ATTACHMENT J4

Arnold AFB Wastewater System

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J4.1 Arnold AFB Overview

Arnold Air Force Base (AFB) is located in middle Tennessee, 72 miles southeast of Nashville and 61 miles northwest of Chattanooga at exit 117 off Interstate Highway 24. Arnold AFB covers approximately 40,000 acres, straddling Coffee and Franklin counties and situated in the tri-city triangle composed of Tullahoma, Manchester, and Winchester, Tennessee.

The Arnold Engineering Development Center (AEDC) is a 4,000 acre industrial aerospace test facility located within Arnold AFB. It is not a typical military installation. The Center and its mission are unlike that of any other facility in the United States. It is perhaps the largest, most diverse aerospace testing and flight simulation facility in the world. The facility includes its own 4,000-acre lake to supply water to the Center's testing facilities.

Another unique element of the Center is workforce. Unlike most military installations, AEDC is Government managed and Contractor operated and maintained. In Oct 2003, the Government awarded a competitive, 12-year award-term, integrated Operations, Maintenance and Information Management support contract to Aerospace Testing Alliance (ATA), hereafter referred to as the Mission Support Contractor. The scope of this contract ranges from aerospace test planning, test cell, plant and facility maintenance and support functions such as civil engineering, security and fire protection to information management. Utility operation and maintenance and some repair projects are performed by the Mission Support Contractor. Other maintenance and repair efforts are competitively contracted by the Government with project management, access and check-out performed by the Mission Support Contractor. Integration between the test cells, plants, utilities and utility suppliers is highly complex and requires real-time decision making to support dynamic test mission requirements.

AEDC's primary mission is the development and testing of aerospace systems. The test mission is divided between three primary business areas: aerodynamics, aeropropulsion, and space and missiles. Wind tunnels and computational modeling are used to support the aerodynamic test mission. There are two 16-foot wind tunnels, one 4-foot tunnel, and three hypersonic tunnels used to test a full range of articles, including full-scale aircraft, spacecraft and rockets, as well as bombs, fuel tanks and other separation ordnance and externally deployed stores. The aeropropulsion facilities enable AEDC to test engines through their entire operational envelope – takeoff through climb to altitude, and in combat and performance maneuvers. The space and missiles facilities enable AEDC to test articles in specialized conditions, such as at sea level or at altitudes exceeding 300 miles above sea level, as well as through extreme performance – subsonic to well past Mach 20. Overall, the Center is capable of delivering a full spectrum of aerospace test support to its customers, which include military and private sector companies.

AEDC consumes vast quantities of energy and water to support its test missions. Its utility requirements differ dramatically from typical military installations, both in the amount of

the commodity used and the fluctuations in use. The consumption, demand, and fluctuation in use of electricity, water, and natural gas dictate a high degree of integration between the government and its contractors and between the Center and its utility providers. Utilities play a major role in the tactical and strategic execution of AEDC's mission.

While the Center does not have an active flying mission, it does have a single runway along the western edge of the Base that runs northeast to southwest. There are also 687 facilities and 329 buildings on AEDC, totaling approximately 2.8 million square feet. The distribution of facility space is approximately 79 percent industrial, 13 percent administrative, 6 percent laboratories, and 2 percent residential, primarily military family housing (MFH).

Tenant organizations are also located at Arnold AFB. The largest tenant is the Tennessee Army National Guard (TNARNG). The TNARNG conducts training activities, such as a small-arms firing range and tank maneuver area, on approximately 6,700 acres. An integral component of AEDC, although not considered a tenant, is the Naval Air Warfare Center Aircraft Division, which oversees naval testing at AEDC. Other tenants include:

- Air Force Office of Special Investigations
- Army and Air Force Exchange Services
- Detachment 2, Research and Acquisition Communications Division
- Detachment 36, Management Engineering Team, Squadron Manpower and Organization
- Defense Commissary Agency
- Defense Contract Audit Agency
- Defense Investigative Service

J4.2 Wastewater System Description

J4.2.1 Wastewater System Fixed Equipment Inventory

The Arnold AFB wastewater system consists of all appurtenances physically connected to the collection system from the point of demarcation defined by Section J4.12.2, General Description of the Utility System, Lateral Extent of the Right-of-Way, and Points of Demarcation. The system may include, but is not limited to, pipelines, manholes, lift stations, valves, controls, treatment plants, and meters. The actual inventory of items sold will be in the bill of sale at the time the system is transferred. The following description and inventory is included to provide the UP Contractor with a general understanding of the size and configuration of the system.

Specifically excluded from the wastewater system privatization are:

- Storm Sewers
- Oil Water Separators
- Grease traps
- Septic systems

- Industrial wastewater collection and treatment systems including land fill leachate and ground water treatment plants.

J4.2.1.1 System Description

The sanitary wastewater utility system at AEDC, which includes the industrial complex and Arnold Village, consists of approximately 70,530 lf of collection piping, 169 manholes, 30 lift stations, and two treatment plants. Non-test wastewater from the AEDC industrial area is fed by a gravity collection system to lift stations and is then routed through gravity flow pipelines and a network of force mains to the Main Sewage Treatment Plant (MSTP) (Building 1553). The average flow for the MSTP is 0.28 million gallons/day (mgd) and the peak design flow is 0.66 mgd.

The MSTP was originally built in 1952 with major upgrades in 1996 and 2003. In addition, portions of the Plant have been periodically refurbished as maintenance requirements dictated. The MSTP consists of a trickling filter facility rated at 660,000 gallons per day, 2 aerobic digesters, three drying beds, 2 primary settling tanks, 2 secondary settling tanks, circulating tank, equalization basin and sludge pumps. The wastewater collection system collects sanitary waste and delivers it to the MSTP. The waste first passes through a comminutor then flows by gravity to the primary settling basin. Settleable solids are collected and moved to the end of the primary settling basin to a sump, where they are pumped to the aerobic digester. Liquid from the primary settling basin flows through the trickling filter. When incoming flows are low, the liquid can be circulated to keep the trickling filter media from drying. Wastewater effluent from the trickling filter flows into the secondary settling tank, and settleable solids are returned to the primary settling basin. Liquid from the secondary settling basin flows through the ultraviolet light system for disinfection and is emptied into the receiving stream (Rowland Creek) to return to the Woods Reservoir. Dried sludge is transported off base for disposable.

A project is underway to repair or replace damaged sanitary piping and manholes in wastewater system basins #1 and 2. Leaks in existing piping and manholes is causing overflows at the Arnold AFB treatment plant. The collection system was divided into 14 sub-basins with repair projects being prioritized and scheduled to correct problems encountered at the sanitary treatment plant. Most of the entire system is 50 or more years old and new pipe failures are expected to develop as more time passes.

Sanitary Wastewater from Arnold Village is routed through approximately 6,970 lf of gravity flow pipelines and force mains to the Arnold Village Sewage Treatment Plant (Building 3036). This is a package activated sludge plant with a plant capacity of 30,000 gallons/day. Treated liquid is discharged to Woods Reservoir. Sludge is removed by a service contract as required, approximately once per month.

Pipe depth varies between 4 and 12 ft below ground surface. Approximately 15 percent of the piping is located below paved surfaces.

