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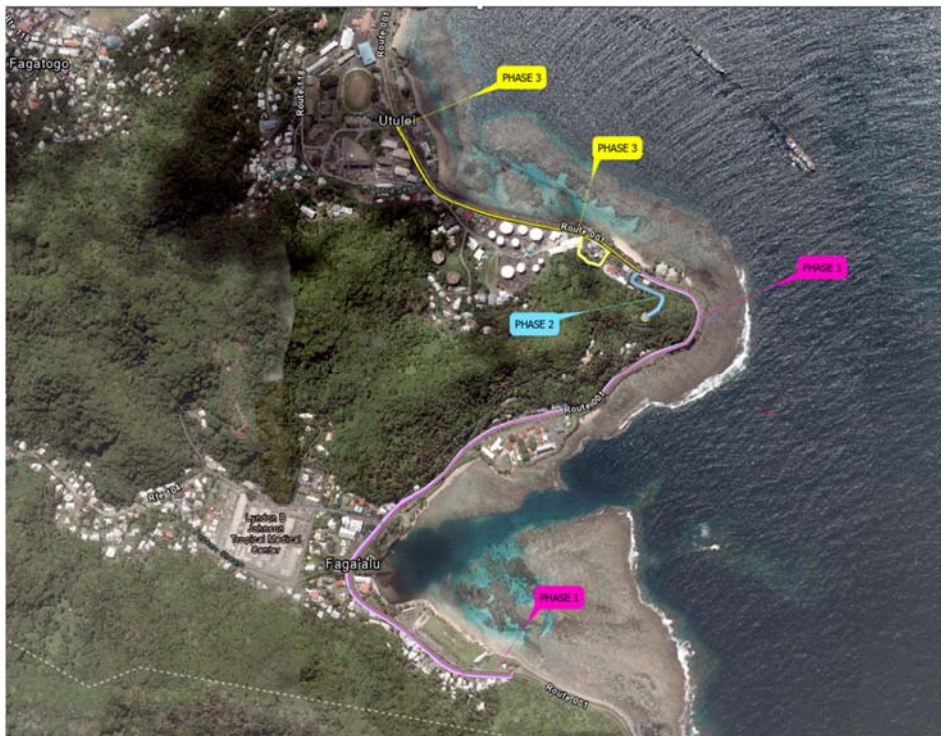
**ATTACHMENT J1 – SCOPE OF WORK**

**“The Construction of Faga’alu to Utulei ACP Replacement Project”**

**I. Background**

This project will serve and benefit all residents of American Samoa. The 2010 and 2013 US-EPA/AS-EPA Sanitary Survey of the ASPA Public Water System identified several significant deficiencies in the system with the high Non-Revenue Water being a major one. Most leaks detected on the watermains were found at the AC pipe joints. The total length of AC pipes in the entire reticulated system is approximately 32 miles (169,000 LF).

The Faga’alu to Utulei AC replacement project includes the installation of approximately 8600 LF of 8” Ø PVC-O watermains, 1360 LF of 6” Ø PVC-O watermain and 8600 LF of 16” Ø PVC-O Transmission mains to replace the existing AC pipeline, in addition 370 LF of 8” Ø PVC-O distribution line will be installed from the Blunts Pt Tank to interconnect with the new 8” and 16” PVC-O pipelines at their intersection along Route 1. A new Faga’alu booster station will also be constructed to replace the existing booster station under this contract. All proposed work will occur in the vicinity of the existing ASPA facilities or the existing road right-of-way.



## II. Scope Of Work:

1) **MOBILIZATION & DEMOBILIZATION:** This work includes – acquiring a staging area and land use permit by the selected contractor, mobilization of equipment and construction material. Obtaining a Land Use Permit for Staging Area, the provision of a site office conducive to site meetings and for use by ASPA personnel while on the site, provision of site bathroom and installation of a project sign billboard with graphics layout to be approved by ASPA (refer to drawing C-060)

2) **SITE WORKS** This work includes all activities necessary for site preparation and execution of the project, such as grading, excavation, backfilling, compaction, and paving. It encompasses the establishment of access roads, parking areas, and landscaping according to project specifications and drawings. Site works also involve coordination with utility providers for necessary connections and installations.

**TEMPORARY FACILITIES** This work includes the setup and maintenance of temporary facilities essential for project operations. It encompasses the establishment of temporary offices, storage areas, and restroom facilities compliant with local regulations and project requirements. This also involves securing necessary permits for these facilities, ensuring they meet safety and operational standards throughout the project duration.

