WATER RESERVOIR AND TANK CLEANING
ATTACHMENT A: SCOPE OF WORK
18-PR-DDCS-3

1. BACKGROUND

DC Water is an independent multi-jurisdictional regional utility that provides drinking water, wastewater collection and treatment to more than 672,000 residential, commercial and governmental customers in the District of Columbia, and also collects and treats wastewater for an additional 1.6 million customers in Montgomery and Prince Georges counties in Maryland and Fairfax and Loudoun counties in Northern Virginia.

DC Water is seeking a vendor to provide all labor, materials, tools, and equipment required to complete the thorough cleaning (via water blasting), waste disposal, and disinfection work, including site mobilization, staging, and demobilization of various DC Water underground water storage reservoirs and water storage tanks and appurtenances at various locations throughout the Washington, DC area.

2. CONTRACTOR MINIMUM QUALIFICATIONS

The Contractor must possess and demonstrate the following minimum qualifications:

- The Contractor must demonstrate that they regularly engaged in the type of work required and possess a minimum of three (3) years’ experience providing similar services.
- The Contractor’s Site Supervisor(s) must each have a minimum of 3 years of relevant experience and shall be Confined Space Certified, as well as certified in first aid and CPR.

3. GENERAL REQUIREMENTS

3.1. The Contractor shall provide reservoir and tank cleaning services at various locations throughout the Washington, DC area. All work shall be performed under the direction of DC Water’s Contracting Officer’s Technical Representative (COTR) and in accordance with the guidelines and specifications detailed herein.

3.2. The Contractor shall furnish all labor, materials, tools, and equipment required to complete the thorough cleaning (via water blasting), waste disposal, and disinfection work, including site mobilization, staging, and demobilization, of the following DC Water underground water storage reservoirs and water storage tanks and appurtenances:

<table>
<thead>
<tr>
<th>Storage Facility Name</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soldiers Home Reservoir</td>
<td>15 MG</td>
</tr>
<tr>
<td>Fort Reno Reservoir #1</td>
<td>5.4 MG</td>
</tr>
<tr>
<td>Fort Stanton Reservoir #1</td>
<td>3 MG</td>
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<tr>
<td>Anacostia Elevated Tank #1- Good Hope</td>
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<tr>
<td>Fort Stanton Reservoir No.2</td>
<td>10 MG</td>
</tr>
<tr>
<td>Fort Reno Elevated Tank</td>
<td>0.16 MG</td>
</tr>
</tbody>
</table>
3.3. The Contractor shall provide all necessary procedures, equipment, and trained and certified personnel for compliance with all applicable regulatory permitting and requirements for Confined Space Entry, and for compliance with OSHA and other safety regulations for the required work. The Contractor shall also comply with all relevant regulatory requirements of DC Water, the District of Columbia, relevant Federal Regulatory Agencies, and all other applicable regulatory requirements and permitting for the required work.

3.4. The Contractor shall maintain on the job site at all times a competent site supervisor in charge of the job site. The field supervisor shall be approved in writing by the COTR prior to commencement of work. Any change in supervision must also be approved in writing by the COTR prior to the change being effective. The field supervisor shall be responsible for the safety of all site workers and site conditions as well as ensuring that all work is conducted in conformance with the specifications and to the level of quality specified in the contract. The site supervisor shall be Confined Space Certified, as well as certified in first aid and CPR.

3.5. The Contractor shall maintain the site in a clean and presentable condition throughout the course of the work being performed. The work shall be done in such a fashion as to ensure protection of existing trees, lawns, fences and structures on the site and all adjoining properties from damages due to sandblasting, painting, and all other work performed under this contract.

3.6. The Contractor shall maintain on the job site at all times a competent site supervisor in charge of the job site. The field supervisor shall be approved in writing by the COTR prior to commencement of work. Any change in supervision must also be approved in writing by the COTR prior to the change being effective. The field supervisor shall be responsible for the safety of all site workers and site conditions as well as ensuring that all work is conducted in conformance with the specifications and to the level of quality specified in the contract. The site supervisor shall be Confined Space Certified, as well as certified in first aid and CPR.

3.7. The Contractor shall perform work at only one reservoir/tank facility at any given time. Once tasks associated with cleaning a reservoir/tank have been initiated, work shall be performed each consecutive work day until all work at that facility is complete.

4. SITE PREPARATION

4.1. DC Water will lower the reservoir/tank water level to between three and five feet of water depth and then coordinate final draining activities with the Contractor.

4.2. The COTR, or designee, shall notify the contractor within twenty-four hours from the time a reservoir/tank is available for cleaning.

4.3. The Contractor shall seal the reservoir or tank inlet/outlet pipe in a manner that will prevent any debris from entering the inlet/outlet pipe immediately after the storage reservoir or tank is drained and made available to the Contractor.