Lift stations generally consist of submersible pumps installed in concrete or fiberglass wet wells. There are no generators installed at lift stations. Some lift stations are located within buildings and in all cases the lift station and the associated force mains will be conveyed with the wastewater system.

J4.2.1.2 Inventory

Table 1 provides a general listing of the major wastewater system fixed assets for the Arnold AFB wastewater system included in the sale.

TABLE 1
Fixed Inventory
Wastewater Collection and Treatment System, Arnold AFB, TN

Item	Size	Quantity	Unit	Approximate Year of Construction
Main Base:				
Vitrified Clay Pipe	2-in.	68	LF	1965
Vitrified Clay Pipe	3-in.	1,696	LF	1965
Vitrified Clay Pipe	6-in.	1,837	LF	1965
Vitrified Clay Pipe	8-in.	4,165	LF	1965
Vitrified Clay Pipe	12-in.	1,395	LF	1965
Concrete Pipe	2-in.	556	LF	1955
Concrete Pipe	3-in.	1,426	LF	1955
Concrete Pipe	4-in.	1,446	LF	1955
Concrete Pipe	6-in.	9,339	LF	1955
Concrete Pipe	8-in.	12,594	LF	1955
Concrete Pipe	10-in.	105	LF	1955
Concrete Pipe	12-in.	582	LF	1955
Concrete Pipe	15-in.	1,435	LF	1955
Concrete Pipe	18-in.	2,144	LF	1955
PVC Pipe	3-in.	53	LF	1975
PVC Pipe	3-in.	1,072	LF	1985
PVC Pipe	3-in.	34	LF	1995
PVC Pipe	4-in.	2,171	LF	1985
PVC Pipe	4-in.	32	LF	1995
PVC Pipe	6-in.	393	LF	1975
PVC Pipe	6-in.	3,591	LF	1985
PVC Pipe	6-in.	2,242	LF	1995
PVC Pipe	8-in.	3,404	LF	1975

Item	Size	Quantity	Unit	Approximate Year of Construction
PVC Pipe	8-in.	7,831	LF	1985
PVC Pipe	8-in.	2,796	LF	1995
PVC Pipe	12-in.	393	LF	1975
PVC Pipe	12-in.	339	LF	1985
PVC Pipe	15-in.	240	LF	1995
PVC Pipe	18-in.	190	LF	1995
Manholes, est. size	48-in.	85	EA	1955
Manholes, est. size	48-in.	22	EA	1965
Manholes, est. size	48-in.	12	EA	1975
Manholes, est. size	48-in.	28	EA	1985
Manholes, est. size	48-in.	9	EA	1995
Lift Station 1075 (Inside Building)				
Pump and Controls- 460V	3-hp	2	EA	1986
Wet Well - fiberglass can-type		1	EA	1964
Gate Valve	4-in.	2	EA	1968
Check Valve	4-in.	2	EA	1968
Lift Station 1088				
Pump and Controls- 460V	3.5-hp	2	EA	1993
Wet Well - fiberglass can-type		1	EA	1993
Gate Valve	2-in.	2	EA	1993
Check Valve	2-in.	2	EA	1993
Lift Station 1103				
Pump and Controls- 460V, 15.2A	5-hp	2	EA	1990
Wet Well - fiberglass can-type		1	EA	1990
Gate Valve	6-in.	2	EA	1990
Check Valve	6-in.	2	EA	1990
Lift Station 111				
Pump and Controls- 3450 rpm, Myers	2-hp	3	EA	1985

Item	Size	Quantity	Unit	Approximate Year of Construction
Wet Well - fiberglass can-type		1	EA	1985
Gate Valve	2-in.	6	EA	1985
Check Valve	2-in.	6	EA	1985
Lift Station 1306				
Pump and Controls- 460V, 8A	5-hp	2	EA	1988
Wet Well - fiberglass can-type		1	EA	1988
Gate Valve	3-in.	2	EA	1988
Check Valve	3-in.	2	EA	1988
Lift Station 1358				
Pump and Controls- 460V, 7.8A, Aurora	5-hp	2	EA	1997
Wet Well - fiberglass can-type		1	EA	1997
Gate Valve	2-in.	2	EA	1997
Check Valve	2-in.	2	EA	1997
Lift Station 1431				
Pump and Controls- 460V	5.25-hp	2	EA	1953
Wet Well - fiberglass can-type		1	EA	1953
Gate Valve	4-in.	2	EA	1953
Check Valve	4-in.	2	EA	1953
Lift Station 1456				
Pump and Controls	2-hp	1	EA	1997
Wet Well - fiberglass can-type		1	EA	1997
Gate Valve	2-in.	1	EA	1997
Check Valve	2-in.	1	EA	1997
Lift Station 1476				
Pump and Controls	2-hp	1	EA	1952
Wet Well - fiberglass can-type		1	EA	1952
Gate Valve	2-in.	1	EA	1952
Check Valve	2-in.	1	EA	1952

Item	Size	Quantity	Unit	Approximate Year of Construction
Lift Station 2912				
Pump and Controls	3-hp	2	EA	1986
Wet Well - fiberglass can-type		1	EA	1986
Gate Valve	2-in.	1	EA	1986
Check Valve	2-in.	1	EA	1986
Lift Station 1505a				
Pump and Controls- Peco	5.25-hp	2	EA	1952
Wet Well - Peco concrete package type		1	EA	1952
Gate Valve	4-in.	2	EA	1952
Check Valve	4-in.	2	EA	1952
Lift Station 2117a				
Pump and Controls	7.5-hp	2	EA	1991
Wet Well		1	EA	1991
Gate Valve	4-in.	2	EA	1991
Check Valve	4-in.	2	EA	1991
Lift Station 251 (Inside Building)				
Pump and Controls- 460V, Paco	2-hp	2	EA	1952
Wet Well - fiberglass can-type		1	EA	1952
Gate Valve	4-in.	2	EA	1952
Check Valve	3-in.	2	EA	1952
Lift Station 2915				
Pump and Controls	1-hp	1	EA	1986
Wet Well - concrete manhole type		1	EA	1986
Check Valve	2-in.	1	EA	1986
Lift Station 2917				
Pump and Controls	3-hp	1	EA	1986
Wet Well - fiberglass can-type		1	EA	1986

Item	Size	Quantity	Unit	Approximate Year of Construction
Gate Valve	2-in.	2	EA	1986
Check Valve	2-in.	2	EA	1986
Lift Station 3016				
Pump and Controls	5-hp	2	EA	1956
Wet Well - fiberglass can-type		1	EA	1956
Gate Valve	4-in.	2	EA	1956
Check Valve	4-in.	2	EA	1956
Lift Station 380				
Pump and Controls- 460V	5-hp	2	EA	1963
Wet Well - fiberglass can-type		1	EA	1963
Gate Valve	4-in.	2	EA	1963
Check Valve	4-in.	2	EA	1963
Lift Station 438				
Pump and Controls- 460V, 3.5A	2-hp	2	EA	2000
Wet Well - fiberglass can-type		1	EA	2000
Gate Valve	2-in.	2	EA	2000
Check Valve	2-in.	2	EA	2000
Lift Station 440				
Pump and Controls- 460V, Hydromatic	2-hp	2	EA	1992
Wet Well - concrete manhole type		1	EA	1992
Gate Valve	4-in.	2	EA	1992
Check Valve	4-in.	2	EA	1992
Lift Station 501				
Pump and Controls	3-hp	2	EA	1952
Wet Well - fiberglass can-type		1	EA	1952
Gate Valve	3-in.	2	EA	1952
Check Valve	3-in.	2	EA	1952