**CONTROLS** This work includes implementing various controls to ensure compliance with environmental, safety, and operational standards throughout the project. It involves the development and implementation of Environmental Management Plans (EMP), Safety Plans, and Quality Control Plans (QCP). Controls also encompass monitoring and mitigation measures for noise, dust, and emissions, as well as adherence to project timelines and budgetary constraints. Ongoing inspections and reporting are integral to maintaining these controls throughout the project lifecycle.

3) **EROSION & SEDIMENTATION CONTROLS (BMP):** This work includes – obtaining an approved ESC plan from ASEPA and proper installation of these measures to comply with ASEPA’s recommendations. This also includes installation and ongoing maintenance of erosion control measures throughout the duration of the project until its completion (refer to drawings C-003 to C-009).

4) **CONSTRUCTION OF FAGA’ALU BOOSTER STATION:** This work includes contouring/landscaping, foundation construction, housing structure construction, installation of mechanical and electrical components and the construction of a compound perimeter fence (refer to drawings E-001 to E-006, M-001 to M-005 & S-001 to S-011).

5) **WATERLINE INSTALLATION (Refer to drawings C-011 to C-021):** This work includes – clearing and grubbing for pipe alignment, cleanup and disposal of trees, shrubs and all debris accumulated from clearing activities (refer to drawings C-002 & C-009), potholing to locate utilities along the pipe alignment, installation of approximately 8600 LF of 8” Ø PVC-O watermains, 1360 LF of 6” Ø PVC-O watermains and 8600 LF of 16” Ø PVC-O transmission line along Route 1 from Faga’alu Booster station to Utulei Park. (refer to drawings C-021 & C-039),

installation of 370 LF of 8" Ø PVC-O distribution line from the Blunts Pt tank outlet down to Route 1 (refer to drawings C-040). This work also includes traffic control (refer to drawings C-012 & C-019), trenching, sand bedding, pipe cushion laying and compaction, backfilling, installation of warning tape and tracer wire (refer to drawings C-056 & C-057), Installation of restraints on the 8" Ø line and 16" Ø line (refer to drawing C053 & C055).

- 6) **INSTALL INLINE FLOWMETER:** This work includes – installation of an inline water meter, construction of valve chamber, and installation of all piping required for installation of 6" Ø inline flow meter into the new 8" PVC-O distribution line from Blunts Pt Tank (Refer to drawing C-061).
- 7) **INSTALL FIRE HYDRANTS:** This work includes – installation of fire hydrant assembly. It includes trenching and excavation, installation of required piping, concrete thrust blocks, and structural backfilling (Refer to drawing C-050).
- 8) **REMOVE EXISTING FIRE HYDRANTS:** This work includes - supervision, traffic control, labor, equipment, backfill, compaction and testing, required for the complete removal of fire hydrants as specified and shown in the drawings (Refer to drawing C-059)
- 9) **INSTALL AIR RELIEF VALVES:** This work includes – installation of air relief valves. It includes excavation, installation of required piping, concrete pad, and installation of ARV enclosure (Refer to drawing C-048).
- 10) **INSTALL UTILITY CROSSINGS:** This work includes installation of the following:
  - (i) Storm Drainpipe Crossings – 1 x 6" Ø, 7 x 8" Ø and 12 x 16" Ø, Ductile Iron crossings. This work will include trenching, sand bedding, pipe cushion laying and compaction, backfilling, installation of warning tape and tracer wire and Installation of a temporary dry mix cement to seal the 36" wide trench where the new pipe alignment cuts into the asphalt or concrete road (refer to drawing C-051).
  - (ii) Stream Crossings – 3 x 8" Ø and 3 x 16" Ø Ductile Iron crossings. This work includes installation of pipe brackets along bridge structure, trenching, sand bedding, pipe cushion laying and compaction, backfilling, installation of warning tape and tracer wire and Installation of a temporary dry mix cement to seal the 36" wide trench where the new pipe alignment cuts into the asphalt or concrete road (refer to drawing C-051).
- 11) **WATER & SEWER SEPARATION CONCRETE ENCASEMENTS:** This work includes – 3 x 8" Ø and 5 x 16" Ø concrete encasement installations for water and sewer separation trenching, sand bedding, pipe cushion laying and compaction, backfilling, installation of warning tape and tracer wire and Installation of a temporary dry mix cement to seal the 36" wide trench where the new pipe alignment cuts into the asphalt or concrete road (refer to drawings C054 & C063).
- 12) **INSTALL SERVICE STUB-OUTS:** This works includes - supervision, traffic control, labor, equipment, backfill, compaction and testing, required for the complete installation of service stub-outs as specified and shown in the drawings (refer to drawings C-041 to C-047 and detail C-052).
- 13) **2" SERVICE LATERALS:** This work includes – installation of 2" Ø (PVC Sch 80) service laterals from the new water mains, for customer water meter connections. The total length of service lines is 2900 LF (refer to drawings C-041 to C-047 and detail C-052).