4.4. The Contractor shall remove sediments and remaining water from the reservoir/tank. It is expected that there will be less than ¼-inch of existing sediment on the floor of the reservoir or tank. All water and sediments shall be pumped into suction trucks (provided by the Contractor). The Contractor shall obtain a permit to dispose of sediments into combined -sewer/sanitary sewer.

4.5. The Contractor shall make provisions to permit entry and exit from the storage reservoirs and tanks, in a safe manner for both workers and DC Water inspection personnel. Access to the interior of the reservoirs is available via roof access manhole and/or access hatch. Access to the interior of the elevated tanks is via tank manways.

4.6. The Contractor shall provide proper means for disinfection of shoes, equipment and other items that will come in contact with the interior surface of the reservoirs to prevent any contamination. All
equipment and materials shall be sanitized / disinfected prior to each entry into the water storage vessel.

5. CLEANING

5.1. The Contractor shall provide all equipment, materials, personnel and procedures necessary to thoroughly clean all interior surfaces of the reservoir/tank via pressurized water jetting. The Contractor shall clean all walls, floors, ceilings, pits, pipes, columns, and beams. The cleaned reservoirs/tanks shall not contain any sediment, water, mildew, algae, black spots, rust spots, or debris. Surfaces shall be cleaned without the use of cleaning solutions or detergents.

5.2. The Contractor shall clean all reservoirs/tanks using high-pressure potable water with at least 3,000 PSI pressure, sweeping, scrubbing or equally effective cleaning methods without damaging the concrete or coated surfaces. In general, pressures shall be a minimum of 3,000 psi at 4-6 gpm flow rate with a standard fan nozzle.

5.3. Prior to cleaning the entire reservoir/tank, the Contractor shall clean a 100 SF area with detailed inspection performed by the COTR to confirm adequate pressure and flow rate for cleaning.

5.4. The Contractor is solely responsible for the removal and disposal of all wastewater and solid waste resulting from their operations.

5.5. The Contractor shall remove and dispose of all wastewater and material from the reservoir/tank by a method approved by the COTR, in accordance with the following:

   a. **Solid Waste:** The Contractor shall comply with all District of Columbia and Federal regulations regarding the disposal of solid wastes. All material removed from the reservoir/tank shall be contained prior to disposal. Such material must be taken off site to an approved disposal area. The Contractor shall advise himself of all applicable regulations and shall undertake the necessary testing in order to comply with said regulations. The Contractor shall pay for all costs associated with testing, permits and disposal of solid wastes generated as a result of the project. Solid waste and debris shall not be disposed of into sanitary or combined sewers.

   b. **Wastewater:** Wastewater from the cleaning process shall be fully contained, collected and disposed of properly and shall not be drained into the existing Storm Drains. The Contractor shall remove the wastewater from the reservoir/tank and discharge it into a nearby sanitary or combined sewer. Wastewater shall be discharged at a rate that does not create flooding of the sewer beyond its capacity. The wastewater shall have sufficient water so that sediments do not settle into the sewers. The wastewater discharged into sanitary or combined sewers shall comply with D.C. Law 6-95, the Wastewater Regulation Amendment Act of 1985, as amended. This act prohibits the discharge of wastewater into a separate storm sewer system or streams. The contractor may obtain a copy of D.C. Law 6-95 from the contract administrator/designee.

   The Contractor shall coordinate and confirm the identification and type of every proposed discharge manhole with DC Water prior to discharging any wastewater.

5.6. The contractor shall provide written notice to the COTR when the reservoir/tank cleaning has been completed.
6. **POST – CLEANING INSPECTION**

6.1. At the completion of each reservoir/tank cleaning and prior to disinfection, the Contractor shall provide access for the COTR, or designee, other DC Water personnel, and/or consultants to perform a detailed inspection of the facility.

6.2. The Contractor shall provide the support personnel and equipment necessary to conduct the inspection, including entry permit, site supervisor, and all necessary equipment required provide a safe environment to support inspection of the facility, including two-way radios, a portable cellular phone, barriers, lighting, ventilation, scaffolding, ladders, and gas meters.

6.3. The Contractor shall coordinate the inspection with the COTR at least four (4) weeks in advance of the cleaning completion date and provide access for three workdays (8 am to 5 pm) over a ten (10) day period for the inspection.

6.4. The Contractor shall provide personnel, materials and equipment, specified by the COTR, to assist during the inspection of each facility. The work shall consist of, but not be limited to:
   a. Moving or holding scaffolds, ladders, lights, tapes;
   b. Passing tools;
   c. Cleaning surfaces;
   d. Bringing materials in and out of the reservoir / tank; and
   e. Operating the generator for lights, air blowers, pumps and any other necessary equipment.