Item	Size	Quantity	Unit	Approximate Year of Construction
Lift Station 535 (Inside Building)				
Pump and Controls- 230/460V, 22/11A, 1728 rpm	7.5-hp	2	EA	1963
Wet Well - fiberglass can-type		1	EA	1963
Gate Valve	2-in.	2	EA	1963
Check Valve	2-in.	2	EA	1963
Lift Station 563				
Pump and Controls	2-hp	1	EA	1993
Wet Well - fiberglass can-type		1	EA	1993
Gate Valve	2-in.	1	EA	1993
Check Valve	2-in.	1	EA	1993
Lift Station 581				
Pump and Controls- 460V, 1160 rpm	0.75-hp	2	EA	1972
Wet Well - flooded suction type		1	EA	1972
Gate Valve	3-in.	2	EA	1972
Check Valve	3-in.	2	EA	1972
Lift Station 591				
Pump and Controls	2-hp	1	EA	1989
Wet Well - fiberglass can-type		1	EA	1989
Gate Valve	2-in.	1	EA	1989
Check Valve	2-in.	1	EA	1989
Lift Station 678 (Inside Building)				
Pump and Controls- 1740 rpm	5.25-hp	2	EA	1962
Wet Well - fiberglass can-type		1	EA	1962
Gate Valve	4-in.	2	EA	1962
Check Valve	4-in.	2	EA	1962
Lift Station 878 (Inside Building)				
Pump and Controls- 460V, seal failure	3-hp	2	EA	1953
Wet Well - fiberglass can-type		1	EA	1953

Item	Size	Quantity	Unit	Approximate Year of Construction
Gate Valve	3-in.	2	EA	1953
Check Valve	3-in.	2	EA	1953
Lift Station 903				
Pump and Controls- 460V	5.25-hp	2	EA	1984
Wet Well - fiberglass can-type		1	EA	1984
Gate Valve	3-in.	2	EA	1984
Check Valve	3-in.	2	EA	1984
Main Sewage Treatment Plant	0.66 MGD			
Lift Station – Structures, Concrete Wet Well		1	EA	1996
Lift Station – Process Equipment, Pumps, 250 gpm ea.	7.5-HP	3	EA	1996
Equalization Basin – Structures	100,000 gal	1	EA	1996
Equalization Basin – Process Equipment, Pumps	7.5-hp	1	EA	1996
Comminutor – Structures		1	EA	1996
Comminutor – Process Equipment, Pumps	3-hp	1	EA	1996
Primary Clarifer – Structures		2	EA	1953
Primary Clarifer – Process Equipment, Pumps	0.5-hp	2	EA	1953
Primary Clarifer – Structures		2	EA	1996
Primary Clarifer – Process Equipment		1	EA	1996
Trickling Filter – Structures	6’ deep x 84’ dia.	1	EA	1996
Trickling Filter – Process Equipment		1	EA	1996
Secondary Clarifier – Structures		2	EA	1996
Secondary Clarifier – Process Equipment, Pumps	0.5-hp	2	EA	1996
Aerobic Digester – Structures	32,000 gal cap.	2	EA	1996
Aerobic Digester – Process Equipment, Blowers	3-hp/1765 RPM	3	EA	1996
UV Disinfection –Structures		1	EA	1996
UV Disinfection – Process Equipment	Trojan UV-8000	1	EA	1996
Chlorination System	100 lb/day	1	EA	1953
Sludge Drying Beds - Structures		3	EA	1953
Sludge Pump Station – Building, Brick	40’ x 40’	1	EA	1953
Sludge Pump Station – Process Equipment, Pumps	1-hp	2	EA	1953
Influent Flowmeter, Parshall Flume	6-in.	1	EA	1996

Item	Size	Quantity	Unit	Approximate Year of Construction
Effluent Flowmeter, Parshall Flume	6-in	1	EA	1996
Generator		2	EA	1996
Laboratory/Office, Metal Bldg	45’ x 30’	1	EA	1996
Housing - Arnold Village:				
Vitrified Clay Pipe	4-in.	564	LF	1955
Vitrified Clay Pipe	6-in.	1,587	LF	1964
Vitrified Clay Pipe	8-in.	4,044	LF	1964
PVC Pipe	4-in.	768	LF	1985
Lift Station 3017				
Pump and Controls	5-hp	2	EA	1964
Wet Well - fiberglass can-type		1	EA	1964
Plug Valve	4-in.	2	EA	1964
Check Valve	4-in.	2	EA	1964
Lift Station 3018				
Pump and Controls	5-hp	2	EA	1964
Wet Well - fiberglass can-type		1	EA	1964
Gate Valve	4-in.	2	EA	1964
Check Valve	4-in.	2	EA	1964
Lift Station 3018A				
Pump and Controls- 460V	3-hp	2	EA	1985
Wet Well		1	EA	1985
Gate Valve, est. size	3-in	1	EA	1985
Check Valve, est. size	3-in	1	EA	1985
Manholes, est. size	48-in.	13	EA	1965
Meter Station structure		1	EA	1965
Meter Station controls		1	EA	1965

Item	Size	Quantity	Unit	Approximate Year of Construction
Arnold Village Sewage Treatment Plant				
30,000 gpd treatment plant, package		1	EA	1964
Building - Metal	8' X 8'	1	EA	1964

Notes:
EA = Each
est. = estimated
gpm = gallons per minute
hp = horsepower
in. = inches
LF = Linear Feet
MGD = million gallons per day
PVC = Polyvinyl Chloride
Mid-decade convention used to estimate approximate year of construction for pipes, valves and fire hydrants.

J4.2.2 Wastewater System Non-Fixed Equipment and Specialized Tools

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment, vehicles, and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment, vehicles, and tools.

TABLE 2
Spare Parts
Wastewater Collection and Treatment System, Arnold AFB, TN

Qty	Item	Make/Model	Description	Remarks
1	100-hp Motor			Motor for MSTP backwash pump

TABLE 3
Specialized Vehicles and Tools
Wastewater Collection and Treatment System, Arnold AFB, TN

Description	Quantity	Location	Maker
None Identified			

J4.2.3 Wastewater System Manuals, Drawings, and Records

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 4
Manuals, Drawings, and Records
Wastewater Collection and Treatment System, Arnold AFB, TN

Qty	Item	Description	Remarks
	Various	See Bidders' Library for Manuals, Drawings and Records to be included with the system to be privatized	

J4.3 Specific Service Requirements

The service requirements for the Arnold AFB wastewater system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Arnold AFB wastewater system and are in addition to those found in Section C. If there is a conflict between requirements described below and Section C, the requirements listed below take precedence over those found in Section C.

J4.3.1 AEDC Utility Operations

The AEDC mission is an on-going 24 hour a day operation. The UP Contractor shall provide all required support to the Mission Support Contractor and the Government that is necessary to coordinate his utility operations. The UP Contractor shall maintain a staff of management and personnel capable of reacting to interruptions, changes required by mission, disruptions, or other changes from routine operations, on-site, within the industrial complex, 24 hours a day, seven days a week, 365 days a year.

