterilization the salt tub of the Water Softeners.

5. Potable Water Treatment System Components and model:

Item	Quantity	Manufacturer	Model	Specification	Location
Softeners	2	Hellenbrand	H200M-240	Metered regeneration	Plant room
Carbon filters	2	Hellenbrand	H200-CH-30-153	Fully Automatic	Plant room

Storage	Number of Tanks	Type	Material	Volume	Location
Raw Water Storage tank	2	atmospheric	concert	135,000 liters each tank	Above ground, in the basement
Treated Water Storage tank	2	atmospheric	concert	70,000 liters each tank	Above ground, in the basement

6. Non-Potable Water Treatment System Components and model:

Item	Quantity	Manufacturer	Model	Specification	Location
Carbon filters	2	Hellenbrand	H200-CH-30-15 ³	Fully Automatic	Room P210.1
Multimedia Filter	2	Hellenbrand	H200M-MM-24-8	Fully Automatic	Room P210.1

Storage	Number of Tanks	Type	Material	Volume	Location
Non-potable/Well Water Storage tank	1	Atmospheric	concert	60,000 liters	Above ground, in the basement