6.5. The Contractor shall clean the reservoir/tank as necessary to remove residual debris and materials after the inspection is completed and before disinfection. The Contractor shall remove all equipment and materials that are no longer required from the work site and all vehicles shall be parked within approved parking areas.

6.6. The Contractor shall check and put in satisfactory condition the vents, screens, overflow screens, and any other screened openings to prevent birds, insects, and other possible contaminants from entering the facility following the final cleaning operation. The Contractor shall provide and install new vents/screens, as deemed necessary based on the condition of the equipment.

6.7. The Contractor shall replace all lawn, pavements, roads and walkways removed or damaged by the contract operations. Paved surfaces shall be restored with new materials to match its previous condition at no additional cost to DC Water, in accordance with applicable sections of the District of Columbia, Department of Public Works Standard Specifications for Highways and Structures, latest edition, as amended unless superseded herein. Concrete curb and gutter, trench drains, catch basins, railroad tracks, manholes and all other pavement features shall also be properly restored.

7. **DISINFECTION**

7.1. Prior to disinfection of the reservoir/tank and refilling the reservoir/tank with water, the test plug shall be removed from the inlet/outlet pipe and the pipe shall be completely cleaned of any sediment or debris and flushed with clean water.

7.2. The Contractor shall disinfect each reservoir/tank in accordance with the American Water Works Association (AWWA) specifications and the guidelines listed below:
   a. Any reservoir or tank without mixers must use sodium hypochlorite; and
   b. Reservoirs/Tanks have chloramine which requires 2-3 times the amount of chlorine to overcome
breakpoint.

7.3. Site specific requirements:

a. **Soldiers’ Home Reservoir:** Completely drain water into the appropriate combined -sewer/sanitary sewer.

b. **Fort Reno Reservoir #1:** Completely drain chlorinated water into the existing drain with proper dechlorination performed by the Contractor in a downstream manhole.

c. **Fort Stanton Reservoir #1 & #2:** The chlorinated water shall be pumped out of the Reservoir into a nearby sanitary sewer manhole on W Street.

d. **Anacostia Elevated Tank #1- Good Hope:** Completely drain chlorinated water into the existing drain with proper dechlorination performed by the Contractor in a downstream manhole.

e. **Anacostia Elevated Tank #2 - Boulevard:** Completely drain chlorinated water into the existing drain with proper dechlorination performed by the Contractor in a downstream manhole.

f. **Brentwood Reservoir:** Completely drain water into the appropriate combined -sewer/sanitary sewer.

g. **Fort Reno Elevated Tank:** This tank is not drained prior to inspection. Inspection is completed via a properly disinfected camera.

7.4. DC Water will collect water samples to test for total coliforms, and chlorine residuals to determine if the water meets EPA requirements at 24 Hour and 48 Hour after super chlorination period is completed and DC Water has completed filling the tank.

7.5. If any test fails to meet EPA requirements, the Contractor shall remove all disinfected water from the reservoir/tank and repeat the above tasks until each reservoir/tank meets EPA requirements.

7.6. For the Good Hope and Boulevard location the Contractor may be requested to provide a person who is certified for Water Sampling to retrieve the required water sample. This person would need to climb the tank and obtain the sample from the top, if required. This person’s services shall be included as a break out price.

7.7. Upon notification from the COTR that the reservoir/tank meets EPA requirements the Contractor shall fully demobilize from the work site.

8. **FINAL INSPECTION AND ACCEPTANCE**

8.1. The Contractor shall remove all remaining equipment, debris, unused material, and unwanted evidence of the project from the work site upon completion of the disinfection process.

8.2. Upon completion of all work, a final inspection of the site will be undertaken at which time representatives of DC Water and Contractor will be in attendance. Any unsatisfactory cleanup will be indicated by DC Water and the Contractor shall promptly and properly correct all such deficiencies to the satisfaction of DC Water.

8.3. The measurement for work associated with this contract shall be a fixed price per each facility. Acceptance of work shall occur at the completion of cleaning and disinfection work when test results meet EPA and DC Water standards and the work site is fully demobilized to the satisfaction of the COTR.

8.4. Within ten (ten) business days of final inspection and acceptance, the Contractor shall Upon completion of the cleaning of a tank the Contractor shall provide a Final Report to the COTR to include, at a minimum, the following:
• A summary of the work completed
• A summary of any unexpected issues occurring the tank cleaning process
• Confirmation of acceptable water testing results
• Recommendations for future tank cleaning
• A copy of invoices to be submitted to DC Water for payment

9. PERSONNEL

9.1. The Contractor’s employees assigned to work in a reservoir/tank shall be in good health and free from infectious diseases and illness.