Sanitary wastewater collection and treatment is used to support building occupation and mission requirements 24 hours per day, 7 days a week 52 weeks a year.

The UP Contractor shall operate the utility system efficiently and effectively, minimizing interruptions in service, see Section J4.3.6, Service Interruptions. Service shall be to the interfaces defined by the points of demarcation specified in Section J4.12.2, General Description of the Utility System, Lateral Extent of the Right-of-Way, and Points of Demarcation, see Tables 12 and 13. The UP Contractor shall monitor the system for leaks, blockages, overflows, treatment plant upsets, and other disruptions of service. When these occur, the UP Contractor will be contacted and requested to join in an investigation of the cause. The UP Contractor shall participate fully in this investigation to include management and engineering resources. If the cause of this occurrence is determined to be the responsibility of the UP Contractor, reimbursement to the Government for any damages caused to equipment or lost service shall be in accordance with Section J4.3.6, Service Interruptions. The UP Contractor is not responsible for lost service assessment when caused by adverse weather or by actions of the Government or Mission Support Contractor which fail or damage UP Contractor operated and maintained equipment.

Response times for the purpose of this Contract fall into two categories, emergency and routine, see Section C.8, Routine and Emergency Repair Response. Emergencies are defined as loss of utility service that has a direct impact on on-going mission testing, safety, health and the welfare of AEDC personnel. All other responses are defined as routine. The UP Contractor shall respond immediately upon notice by the AEDC Operation Center of an emergency. The UP Contractor shall work the problem until resolution without delay or postponement. Prior to any break in response before resolution and return to service, the UP

Contractor shall notify the AEDC Operation Center that a representative of the Government is needed to discuss the response plan and schedule. Upon approval by the Contracting Officer, the UP Contractor shall implement the approved resolution plan.

In accordance with Section C.5, Utility System Ownership, Employees, and Security, the UP Contractor shall submit requests for personnel security clearance to the Contracting Officer. All personnel working within the AEDC industrial complex shall have appropriate clearances. It is not anticipated that a secret clearance will be required.

J4.3.2 Performance Measurement

The Government will measure the UP Contractor's performance using several methodologies. First, each of the more than 1,500 employees at AEDC measures the utilities delivered to them. For example, when the lights do not come on, water pressure drops or waste backs up, they are required to call the AEDC Operations Center and report the problem. A work request is generated and a determination of emergency or routine response is made. If the problem is utilities in nature, the UP Contractor will be called and requested to respond. In many instances, both the Mission Support Contractor and the UP Contractor will have to respond and determine who is responsible for fixing the problem (Section J4.12.2, General Description of the Utility System, Lateral Extent of the Right-of-Way, and Points of Demarcation). The UP Contractor shall take immediate action to resolve problems on his side of the interface and return service as soon as possible (see Section J4.3.6, Service Interruptions). When the problem impacts AEDC's test mission or support activities, the AEDC Operations Center will track the time from report of outage to the time utility service is restored. If the lost service is determined to have been caused by the UP Contractor or UP Contractor's equipment, the cost of lost service will be assessed in accordance with Section J4.3.7, Cost of Lost Service.

Another method for measuring performance is meter data. There are many meters located at AEDC. These meters provide a good basis for establishing and measuring system performance, specifically system losses. The UP Contractor shall use historic data and initial meter readings to establish a baseline for system efficiency. The UP Contractor shall report system efficiency monthly in accordance with Section J4.6, Submittals.

The Government, in coordination with the Mission Support Contractor, will also monitor the UP Contractor's performance in coordinating work, complying with standards, policies and practices and in general, and the requirements of this work statement. The UP Contractor is expected to adequately maintain, properly design and protect his equipment to enable uninterrupted reliable service. Unscheduled interruptions due to the UP Contractor's equipment or operations are expected to be rare. All unscheduled interruptions will be investigated, and where found to be attributed to the UP Contractor, the cost for lost test time will be assessed in accordance with Section J4.3.6, Cost of Lost Service.

J4.3.3 System Transition

Transitioning the AEDC utility systems will not be an easy task. Most of the technical data and information available has not been maintained through configuration management over the 50 years of operation. The existing utility workforce is well trained and knowledgeable

of the configuration of the systems and the effort required to operate and maintain the utility system without interrupting AEDC's test mission.

In accordance with Section C.13, Transition Plan, the UP Contractor shall plan for an efficient and effective transition of operation, maintenance and investment for the utility system. The UP Contractor's Transition Plan shall address:

a. Specific Transition Requirements, which may include service connections and disconnections, as well as other requirements necessary to support utilities privatization. See Section J4.10, Specific Transition Requirements.

b. Facilities (identify any requirements for facilities, both short term temporary and long term, to support management, engineering, and/or operations and maintenance personnel, and/or materials and equipment)

c. Labor (union or non-union, types, categories, certifications)

d. Training required (identify required training relative to the utility system infrastructure being transferred, infrastructure not being transferred but integrally related to the system being transferred, AEDC procedures, AEDC test operations, or other training requirements needed for system transition)

e. Method for managing technical information which must fall under change control processes discussed in Section J4.3.3, System Configuration and Control, and which will be used by the UP Contractor, the Government and the Mission Support Contractor

f. Current personnel working for the Mission Support Contractor and proposed to be hired by the UP Contractor

g. Access, security clearances, requirements for internet access,

h. Coordination (planning for access to AEDC's local area network, participating in planning and scheduling meetings, forms, practices or procedures the UP Contractor will want AEDC to adopt or adapt to, points of contact, understanding of AEDC response time and lost service assessment requirements)

i. Reducing technical risk (understanding of the work permit process, switching, AEDC Standards, policies and procedures, understanding of equipment to be operated and maintained)

j. Schedule for Investment Work (AEDC's test mission cannot be disrupted; therefore, access to utility system equipment is limited. This has historically resulted in significant additional costs to perform utility maintenance and equipment replacement due to having to work around test schedules.)

k. Final Checkout, Test and Transfer Activities (the UP Contractor shall define specific performance criteria for transition to demonstrate to the Government that the UP Contractor can successfully operate and maintain the utility system)

J4.3.4 System Configuration and Coordination

The Government requires configuration control across systems at AEDC, which dictates configuration control by the UP Contractor and the Mission Support Contractor for a

commonly used, operated and maintained utility system. At AEDC, changes on one side of the system interface may cause disruptions or adverse impacts on the other side of the system interface. All routine configuration changes to the system shall be fully coordinated in advance with the Mission Support Contractor.

J4.3.4.1 Configuration Control

All routine configuration changes to the system shall be fully coordinated in advance with the Mission Support Contractor. The UP Contractor shall coordinate any configuration changes with AEDC that may impact Government-owned facilities, test cells or plant utilities. The UP Contractor shall coordinate and support all configuration changes identified by AEDC as required to maintain test facility schedules and objectives. The UP Contractor shall receive approval to switch, backfeed, and perform other similar operations from the Tactical Integration Chairman (a Mission Support Contractor employee).