- 14) 1" HOUSEHOLD SERVICE CONNECTION LATERALS: This work includes – installation of 1" Ø (PVC Sch 80) service laterals from the relocated water meters to the customers house connection point. The total length of service lines is 4140 LF (refer to drawings C-041 to C-047 and detail C-052).
- 15) CUSTOMER WATERMETER RELOCATIONS: This work includes – supervision, labor, equipment, backfill, compaction and testing necessary for the complete installation and transfer of 90 existing water meters and stub-outs to the property boundaries as specified in the contract (refer to drawings C-041 to C-047 and detail C-052).
- 16) TIE INS/INTERCONNECTIONS: This work includes –
- (i) Tie In #1 @ ST: 21+45 - Tying in the new 8" Ø PVC-O watermain to the existing 8" Ø PVC watermain at the LBJ 3 corner intersection and includes trenching, sand bedding, valve and Tee assembly and installation, valve cushion laying and compaction, backfilling, and installation of valve enclosures (refer to drawing C-058).
  - (ii) Tie In #2 @ ST: 60+70
    - 1. Tying in the new 16" Ø PVC-O watermain to the existing 12" Ø PVC watermain @ the Blunts Pt Booster Station, and includes trenching, sand bedding, Valve and Tee assembly and installation, valve cushion laying and compaction, backfilling, and installation of valve enclosures (refer to drawing C-058).
    - 2. Tying in the new 8" Ø PVC-O distribution main from the Blunts Pt tank to the new 8" Ø PVC-O distribution and 16" Ø PVC-O transmission mains along Route 1, and includes trenching, sand bedding, Valve and Tee assembly and installation, valve cushion laying and compaction, backfilling, and installation of valve enclosures (refer to drawing C-058).
  - (iii) Tie In #3 @ ST: 77+00 - Tying in the new 8" Ø PVC-O watermain to the existing 8" Ø PVC watermain @ the Utulei Tank Farm and includes trenching, sand bedding, valve and Tee assembly and installation, valve cushion laying and compaction, backfilling, and installation of valve enclosures (refer to drawing C-058).
  - (iv) Tie In #4 @ ST: 00+00 - Tying in the new 16" Ø PVC-O watermain to the new Faga'alu Booster Station and includes trenching, sand bedding, valve assembly and installation, valve cushion laying and compaction, backfilling, and installation of valve enclosure (refer to drawing C-058).
  - (v) Tie In #5 @ ST: 86+19 - Tying in the new 16" Ø PVC-O Transmission main to the existing 16" Ø PVC Transmission main @ the Utulei Park and includes trenching, sand bedding, valve and Tee assembly and installation, valve cushion laying and compaction, backfilling, and installation of valve enclosures (refer to drawing C-058).
  - (vi) Tie In #6 @ ST: 00+00 - Tying in the new 6" Ø PVC-O distribution main to the new Faga'alu Booster Station and includes trenching, sand bedding, valve

and Tee assembly and installation, valve cushion laying and compaction, backfilling, and installation of valve enclosures (refer to drawing C-058).

(vii) Tie In #7 @ ST: 81+80 - Tying in the new 8" Ø PVC-O Transmission main to the existing 8" Ø AC distribution main @ the Utulei Social Services parking lot and includes trenching, sand bedding, valve and Tee assembly and installation, valve cushion laying and compaction, backfilling, and installation of valve enclosures (refer to drawing C-058).

(viii) Tie In #8 @ ST: 00+00 - Tying in the new 8" Ø PVC-O distribution main to the new Faga'alu Booster Station and includes trenching, sand bedding, valve and Tee assembly and installation, valve cushion laying and compaction, backfilling, and installation of valve enclosures (refer to drawing C-058).

17) PIPE FLUSHING & HYDROSTATIC TEST: This work includes – supervision, traffic control, labor, equipment, and materials required for the complete flushing of the lines under pressure to remove any debris or dirt inside the lines, pressure testing of the new lines to ensure they are free of leaks and fixing any leakage issues detected before close of project. Hydrostatic testing is to be done every 1000 LF of pipe laid (refer to C060).