9.2. The Contractor shall provide Health Certificates to the COTR for all employees assigned to work in a reservoir/tank 5 days prior to the scheduled start of work for each reservoir/tank. The COTR has the right to refuse any person entrance into a reservoir/tank for medical reasons.

10. EQUIPMENT

10.1. The Contractor shall furnish, erect, dismantle, and remove all rigging and scaffolding on the interior of the storage reservoir or tank necessary to perform the required work. Scaffolding and rigging shall be erected in a manner that will permit access for visual inspection of all interior surfaces. Scaffolding shall be so designed and constructed as to assure structural stability and carry all construction loads without excessive deflection or vibration. Scaffolding design and installation shall meet all applicable requirements of OSHA and other applicable regulations. All scaffolding and rigging shall be erected in a manner that will prevent interference with surfaces to be cleaned.

10.2. The Contractor shall furnish all labor, materials, tools and equipment required to provide adequate and safe ventilation and lighting systems necessary to complete the work, including that necessary to access each facility. Lighting and ventilation systems shall comply with applicable requirements of DC Water, the District of Columbia and relevant Federal Regulatory Agencies. All lighting shall be explosion proof and all electric power should have adequate ground-fault protection.

10.3. The Contractor shall provide heating apparatus approved by the COTR if temporary heating is required for the protection of the workers, materials and/or equipment. Temporary heating apparatus shall be installed and operated in such a manner that the finished work is not affected.

10.4. All equipment and/or materials used within the interior of the reservoir or tank shall be approved for use in contact with potable water by the NSF, the Federal Safe Drinking Water Act, and all other applicable regulatory agencies.

10.5. No motorized or hydraulic equipment or machinery containing oils, fuels, or lubricants, or other non-NSF approved fluids shall be placed inside the reservoir or tank.

10.6. At the beginning of each reservoir/tank cleaning project the Contractor shall furnish new materials which are to be used inside the water storage reservoirs/tanks, including personal gear suitable for a potable water system. New squeegees and push brooms shall be used in each reservoir/tank.

10.7. The Contractor shall ensure that all equipment is maintained properly, and that all personnel using the equipment are trained and use all equipment properly.

10.8. All, equipment within a reservoir/tank shall be electrically operated. Electrical equipment shall be
protected from electric shocks due to wet surfaces. No gasoline/diesel powered motorized or hydraulic equipment or machinery shall be placed inside the reservoir or tank. Equipment with an electric motor is acceptable.

10.9. Sediment / debris cleanup and removal shall be conducted by manual means and methods.

11. **SITE ACCESS**

11.1. The Contractor shall be allowed to access the storage facility sites only during DC Water working days between the hours of 7:00 am and 2:30 pm.

11.2. To gain access the storage facility sites, all Contractor employees or subcontractor employees must have a valid DC Water photo identification badge that can be obtained from DC Water Security at Blue Plains (5000 Overlook Avenue, SW, Washington, DC) and a valid government issued ID.

12. **CONTRACTOR’S STAGING AREA**

12.1. The Contractor’s staging area shall be within the area to be designated by the COTR in coordination with the National Park Service and other applicable agencies. The Contractor’s use of these areas shall be confined to storage and such activities that will not conflict with any applicable safety and building codes. Before final acceptance and release of the reservoir/tank, this area shall be restored to its pre-construction condition or better.

12.2. Prior to mobilizing, the Contractor shall provide the COTR with video and photographic documentation of the conditions of each area that is to be set-aside for the Contractor’s use, along with a written description the condition of any mechanical equipment within these areas. The COTR will verify the accuracy of the conditions described in the written letter statement and depicted by video and photographs, and will later use them to confirm the restoration of the subject areas during the final inspection.

13. **CONFINED SPACE ENTRY**

13.1. Work under this project will be performed in confined spaces. Prior to beginning work on the Contract, the Contractor shall make assessment of all areas requiring access under the Contract and submit to the COTR a Confined Space Entry Program and Confined Space Entry Permit application/checklist for each area that qualifies as a confined space.

13.2. The Contractor shall comply with all applicable Federal and local confined space laws and regulations, including OSHA, 29 CFR 1910.146.

13.3. The Contractor shall notify the District of Columbia Fire Department daily whenever confined space entry activities will occur.

13.4. Additional details related to the confined space entry program requirements are provided in Attachment N - DC Water Confined Space Program.