At the end of each month, the UP Contractor shall report a summary of all configuration, switching and other changes made during the month. The summary shall be included in the UP Contractor's Monthly Operations and Maintenance Report (see Section J4.6). All switching and other changes shall be professionally logged. The UP Contractor shall make the logs available to the Government for review when requested.

The UP Contractor shall keep and maintain complete, current and accurate operation and maintenance manuals, diagrams, schematics, procedures, switching policies, confined space entry procedures, and lock out and tag out procedures. The UP Contractor shall submit copies of this information as part of his Annual Operation, Maintenance, Repair, Improvement and Modernization Plan. The UP Contractor shall also make this information available to the Contracting Officer upon reasonable request and notification.

J4.3.4.2 Coordination – Tactical Integration Group Meetings

The UP Contractor shall coordinate with the Mission Support Contractor and the Government to develop a daily, weekly and monthly schedule of meetings for the purpose of reviewing work permit status, discussing emergency operations, scheduling and planning maintenance outages, and other activities requiring coordination. The Mission Support Contractor will have the final authority for the time and location of these meetings. The Mission Support Contractor will prepare minutes and track action items of these meetings. For meetings called by the UP Contractor, the UP Contractor will prepare meeting minutes and maintain an action item log. Meeting minutes shall be submitted within 3 working days to the Contracting Officer.

UP Contractor shall participate in daily Tactical Integration Group (TIG) meetings as directed by the Contracting Officer. The UP Contractor shall be available 24 hours a day to coordinate changes in schedule and requirements to support testing, weather or other concerns. The UP Contractor shall participate in coordination meetings to answer questions about system condition and ability to meet AEDC mission requirements. The Contracting Officer will provide the UP Contractor with a list of weekly scheduling meetings. Currently, the Mission Support Contractor convenes a 0715 daily meeting to coordinate utility test support. The weekly AEDC Outage meetings convene on Wednesday mornings at 0830 hours. The weekly TIG convenes formal meetings on Thursdays at 0830. The UP Contractor shall also attend other ad hoc meetings convened by the TIG Chairman (a Mission Support

Contractor employee) as required. Ad hoc meetings are held whenever there is an incident, lost test time, or service interruption. Ad hoc meetings are estimated to occur approximately 3 times per week.

J4.3.4.3 Wastewater Treatment Plant Operations

The UP Contractor shall ensure that the number of personnel, training an certification level for wastewater treatment plant operators meets applicable requirements of the Tennessee Department of Environment and Conservation (TDEC) requirements.

J4.3.4.4 Testing and Sample Analysis

The UP Contractor shall perform testing of Base wastewater system within requirements of applicable standards, regulations, rules, and codes.

The UP Contractor is encouraged to use the AEDC Chem Lab for analysis of samples not tested in the MSTP laboratory. The AEDC Chem Lab is located in facility 445 and can be reached at (931) 454-7349.

J4.3.4.5 Selection of Pipe Materials

Because a large portion of AEDC property is an industrial site, it is likely that buried piping may be exposed to significant concentrations of pollutants. The UP Contractor shall consider potential pollutants and select pipe materials accordingly and in accordance with AWWA C900, Section 4.1.

J4.3.5 Master Work Permits

The Government requires extreme measure be taken when clearing personnel for access to areas within test facilities, when entering confined spaces, interrupting service to work on utilities and infrastructure, and when digging or penetrating the grounds at AEDC. There have been numerous occurrences where personnel have been put into jeopardy, equipment has been damaged and AEDC's test mission impacted due to improper coordinated activities. The AEDC Master Work Permit process is very specific. All requests for work clearance, service interruption (outage) and digging require the UP Contractor to submit an AEDC Master Work Permit and gain approval for the permit prior to work.

In accordance with Section C.9.5, Excavation Permits, and Section C.9.6, Underground Utility Location and Points of Demarcation, the UP Contractor shall submit a Master Work Permit 10 working days prior to performing routine work. Work shall not be performed without a Government approved Master Work Permit. Requests for emergency work shall be coordinated with the AEDC Operations Center.

In response to Master Work Permits requested by others, the UP Contractor shall review and approve, or provide comments regarding disapproval, within 10 working days of requests for routine work. Requests in support of emergency actions shall be worked commensurate with the need for the work.

The UP Contractor shall adhere to AEDC prescribed methods for marking utilities in the field. The UP Contractor shall be responsible for all repairs, costs, and damages due to digging performed by others for which the UP Contractor did not properly mark his utilities on the approved response to the Master Work Permit. Both Government and UP Contractor

approved Master Work Permits shall expire and become invalid 30 days after approval unless otherwise specified on the approved form.

J4.3.6 Service Interruptions

In accordance with Section C.7, Service Interruption/Contingency Plan, the UP Contractor shall notify the AEDC Operations Center of all interruptions to service or incidents where personnel are injured, damage to facilities and equipment are noted, or hazardous materials are spilled or released into the environment. The notification shall be made as soon as possible and no later than 10 minutes after first notice of the incident or interruption. The UP Contractor shall notify the National Response Center, and any other required agencies, of spills that meet reportable quantity thresholds.

J4.3.7 Cost of Lost Service

The UP Contractor shall reimburse the Government for costs associated with loss of mission or unproductive lost test or activity time resulting from unscheduled interruptions or outages determined to have been caused by the UP Contractor. **Table 5** identifies the lost service assessment for each test mission area. Service assessments are reviewed and new rates established for each fiscal year. Attachment J-51 details the AEDC processes for determining responsibility for lost or unproductive test time as a result of outages or equipment failure. Upon notification of a lost service assessment by the Contracting Officer, the UP Contractor shall annotate the credit in the next invoice. If the lost service assessment is greater than the monthly service charge, the monthly service shall be zero (0) and the invoice annotated to show the outstanding lost service assessment credit to be carried forward to the new monthly invoice.

TABLE 5
Lost Service Assessment
Wastewater Collection and Treatment System, Arnold AFB, TN

Test Mission Area	Lost Service Assessment ($ per hour)
ETF/ASTF	$7,935
PWT	$8,856
VKF	$4,589

J4.3.8 Communications and Reporting System

AEDC has an integrated communications and reporting system. The UP Contractor shall submit request for and obtain access to the AEDC Local Area Network for access to unclassified information and to electronic mail. The request shall be submitted to the Administrative Contracting Officer. The UP Contractor shall acquire a local telephone number(s) and provide the Administrative Contracting Officer with the telephone number(s) for key personnel and emergency points of contact.

UP Contractor shall conform to the following AEDC requirements and obtain written approval from the AEDC Communications Chief, Network Control Center prior to altering or changing his system communication, meter reading, or reporting of system usage and performance. These requirements and coordination with the Communications Chief, Network Control Center include prior approval for all forms of wireless communication the UP Contractor proposes for use in maintaining, reporting, and operating his system.

- All personnel with access to AF computer systems, and/or networks or personnel that have access to AF data shall be US Citizens, and have a favorable National Agency Check (NAC).
- In addition, personnel that access AF computer systems, or networks shall complete the AF Network User Licensing course annually.
- Accounts are requested via GC-591.
- Submit communications/computer requirements Via AEDC Form 869.
- Communication/computer systems must comply with current AF/AEDC architecture and communications directives.
- All computer/communications systems must have an approved Certification & Accreditation package PRIOR to operation in accordance with AFI 33-202.