18) PIPE DISINFECTION: This work includes - supervision, traffic control, labor, equipment, materials, and services required for the complete disinfection of the new waterline and shall be done in partnership with ASEPA. Negative result of tested samples shall be certified by ASEPA to be accepted (refer to C060).

19) AS BUILT/SURVEY: This includes – surveying services to be done while the pipe is installed in the open trench. Three shots are to be taken from each end and center of a typical 20-foot pipe. Contractor shall submit electronic drafts to the Project Engineer every 2000LF of accomplished pipe installation.

20) PRIVATE PROPERTY RESTORATION: This work includes all – supervision, labor, equipment, materials, and services required to restore all access ways including concrete pavement/ curbing, rock walls, fencing, lawns, gardens and any other surface or surroundings affected by the construction work to its original state or better (refer to drawings C-041 to C-047).

21) PERMANENT ROAD RESTORATION: This work includes – all supervision, needed labor, necessary equipment, all materials, tests and permits for the successful restoration of Asphalt/Concrete Road to its original or better condition with compliance to DPW's standards and approved by ASPA's Project Engineer (APE) (refer to drawing C-039A).

22) CONCRETE PAVEMENT TO EXISTING GRADE This work includes the supply, preparation, and installation of a 6-inch thick concrete pavement to match the existing grade. The pavement will incorporate a double layer of 665 wire mesh reinforcement to ensure structural integrity and durability. This construction aims to provide a smooth, reliable access road to the Blunts Point Tank. The scope of work involves:

- **Subgrade Compaction:** Properly compacting the subgrade to achieve the required density and uniformity, ensuring a solid foundation for the concrete pavement.

- **Formwork Installation:** Erecting the necessary formwork to define the boundaries and shape of the pavement, ensuring that it adheres to the specified dimensions and design criteria.
- **Reinforcement Placement:** Placing a double layer of 665 wire mesh reinforcement within the formwork to enhance the pavement's strength and load-bearing capacity. This reinforcement will be securely positioned to maintain its placement during the concrete pour.
- **Concrete Pouring and Finishing:** Pouring the concrete mixture into the prepared formwork, followed by leveling and finishing the surface to achieve a smooth, even finish. Special attention will be given to proper curing techniques to prevent cracks and ensure the pavement's longevity.
- **Quality Control and Testing:** Conducting necessary quality control tests, such as compressive strength tests and inspections, to ensure the concrete meets project specifications and standards.
- **Final Grading and Cleanup:** Performing final grading around the pavement edges and cleaning up the site to remove any construction debris or materials, leaving the area neat and ready for use.

This comprehensive approach ensures the construction of a high-quality concrete pavement that provides a smooth and durable roadway to the Blunts Point Tank, enhancing accessibility and operational efficiency.

#### 23) CONTINGENCY ITEMS:

- (i) **Rock Breaking:** This work includes - supervision, needed labor and necessary equipment for the breaking and removal of rock encountered in the trenches, where rock breaking is required. Rock breaking quantities must be confirmed with ASPA's Project Engineer before rock breaking commences (APE)
- (ii) **Oil/ Water Separator:** This work includes - supervision, needed labor and necessary equipment for dewatering of trenches containing HFO residue/ or free product. Free product must be skimmed off the surface into a tanker truck before dewatering work commences and must be approved by ASPA's Project Engineer before dewatering commences (APE), (refer to drawing C-047).
- (iii) **HFO (Heavy Fuel Oil) Skimming:** This work includes – supervision, needed labor, traffic control and tanker truck with suction unit to remove (skim) HFO FP (Free Product) from the surface of water. This activity must precede the dewatering of the trench and must be approved by ASPA's Project Engineer before skimming commences (APE).

- 24) **GENERAL NOTE :** ASPA will supply pipes, fittings, tracer wire, warning tape, solvent, pumps and appurtenances exclusively. All other necessary materials for the project must be sourced and provided by the contractor. This includes but is not limited to construction materials, equipment, tools, safety gear, and any additional items required for the successful execution of the project. Contractors are responsible for ensuring that all materials meet specified standards and are compatible with project requirements and local regulations. Clear communication and coordination with ASPA are essential to align on responsibilities and ensure seamless project progress.

Construction work will begin on approximately December 2024 or January 2025 will depends on the availability of the material.

Attached Separately

- (1) Attachment C1 – Drawings
- (2) Attachment C2 – Technical Specifications