14. **SAFETY**

14.1. In addition to the General Safety Provision provided in Attachment M, the Contractor shall also adhere to the following:
a. The Contractor shall provide the following safety equipment for his/her employees and DC Water personnel and consultants performing the inspection:

- Testing and monitoring equipment needed for oxygen, combustible gases and vapors, and toxic gases and vapors.
- All necessary ventilation and heat required to maintain the atmospheric conditions inside the reservoir or tank suitable for working conditions and for surface cleaning. Ventilating equipment, blowers and air hoses if needed to obtain acceptable entry conditions. All air hoses shall be new;
- Communications equipment necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space, including one (1) two-way radio per person and a portable cellular phone;
- Personal protective equipment: safety eye glasses, rubber boots, safety shoes, hard hats, ear plugs, rain coats, hand gloves, protective clothing, self-contained breathing equipment, full body harness and retrieval devices, first aid kit, respirators suitable for chemicals utilized or other equipment necessary. The contractor will not be required to provide personal protective equipment to the inspectors;
- Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency: Battery powered flash lights and all lights should be explosion proof if necessary;
- Barriers, shields and signs necessary to protect pedestrian, vehicle, or entrants from external hazards: Barricades shall be erected around all sumps and pipes within the reservoir / tank;
- Equipment, such as ladders needed for safe ingress and egress to the reservoirs by authorized entrants including two (2) eight foot ladders two (2) sixteen foot ladders and two (2) thirty-two foot ladders for the inspection;
- Two (2) portable scaffolds for inspecting concrete reservoirs: The scaffolds shall be of a size to allow inspection of the underside of the roof slabs and shall be adjustable to change height;
- High intensity lights for general interior illumination: Forty (40), 150 watt tripod stand mounted flood lights with spare bulbs to replace broken/blown lights during inspection of the concrete reservoirs shall be provided as a minimum. The lights shall be grounded and shall have a protective wire cage around the bulb. They shall be suitable for use in a wet environment. The contractor shall provide portable lighting for added illumination at two different points of inspection. The extension cords shall be waterproof and shall be of sufficient length to reach all portions of the reservoir. The cords shall be sized so there is a minimum amount of slack to the farthest lights;
- Rescue and emergency equipment, except for equipment provided by a rescue service;
- Portable generators to run lights, pumps and air blowers including necessary fuel. The generator exhaust shall be directed away from air intakes "to the reservoirs / tanks;"
- Chlorine solution to clean boots and other equipment prior to entering the facility; and
- Any other equipment necessary for work performed in confined space entry areas;

b. The Contractor shall be prepared to perform work under the following Reservoir/tank conditions:

- Limited or restricted means for entry or exit;
- Have slippery surfaces;
- Lack of lighting;
- Are not designed for continuous employee occupancy;
- Are large enough and so configured that an employee can enter and perform assigned work;
- May have oxygen deficient atmospheres;
- May contain chlorine gas;
- Have the potential for engulfing an entrant by water;
- May have unsafe/broken ladders;
- May have un-protected openings in floors;
- May have sediments on floors;
• May have falling object;
• May have protruding objects;
• May have icy surfaces;
• May have dripping water from ceiling; and
• May have seepage from walls or floors;
• May have leaky influent, effluent or drain valves; and/or
• May have roots intrusion.

15. QUALITY ASSURANCE / QUALITY CONTROL (QA/QC)

15.1. The Contractor shall maintain an internal QA/QC program to be submitted to and approved by the COTR prior to the commencement of any work.

15.2. The work shall be performed in accordance with the best practice of the industry and workmanship shall be of the best quality. The specifications call attention to certain features but do not purport to cover all details entering into the required work.

16. SEQUENCE OF WORK AND OUTAGE LIMITATIONS

16.1. Sequence of Work and Scheduling - The Contractor shall perform the required work under to meet the specified timeframe given in the contract. All work shall be scheduled and proceed in such sequence as to avoid interference and delays to normal DC Water operations.

16.2. The Contractor shall provide a proposed project schedule, including overall tank cleaning timeline and shutdown schedule, to the COTR within ten (10) business days after receiving notice to proceed (NTP), but no later than fourteen (14) days prior to site mobilization.

16.3. The tank cleaning timeline shall include, at a minimum, a schedule from site mobilization to final inspection and acceptance for all tanks/reservoirs to be cleaned in a contract year.

16.4. The proposed shutdown schedule shall include the following for each individual shutdown required:
   a. Summary Description;
   b. Shutdown time and date;
   c. A time scheduled sequence of tasks, including identification of critical stages in the project where a decision to abort the operation would be made if satisfactory progress were not being made or unforeseen conditions would likely result in excessive out-of-service duration; and
   d. If necessary, justification for valve operations that are outside of the normal work day (non-holiday weekdays between 8:30 am and 3:30 pm).

16.5. The Contractor shall allow DC Water a fourteen (14) day review period for the overall shutdown schedule and, as required by DC Water, the Contractor shall adjust/modify the shutdown schedule accordingly.

16.6. At least five (5) days prior to the interruption of service, the Contractor shall submit a Shutdown Request to COTR. The Contractor shall be limited to scheduling one shutdown at a time.