J4.3.9 Facility Metering Requirements

In accordance with Sections C.3.3, Sub-Metering, and J4.5.2, Required New Secondary Meters, the UP Contractor shall install new secondary meters as close as possible to the interface point. The interface point is defined by the most applicable point of demarcation as listed in Section J4.12.2, General Description of the Utility System, Lateral Extent of the Right-of-Way, and Points of Demarcation. Meters shall be revenue quality with calibrations performed annually by the owner with copies provided to the Government. All calibrations must be traceable to NIST (National Institute of Standards and Technology).

In accordance with Section J4.6, Submittals, the UP Contractor shall keep meter books with consumption and demand (if applicable) for each meter. Meter books shall also include building address or facility number, meter number, previous readings, current readings, multipliers for each meter, total consumption, points of contact for meter questions, and procedure for converting meter readings into consumption (including multipliers). Meter Books shall be submitted monthly in accordance with Section J4.6 in electronic format as Microsoft Excel files. The Government will provide an example format in a Microsoft Excel file to be used for meter reading reports.

J4.3.10 Joint-Use Requirements

In accordance with Section C.5.1.4, Air Force Property, there are requirements for joint-use of infrastructure to be conveyed with the utility system being sold. The UP Contractor shall allow the Government, and non-government entities identified by the Contracting Officer, to install or attach property and equipment to poles, conduits, pipes, duct banks, towers, buildings, and other portions of the utility systems to be transferred. Attachment fees shall not apply for Government or non-government entities identified by the Contracting Officer;

however, costs of any make-ready work related to safety requirements may be recovered under the contract. All attachments will be coordinated with the UP Contractor prior to incorporating attachments.

J4.3.10.1 Manhole Access

The UP Contractor shall adhere to AEDC policy on maintaining locked communication manholes.

J4.3.10.2 Costs of Services

The UP Contractor is responsible for all utilities, janitorial services, building maintenance, and grounds maintenance for its facilities on Base without cost to the Government. Reimbursement shall be in accordance with Base guidelines for reimbursable services in effect at the time of contract award, and as may change over the life of the contract. The Government shall provide supporting utilities, e.g., electricity to operate pumps and motors at lift stations, the MSTP, the Arnold Village STP, etc., as necessary to operate utility system infrastructure being conveyed under this contract.

J4.3.11 Safety, Health, and Environmental Standards

The UP Contractor shall comply with the latest edition of AEDC Safety, Security, Health, Engineering, Configuration Management, Maintenance and Systems Engineering Standards. Copies of these standards are available to the UP Contractor electronically on the AEDC Intranet Homepage.

The UP Contractor shall adhere to AEDC lockout and tagout procedures.

The UP Contractor is responsible for all sampling, monitoring, and reporting requirements to regulatory authorities. Any permit excursions, any Notices of Violation, or any deficiencies noted by regulatory agencies or discovered during Air Force inspections must be addressed immediately. The UP Contractor shall submit copies of all correspondence with, or submittals to, regulatory agencies to the Contracting Officer within 5 days of submittal to the regulatory agency.

In accordance with Section C.10.2, Spill Contingencies, the UP Contractor shall adopt the AEDC Spill Contingency Plan.

In accordance with Section C.10.3, Hazardous Material and Waste Minimization, the UP Contractor shall adopt the AEDC Hazardous Material and Waste Minimization Plan.

In accordance with Section C.10.3, Hazardous Material and Waste Minimization, the UP Contractor shall submit copies of MSDSs to the AEDC Hazardous Materials Pharmacy 15 days in advance of bringing any hazardous materials onto the installation.

None of the facilities to be conveyed have existing storage areas sufficient to handle bulk storage of hazardous materials. None of the facilities to be conveyed are permitted for storage of hazardous waste. In accordance with Section C.10.3, Hazardous Material and Waste Minimization, and Section H.8, Hazardous Substances, construction, operation, and permitting of any such storage areas will be the responsibility of the UP Contractor. The UP Contractor shall not dispose construction debris, demolition materials or wastes, other

hazardous materials or wastes, asbestos, or any other material or waste in Arnold AFB landfills.

In accordance with Section C.2.1, Qualified Utility Providers and H.11, Historic Preservation, the UP Contractor shall not perform alterations to any building or structure deemed to be eligible or potentially eligible for placement on the National Register of Historic Places until approved by said officer.

J4.3.12 Fire Control and Safety

The UP Contractor shall enter into a Memorandum of Understanding with AEDC Fire Department for fire protection of all facilities included in the purchase of the utility, and any facilities installed in the future. The UP Contractor will agree to adhere to all fire protection requirements of AEDC. The UP Contractor shall maintain fire alarm system and equipment in facilities on-base and owned by the UP Contractor. The UP Contractor further agrees to permit Fire Department personnel access to their facilities for the sole purpose of performing fire inspections and emergency response.

The UP Contractor shall coordinate any change to the water distribution system that may affect fire protection with the AEDC Operations Center.

The UP Contractor shall coordinate replacement or changes to fire hydrants with the AEDC Operations Center. The UP Contractor shall inform when a hydrant is taken out of service and returned to service. When a hydrant is placed out of service a sign shall clearly mark the hydrant as being out of service.

The AEDC Fire Department currently maintains emergency rescue equipment including a chlorine tank repair kit. The UP Contractor is encouraged to coordinate with the AEDC Fire Department for emergency support.

J4.3.13 Crisis Situations

In accordance with Section C.9.8, *Exercises and Crisis Situations Requiring Utility Support*, the UP Contractor shall provide support as directed by the AEDC Commander or equivalent agency control center for exercises and crisis situations.

J4.4 Current Service Arrangement

AEDC treats its own wastewater at two sanitary sewage treatment plants. Treatment plant effluent from the MSTP is discharged into Rowland Creek through National Pollutant Discharge Elimination System (NPDES) permitted Outfall No. 001. The effluent from the Arnold Village Treatment Plant is discharged into Woods Reservoir via Outfall No. 004.

The geographic area occupied by AEDC is not within the exclusive service area of any wastewater utility. No investor-owned wastewater utility has been granted a CCN by the TRA to serve any of the geographic area occupied by AEDC. AEDC is not within the exclusive service area of any municipal wastewater utility or utility district.

The Government retains responsibility for the purchase of the utility commodity and the associated delivery schedule of the commodity. The UP Contractor shall be required to

obtain written approval prior to contacting any Base commodity providers. The Government shall notify the UP Contractor of changes in commodity providers or delivery schedules that will impact the UP Contractor's system in accordance with the requirements of this contract.

J4.5 Secondary Metering

J4.5.1 Existing Secondary Meters

Table 6 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the UP Contractor. The UP Contractor shall provide meter readings for all secondary meters in accordance with Section C.3.3 and J4.6 below.

TABLE 6
Existing Secondary Meters
Wastewater Collection and Treatment System, Arnold AFB, TN

Meter Location	Meter Description (Type)
None	

The UP Contractor shall install and calibrate new secondary meters as listed in **Table 7**. New secondary meters shall be installed in accordance with Section C.13, Transition Plan. After installation, the UP Contractor shall maintain and read these meters in accordance with Sections C.3.3 and J4.6 below.