16.7. The Contractor shall allow seven (7) consecutive calendar days between placing one facility into service and taking the next facility out of service. Unless written authorization is provided by the COTR. An overlap of shutdowns will not be permitted.
17. **LIQUIDATED DAMAGES FOR DELAYS**

17.1. Delay in completion of the project will jeopardize the DC Water’s interest; however, it is impossible to ascertain with reasonable certainty the direct/indirect real damages, which the DC Water could sustain if the project is not performed and completed in a timely manner.

17.2. It is therefore agreed that liquidated damages in the amount of $350.00 will be assessed the Contractor for each calendar day by which the Contractor fails to complete the work, or any part thereof, in accordance with contract requirements.

17.3. It is agreed that the Contractor will be assessed liquidated damages of **$350.00 per day** for each calendar day beyond the timeframe approved by the COTR until the Contractor completes the work and final acceptance is received from the COTR.

17.4. DC Water will deduct and retain out of any money due, or to become due hereunder, the amount of liquidated damages and, in case retained amounts are less than the amount of liquidated damages, the Contractor shall be liable to pay the difference upon demand by DC Water.

17.5. Nothing herein shall be deemed to limit any of the rights and remedies available to the DC Water or in any way to create an exclusive remedy between the parties.

17.6. DC Water reserves the right to pursue any and all remedies available to it in any manner permitted at law or in equity.

18. **SUBMITTALS AND DELIVERABLES**

18.1. Prior to commencing work at each facility, the Contractor shall submit the following documents to the COTR for approval:

- Name(s) of field supervisor(s);
- Confined Space Entry Program
- Site-specific Health and Safety Plan; and
- Copies of health certificates and confined space certification for personnel.

18.2. The Contractor shall submit the following deliverables, at a minimum, to the COTR according to the following schedule:

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Format</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staging Area Condition Documentation</td>
<td>Email, CD, or Flash Drive</td>
<td>At least 5 days prior to site mobilization</td>
</tr>
<tr>
<td>Project Schedule</td>
<td>Email - PDF</td>
<td>10 days after NTP, but at least 14 days prior to site mobilization</td>
</tr>
<tr>
<td>Final Report</td>
<td>Email - PDF</td>
<td>Within 10 business days of final inspection and acceptance.</td>
</tr>
<tr>
<td>Invoices</td>
<td>Email - PDF</td>
<td>Monthly - Due on the third working day of each month.</td>
</tr>
<tr>
<td>Certificate of Insurance</td>
<td>Email - PDF</td>
<td>Annually – At the start of each contract year</td>
</tr>
</tbody>
</table>

19. **WORK BY DC WATER**

19.1. DC Water will provide all shutdowns necessary for this Contract. We will open and close valves for the Contractor on weekdays between 8:30 a.m. and 3:30 p.m., excluding city emergencies. For scheduled
shutdowns that extend outside of the normal workday (non-holiday weekdays between 8:30 a.m. and 3:30 p.m.), DC Water will open and close valves, as specified in the approved overall shutdown schedule submitted as outlined in Section 14: Sequence Of Work And Outage Limitations.

19.2. Under normal circumstances, DC Water will attempt to provide shutdowns during the appointed hour. However, for the convenience of the consumers, shutdowns of water mains may be scheduled outside of normal work hours.

19.3. The Contractor shall be responsible for the planning required to accomplish the work of this contract, including submittal or proper notifications to DC Water for the shutdown of existing water mains, notification to effected customers, pressure testing, leakage testing, flushing, disinfection, and restoration of service.

20. **CLEANING SCHEDULE**

Note: DC Water reserves the right to move the schedule of cleaning based on Operations Requirements.

<table>
<thead>
<tr>
<th>Cleaning Schedule</th>
<th>Reservoir</th>
<th>Operational Volume</th>
<th>Dechlorinate or drain to Sanitary</th>
<th>Preferred AWWA Method of Disinfection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>Fort Reno Reservoir #1</td>
<td>5.4 MG</td>
<td>Dechlorinate</td>
<td>Surface application of 200 mg/L</td>
</tr>
<tr>
<td>Year 1</td>
<td>Fort Stanton Reservoir #1</td>
<td>3 MG</td>
<td>Dechlorinate</td>
<td>Surface application of 200 mg/L</td>
</tr>
<tr>
<td>Year 1</td>
<td>Anacostia Elevated Tank #1 - Good Hope</td>
<td>0.5 MG</td>
<td>Dechlorinate</td>
<td>Full storage facility to 10 mg/L</td>
</tr>
<tr>
<td>Year 1</td>
<td>Anacostia Elevated Tank #2 - Boulevard</td>
<td>2 MG</td>
<td>Dechlorinate</td>
<td>Full storage facility to 10 mg/L</td>
</tr>
<tr>
<td>Year 2</td>
<td>Brentwood Reservoir</td>
<td>25 MG</td>
<td>Sanitary Sewer</td>
<td>Surface application of 200 mg/L</td>
</tr>
<tr>
<td>Year 2</td>
<td>Fort Stanton Reservoir #2</td>
<td>10 MG</td>
<td>Dechlorinate</td>
<td>Surface application of 200 mg/L</td>
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<td>Year 3</td>
<td>Soldiers Home Reservoir</td>
<td>15 MG</td>
<td>Dechlorinate</td>
<td>Surface application of 200 mg/L</td>
</tr>
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21. **RESERVOIR DESCRIPTIONS**