TABLE 7
New Secondary Meters
Wastewater Collection and Treatment System, Arnold AFB, TN

Meter Location	Meter Description
Main Sewage Treatment Plant (facility 1555)	Plant Influent
Main Sewage Treatment Plant (facility 1555)	Plant Effluent
Arnold Village Sewage Treatment Plant (facility 3036)	Plant Influent
Arnold Village Sewage Treatment Plant (facility 3036)	Plant Effluent

J4.6 Monthly Submittals

The UP Contractor shall provide the Government monthly submittals for the following:

1. Invoice (in accordance with G.2). The UP Contractor's monthly invoice shall be presented in a format proposed by the UP Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 5th of each month for the previous month. Invoices shall be submitted to:

Name: AEDC / MAT
Address: MS 9015, Building 1099, 1099 Avenue C, Arnold AFB, TN, 37389
Phone number: (931) 454-6712

2. Operations and Maintenance (O&M) Report. The UP Contractor's monthly O&M report will be prepared in the format proposed by the UP Contractor and accepted by the Contracting Officer. O&M reports shall include the following information for utility work:

   Scheduled outages: Requestor, date, time, duration, facilities affected, feedback provided during outage, outage notification form number, and digging clearance number.

   Unscheduled outages: Include date, time and duration, facilities affected, response time after notification, completion times, feedback provided at time of outage, specific item failure, probability of future failure, long term fix, and emergency digging clearance number.

   Maintenance, maintenance and repair, investment and modernization accomplishments: Identify work performed to maintain safe, environmentally compliant, reliable and available operations. Compare and contrast actual work accomplished with annual M&R Plan. Provide a list of all configuration changes and supporting documentation (identify assets changed, documentation numbers or identifiers, scope of change, revision after change, reason for change, date documentation updated). Provide planning to reduce or eliminate system losses.

   O&M reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to:

   Name: AEDC / MAT
   Address: MS 9015, Building 1099, 1099 Avenue C, Arnold AFB, TN, 37389
   Phone number: (931) 454-6712

3. Infiltration and Inflow Report. If required by Section C.3, the UP Contractor shall submit an Infiltration and Inflow report in a format proposed by the UP Contractor and accepted by the Contracting Officer. System efficiency reports shall be submitted by the 25th of each month for the previous month. System efficiency reports shall be submitted to:

   Name: AEDC / MAT
   Address: MS 9015, Building 1099, 1099 Avenue C, Arnold AFB, TN, 37389
   Phone number: (931) 454-6712

4. Annual Operation, Maintenance, Repair, Improvement and Modernization Plan. The UP Contractor shall submit its first Plan 30 Days after Contract Award and shall update the Plan annually thereafter. The Plan shall identify any planned outages or interruptions to service, configuration changes or facility modifications, and system upgrades. The Plan shall also identify system improvements to reduce losses. The Plan shall clearly delineate points of contact, their responsibilities and any interfacing operational policies and procedures.

Name: AEDC / MAT
Address: MS 9015, Building 1099, 1099 Avenue C, Arnold AFB, TN, 37389
Phone number: (931) 454-6712

J4.7 Infiltration and Inflow (I&I) Projects

IAW Section C.3, Utility Service Requirement, the following projects have been implemented by the Government for managing and monitoring I&I.

There is an on-going I&I monitoring program at AEDC. Several projects are programmed to correct deficiencies. These projects are included in **Table 9**.

J4.8 Service Area

IAW Section C.4, Service Area, the service area is defined as all areas within the Arnold AFB boundaries.

J4.9 Off-Installation Sites

No off-installation sites are included in the sale of the Arnold AFB wastewater system.

J4.10 Specific Transition Requirements

IAW Section C.13, Transition Plan, **Table 8** provides a listing of transition requirements to be completed by the UP Contractor upon transfer. Transition requirements may include service connections and disconnections, as well as other requirements necessary to support utilities privatization.

TABLE 8
Service Connections and Disconnections
Wastewater Collection and Treatment System, Arnold AFB, TN

Location	Description
Main Sewage Treatment Plant (MSTP)	The UP Contractor will not be allowed to discharge the MSTP's effluent through the existing STP effluent discharge location. Prior to conveyance, a new outfall must be constructed to redirect the MSTP effluent to a discharge point approximately 0.5 miles downstream of the current NPDES site. The UP Contractor will be required to obtain a watewater discharge permit for this new effluent discharge location. Additionally, the UP Contractor may be required by the TDEC, as a condition of the permitting process and prior to issuance of a NPDES permit to the UP Contractor, to install additional treatment capability in the MSTP to bring the discharge into compliance with the State Water Quality Criteria since the effluent, at its new discharge location, will be to a zero flow stream.

J4.11 Government Recognized System Deficiencies

Table 9 provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the Arnold AFB wastewater system. If the utility system is sold, the Government will not accomplish these planned improvements. The UP Contractor shall make a determination as to its actual need to accomplish and the timing of any and all such planned improvements. Capital upgrade projects shall be proposed through the Capital Upgrades and Renewal and Replacement Plan process and will be recovered through Schedule L-3. Renewal and Replacement projects will be recovered through Sub-CLIN AB.

TABLE 9
System Deficiencies
Wastewater Collection and Treatment System, Arnold AFB, TN

Project Location	Project Description
Main Site Wastewater Collection System	RPR WASTEWATER SYSTEM BASINS ph 1 (9, 10, & 13) This project is to repair or replace damaged sanitary piping and manholes, leaks from which are causing overflows at the Arnold AFB treatment plant. The collection system was divided into 14 sub-basins with repair projects being prioritized and scheduled to correct problems encountered at the sanitary treatment plant. Most of the entire system is 50 or more years old and new pipe failures are expected to develop as more time passes. AEDC Project ANZY0300291.
Main Site Wastewater Collection System	RPR WASTEWATER SYSTEM BASINS (7, 8, & 11) This project is to repair or replace damaged sanitary piping and manholes, leaks from which are causing overflows at the Arnold AFB treatment plant. The collection system was divided into 14 sub-basins with repair projects being prioritized and scheduled to correct problems encountered at the sanitary treatment plant. Most of the entire system is 50 or more years old and new pipe failures are expected to develop as more time passes. AEDC Project ANZY0300292.
Arnold Village Sewage Treatment Plant and Collection System	IMPROVE INFRASTRUCTURE MFH. Replace 39 year old antiquated package waste water treatment plant with a reliable sand filter plant. Repair sanitary sewer lines, configure storm drainage and add new sidewalks where necessary. AEDC Project ANZY010047

J4.12 Right of Access to the Utility System

J4.12.1 Map of the Utility System

Maps from the Base Comprehensive Plan or other drawings show the known locations of the utility system and are available at the Base Civil Engineering Office. Portions of the utility system may not be fully shown on the map or maps. Any such failure to show the complete utility system on the map or maps shall not be interpreted as that part of the utility

system being outside the Installation. The Installation is co-extensive with the entire linear extent of the utility system sold to Grantee, whether or not precisely shown on the map or maps.

TABLE 10
Drawings
Wastewater Collection and Treatment System, Arnold AFB, TN

Qty	Item	Description	Remarks
	Various	See Bidders' Library for Maps, Drawings and Records to be included with the system to be privatized	

J4.12.2 General Description of the Utility System, Lateral Extent of the Right-of-Way, and Points of Demarcation

J4.12.2.1 Utility System Description

The utility system may be composed of, without limitation, collection piping, manholes, final discharge meters, lift stations, treatment plants, supporting emergency generator sets (if any), and electrical controls associated with the lift stations and emergency generator sets on the Installation.

J4.12.2.2 Lateral Extent of Utility System Right-Of-Way:

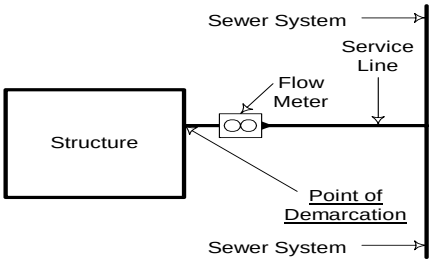
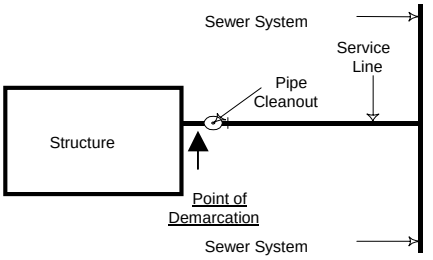
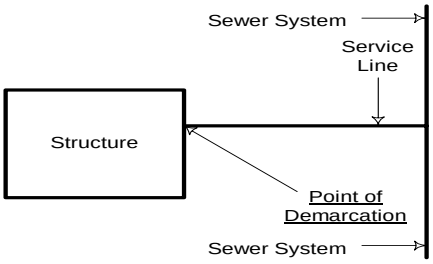
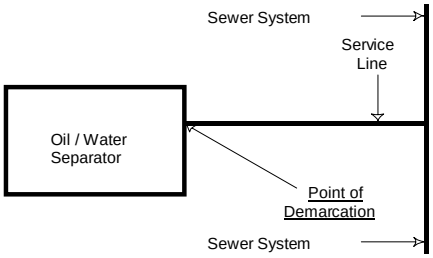
For pipe sizes of 24 inches in diameter and less, 26-feet-wide, extending 13 feet on each side of the utility system, as installed.

For pipe sizes of greater than 24 inches in diameter, 50-feet-wide, extending 25 feet on each side of the utility system, as installed.

J4.12.2.3 Utility System Points of Demarcation

The point of demarcation is defined as the point on the utility system where ownership changes from the utility system owner to the facility owner. **Table 11** identifies the type and general location of the point of demarcation with respect to the facility for each scenario.

TABLE 11
General Points of Demarcation
Wastewater Collection and Treatment System, Arnold AFB, TN

Point of Demarcation (POD)	Applicable Scenario	Sketch
POD is where the service line enters the structure.	Sewer system flow meter is located on the service line entering the structure.	
POD is the cleanout device, if within 10 feet of the building perimeter.	No flow meter exists and a sewer system cleanout is located within 10 feet of the building perimeter on the service line.	
POD is where the service line enters the structure. Note: A new cleanout device should be installed within 10 feet of the building during any stoppage or maintenance action. This will then become the new POD.	No flow meter or cleanout exists on the service line entering the structure.	
POD is the outfall of the oil/water separator.	Any oil/water separator on the service line.	
POD is the outlet side of the Grease Trap, Oil Water Separator, or Pretreatment System.	Grease Trap, Oil Water Separator, and Pretreatment System connected to the wastewater collection system.	None

Point of Demarcation (POD)	Applicable Scenario	Sketch
POD is at the overhead service line's connection to the service entrance mast. Note: If an electric meter is present, or is to be installed, the owner of the electric distribution system on the installation is the owner and maintainer of the electric meter and the can. The POD for the electric meter is at the wastewater utility owner's conductors to the electric utility owner's conductors. This meter POD applies regardless of the location of the electric utility owner's meter. The wastewater utility owner will own the service entrance mast.	Electric power is provided to a wastewater facility via an overhead service drop. This configuration could be found at facilities dedicated to the wastewater utility such as a lift station or wastewater treatment plant.	None
POD is at the transformer secondary terminal spade. Note: If an electric meter is present, or is to be installed, the owner of the electric distribution system on the installation is the owner and maintainer of the electric meter. The POD for the meter is at the wastewater utility owner's conductors to the electric utility owner's conductors. This meter POD applies regardless of the location of the electric meters and transformers.	Electric power is provided to a wastewater facility via an underground service connection. This configuration could be found at facilities dedicated to the wastewater utility such as a lift station or wastewater treatment plant.	None

Table 12 lists anomalous points of demarcation that do not fit any of the above scenarios. These anomalous or unique points of demarcation shall take precedence over the general points of demarcation shown in Table 11.

TABLE 12
Unique Points of Demarcation
Wastewater Collection and Treatment System, Arnold AFB, TN

Building No.	Point of Demarcation (POD) Description
Main Site WWTP Outfall	Point of demarcation will be located at the end of the outfall pipeline discharging into Rowland Creek. *Note: UP Contractor shall relocate and establish a new outfall for discharging treated effluent into Rowland Creek, see Section J4.10, Specific Transition Requirements.*
Arnold Village WWTP Outfall	Point of demarcation will be located at the end of the outfall pipeline discharging into Woods Reservoir.
Lift Stations Discharging to Septic Tanks – lift stations 2910, 2912, 2917	Point of demarcation will be located at the inlet to the septic tank.
Lift Stations Located Inside Facilities – lift stations 251, 535, 678, 878, and 1075.	Point of demarcation is where the inlet pipe to the wetwell enters the exterior wall of the wetwell.

For the areas identified in **Table 13**, Arnold AFB shall not grant any additional easements, rights-of-way, leases, permits, licenses, or other access. Arnold AFB recognizes that these areas require restricted access and the UP Contractor may take appropriate action to prevent unauthorized access to such areas. This only applies to access by others than the UP Contractor and will not limit any right of access by public authorities charged with the regulation of UP Contractor's activities or law enforcement.

TABLE 13
Restricted Access Areas
Wastewater Collection and Treatment System, Arnold AFB, TN

Description	Facility #	Tennessee State Plane Coordinates (FT)	Other Information
Main Sewage Treatment Plant (MSTP)	1552	LL= E1,952,070, N379,330 LR= E1,952,110, N379,350 TR=E1,952,110, N379,370 TL= E1,952,050, N379,350	Located about 15' west of the New Sewage Lab Building (1555). The MSTP is comprised of approximately 15 facilities and structures. An area radiating approximately 200' from the exterior walls of facility 1552 defines the area of restricted access.
Arnold Village Sewage Treatment Plant	3036	LL = E1,949,030, N360,570 LR = E1,949,070, N360,550 TR = E1,949,110, N360,620 TL = E1,949,050, N360,640	NW of the Primary Pumping Station Building (3038)

Coordinates are the lower left (LL) lower right (LR), top left (TR), and top left (TL) corners of the structures. All coordinates reference the Tennessee State Plane coordinate system NAD83, feet.

J4.12.3 Environmental Baseline Survey

The Air Force has determined that it is not required to conduct an EBS in regard to the sale of this utility system.