Note: Drawings showing the site layout, access hatches and interior configuration of the reservoirs and tanks are available upon request.

1. **Soldiers’ Home Reservoir:**
   - Approximate size: 15 MG
   - Approximate shape/dimensions: Rectangular shaped, buried reinforced concrete reservoir.
   - Location: 3400 North Capitol St. NW - Below the 11th fairway on Soldier’s Home golf course.
   - Service: First High
   - General description: The Soldier’s Home Reservoir is a buried 15 MG reinforced concrete reservoir and was constructed in 1939. This reservoir has an overflow elevation of 250 feet, a bottom elevation of 232 feet, and a typical minimum water elevation is 236 feet. The primary access to this reservoir is from a 3-ft manhole near the southeast corner of the reservoir and near the valve vault and sampling vault. An above ground vent structure is located at the northwest corner of the reservoir (there is an access hatch and ladder providing entry into the tank through the vent structure). The reservoir has a single 48-inch inlet/outlet pipe arranged with 60-inch flapper valves and a baffle wall so that water circulates through the reservoir.

2. **Fort Reno Reservoir #1:**
   - Approximate size: 5.4 MG
   - Approximate shape/dimensions: Rectangular shaped, partially buried reinforced concrete reservoir.
- Location: 3900 Donaldson Place, NW, just southeast of the intersection of Wisconsin Avenue and 42nd Street, NW.
- Service: Third High
- General description: Fort Reno Reservoir 1 is a partially buried 5.4 MG reinforced concrete reservoir. The reservoir has an overflow elevation of 424 feet, a bottom elevation of 406.4 feet, and a typical minimum water elevation is 415 feet. The roof of the reservoir is approximately 1 ft above grade. Access to the Fort Reno Site is from Donaldson Place. The roof of the reservoir is approximately 1 ft above grade. Access to the interior of this reservoir is provided from several access hatches located on the roof of the reservoir. The access hatch risers are raised above roof level and equipped with locking hatches. Venting is provided from two buildings on the east and west sides of the reservoir. A chain link fence surrounds the site.

3. **Fort Stanton Reservoir #1**:
   - Approximate size: 3.0 MG
   - Approximate shape/dimensions: Square shaped, buried reinforced concrete reservoir.
   - Location: 1800 Erie St. SE - Fort Stanton Park in Southeast Washington, DC.
   - Service: Anacostia First High
   - General description: Fort Stanton Reservoir 1 is a buried 3.0 MG reinforced concrete reservoir located in Fort Stanton Park in Southeast Washington, DC. Access to the site is from Fort Drive off Ainger Place. Fort Stanton Reservoir 1 and Fort Stanton Reservoir 2 are located within the same fenced area. Fort Stanton Reservoir 1 was constructed in 1932 and has an overflow elevation of 258 feet, a bottom elevation ranging between 239.5 and 247 feet, and a typical minimum water elevation is 246 feet. There are two access hatches in the roof of the reservoir (one single door and one double door). The overflow and drain are piped down the hill east of the reservoir. The reservoir has a single 30-inch inlet/outlet pipe arranged so it enters a small chamber in the reservoir. The chamber has one “duckbill” check valve that operates when the tank is filling and another that operates when water is being withdrawn. These valves allow the water to circulate around a diagonal baffle wall in the reservoir. A chain link fence surrounds the site.

4. **Anacostia Elevated Tank #1 - Good Hope**:
   - Approximate size: 0.5 MG
   - Approximate shape/dimensions: Ellipsoidal elevated steel tank with a 50-foot diameter bowl with an overflow approximately 103 feet above grade.
   - Location: 2745 Naylor Rd., SE - Between 24th and 25th Streets, SE near Alabama Avenue, SE.
   - Service: Anacostia Second High
   - General description: The tank has an overflow elevation of 382 feet, a bottom of bowl elevation of approximately 340 feet, and a typical minimum water elevation of 370 feet. This has a 60-inch diameter wet riser with a riser manhole. There is an exterior ladder to a balcony around the bowl of the tank and an exterior swivel roof ladder to a 24-inch diameter roof manhole. This tank has a roof vent and there is an interior ladder from the roof manhole to the base of the bowl. A chain link fence surrounds the site.

5. **Anacostia Elevated Tank #2 - Boulevard**:
   - Approximate size: 2 MG
   - Approximate shape/dimensions: Elevated steel tank with a 106-foot diameter bowl with an overflow approximately 84 feet above grade.
   - Location: 4240 Massachusetts Ave. SE - On Boulevard Lane, SE off Massachusetts and Alabama Avenues, SE.
   - Service: Anacostia Second High
• General description: This tank is a 2.0 MG steel ellipsoidal elevated tank. The tank has an overflow elevation of 382 feet, a bottom of bowl elevation of approximately 347.5 feet, and a typical minimum water elevation of 368 feet. This has a 60-inch diameter wet riser with a riser manhole. There is an interior ladder within the riser to the bowl of the tank and an interior ladder to the 48-inch diameter roof vent with a 24-inch diameter roof manhole. A chain link fence surrounds the site.

6. Brentwood Reservoir:
   • Approximate size: 25 MG
   • Approximate shape/dimensions: Trapezoid shaped, underground concrete reservoir, 332 ft. x 368ft. (west side) x 314 ft. (east side) by 30 ft. SWD
   • Location: 701 New York Ave, NE - The Brentwood Reservoir is a buried 25 MG reinforced concrete reservoir located off Brentwood Parkway, just south of New York Avenue, NE.
   • Service: Low service
   • General description: The Brentwood Park Reservoir is a buried 25 MG reinforced concrete and was constructed in 1959. This reservoir has an overflow elevation of 172 feet, a sloped bottom elevation ranging from 142 to 144 feet, and a typical minimum water elevation is 155 feet. This modified rectangular reservoir has an arched concrete roof that is supported on concrete columns and covered with approximately two feet of turf. There is a vent building located at the southwest corner of the site. The vent building has two compartments with separate entrances. The north side of the structure is the vent house and provides access to the reservoir, overflow box, and water level sensor. The south side of the structure houses the valves, inlet, outlet, overflow, and drain piping. The reservoir has separate inlet and outlet pipes that are separated by a diagonal concrete baffle running through the reservoir. The baffle wall provides consistent unidirectional flow through the reservoir to prevent short circuiting and stagnant areas. There are two additional access hatches located at the northeast corner of the reservoir on either side of the baffle wall. There is a separate sampling vault located just south of the reservoir with a walk-in entrance from Brentwood Parkway. Access to the building is by a concrete road. A chain link fence surrounds the site.

7. Fort Stanton Reservoir #2:
   • Approximate size: 10 MG
   • Approximate shape/dimensions: Oval shaped, buried reinforced concrete reservoir, 273 ft diameter end sections; 273 ft. by 140 foot center section and 18 ft. SWD
   • Location: 1800 Erie St., SE - Fort Stanton Park in Southeast Washington, DC
   • Service: Anacostia First High
   • General description: Fort Stanton Reservoir 2 is a buried, oval shaped 10.0 MG reinforced concrete reservoir located in Fort Stanton Park in Southeast Washington, DC. As stated previously, Fort Stanton Reservoir 1 and Fort Stanton Reservoir 2 are within the same fenced area. The reservoir was constructed in 1946 and has an overflow elevation of 258 feet, a bottom elevation of 240 feet, and a typical minimum water elevation is 246 feet. There are two access hatches in the roof of the Fort Stanton Reservoir 2 (one single door and one double door). There is soil and grass over the roof slab. The reservoir has a single 30-inch inlet/outlet pipe arranged so it enters a chamber in the reservoir. The chamber has one “duckbill” check valve that operates when the tank is filling and another that operates when water is being withdrawn. These valves allow the water to circulate around a serpentine baffle wall in the reservoir. A chain link fence surrounds the site.

8. Fort Reno Elevated Tank:
   • Approximate size: 160,000 gallons
• Approximate shape/dimensions: Elevated riveted steel tank with a 28-foot diameter bowl with an overflow approximately 75 feet above grade.
• Location: 3900 Donaldson Place, NW, just southeast of the intersection of Wisconsin Avenue and 42nd Street, NW.
• Service: Fourth High
• General description: Fort Reno Elevated Tank 2 is a 0.16 MG riveted steel tank with an overflow elevation of 485 feet, a bottom of bowl elevation of 449 feet, and a typical minimum water elevation of 470 feet. This tank is housed entirely within a stone lookout tower and has a 60-inch diameter wet riser with a riser manhole. The top of the elevated tank is covered with a membrane. Access to the top of the tank is provided from a spiral staircase along the outside of the tank. This tank overflows through a 12-inch overflow pipe into Fort Reno Reservoir 1. A chain link fence surrounds the site.

END OF SECTION