

ATTACHMENT J4

Luke AFB Wastewater System

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J4 Luke AFB Wastewater Collection System

J4.1 Luke AFB Overview

J4.1.1 Description

Luke Air Force Base (LAFB) is an active military installation located within the city limits of Glendale, Arizona and nine (9) miles from its center. The base is approximately 15 miles west of Phoenix. LAFB is accessible from Interstate Highways 10 and 17. The base host unit is the 56th Fighter Wing (56FW). Other LAFB tenants include:

- 944th Fighter Wing (US Air Force Reserves)
- Detachment 1, Air Combat Command Training Support Squadron
- Detachment 12, 372nd Training Squadron
- 607th Air Control Squadron
- Area Defense Counsel
- Air Force Audit Agency
- Air Force Office of Special Investigations
- Defense Reutilization and Marketing Office
- Defense Accounting Office

J4.1.2 Installation Profile

LAFB owns 2,627 acres and occupies another 1,730 acres in easement. In addition, the base also has the use of the 2.7 million-acre Barry M. Goldwater Range located southwest of LAFB. LAFB proper contains 356 buildings excluding housing with a total of 3,234,109 square feet. LAFB Military Family Housing (MFH) provides 841 units with a total of 1,433,882 square feet. LAFB has two runways; the primary runway is 10,000 feet by 150 feet while the parallel runway is 9,910 feet by 150 feet.

In 1940, a US Army representative was sent to Arizona to find a site for an Army Air Corps training field for advanced training in conventional fighter aircraft. The City of Phoenix and the federal government entered into an agreement in March 1941 to lease 1,440 acres of land for \$1 per year. The training center was named Luke Field, and the first class of fighter aircraft training students arrived in June 1941.

During World War II, Luke Field was the largest fighter training base in the Army Air Corps, graduating more than 12,000 fighter pilots and earning the nickname "Home of the Fighter Pilot." Students progressed from flying the P-51 Mustang to the F-84 Thunderstreak jet. The Thunderbirds, the official Air Force aerial demonstration team, was formed at Luke

AFB in 1953. In July 1958, the base was transferred from Air Training Command to Tactical Air Command.

In 1969, the 58th Fighter Wing was activated at LAFB. In 1971, tactical air training resumed with pilots using the F-4C Phantom II, F-100, A-7, F-4, and F-104. By 1982, the F-16 Fighting Falcon was being flown at LAFB. In 1994, the 58th Fighter Wing was replaced with 56th Fighter Wing as part of the Air Force Heritage Program. The 56th Fighter Wing is one of the most highly decorated units in the Air Force.

Today, LAFB is the most diversified training center in the Air Education and Training Command (AETC), providing technical, medical, field, and flight training utilizing approximately 190 F-16 aircraft for the training of approximately 1,000 students annually. Annual sorties flown reach approximately 36,000.

The LAFB 2000 General Plan states that the total daily working population is 5,400 active duty military, 1,000 military reservists, 12,300 military family members, 1,000 military students annually and 1,300 civilian employees.

J4.1.3 Mission

The mission of the 56FW is to produce the world's finest F-16 fighter pilots for the United States and Allied Armed Forces. The 56FW is the host command under AETC's 19th Air Force. The wing provides command guidance and operational control of the 56th Operations Group, 56th Maintenance Group, 56th Mission Support Group, and 56th Medical Group.

J4.2 Wastewater Collection System Description

J4.2.1 Wastewater Collection System Fixed Equipment Inventory

The LAFB Wastewater Collection systems consist of all appurtenances physically connected to the Collection system from the point in which the Collection system enters the Installation and Government ownership currently starts to the point of demarcation, defined by the Right of Way. The systems may include, but are 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 Contractor with a general understanding of the size and configuration of the Collection system. The Government makes no representation that the inventory is accurate. The Contractor shall base its proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description and inventory. Under no circumstances shall the Contractor be entitled to any service charge adjustments based on the accuracy of the following description and inventory.

Specifically excluded from the wastewater collection system privatization are all oil/water separators, [the 2.5 million gallon irrigation pond and associated pump station located off of Corsair Street and east of Litchfield Road](#), the stormwater collection system, and all sewage septic tanks on base. The LAFB will maintain rights to the Arizona Class A effluent produced by the wastewater treatment system in an amount equal to that originating from federally owned facilities.

See Exhibit B, Section J41 of the Right of Way Document for information regarding specific points of demarcation for the wastewater collection systems at LAFB.

J4.2.1.1 Description

The sanitary sewer system at LAFB consists of three major components: (1) sanitary sewer collection system, (2) wastewater treatment plant (WWTP), and (3) non-potable water reuse system. A brief description of each system is provided below.

Collection System

The sanitary sewer system at LAFB consists of the gravity mains, cleanouts, lift stations, force mains, and access manholes associated with the collection of sanitary waste from the facility buildings and MFH on the base. The approximate burial depth of the piping is 4 feet to 30 feet below grade.

A majority of the gravity collection mains and service laterals were installed in the 1940s when the base was constructed and in the 1950s and 1960s when most of the base expansion took place. Piping installed prior to 1970 is primarily reinforced concrete pipe (RCP), cast iron (CI), and vitrified clay pipe (VCP). In the late 1970s, additional base housing was installed in the area south of Glendale Avenue to supplement the housing installed in the 1957 base expansion. The gravity collection mains installed during the 1970s are composed primarily of RCP, cement mortar lined ductile iron (DI), and VCP. Since the 1980s, the base

has made a concerted effort to install polyvinyl chloride (PVC) for all sanitary sewer piping of sizes 8-inches or less. PVC piping at LAFB does not have tracer or marker tape as a general rule.

A majority of the gravity collection mains, force mains and service laterals installed during the 1940s, 1950s and 1960s are in fair to good condition. However, blocked and broken lines in the north Glendale housing area, 500 area, and 700 area have occurred recently. Some of the older piping in the north Glendale housing area has recently been replaced with PVC piping. LAFB is currently waiting for funding to complete Phase IV of the Sanitary Sewer Main Repair Project in the housing area.

The manholes constructed during the 1940s, 1950s, and 1960s possess RCP chimneys, corbels and walls with poured concrete inverts and cast iron steps and cover. Very little evidence of infiltration/inflow has been reported. The manholes in these areas are in good condition with the exception of severely corroded steps. A majority of the gravity collection mains, force mains and service laterals installed during the 1970s, 1980s and 1990s are in good to excellent condition. The manholes constructed during this era possess RCP chimneys, corbels and walls with poured concrete inverts and cast iron steps and cover. Very little evidence of infiltration/inflow has been reported. The manholes in these areas are in excellent condition.

In addition to the normal sanitary flow from the military base buildings and military housing, the sanitary sewer collection system also accepts wastewater from Luke School, the Vineyard Apartments, approximately 70 base oil/water separators, a hush house, and an engine test cell. The scope of the privatization effort does not include the agreements with the non-federal customers, oil water separators, grease traps, or holding tanks.

The privatization contractor shall negotiate new agreements with existing non-federal customers that chose to continue discharging to the collection system. In addition, LAFB will be privatizing the military housing in the near future. The utility privatization contractor will be responsible for negotiating an agreement with the housing privatization contractor. Currently, approximately 30% of the wastewater collected originates at non-federal properties and military housing facilities.

The LAFB Civil Engineering staff currently subcontracts the operation and maintenance of an enzyme treatment system to control phenols, fats, oils, and grease in the collection system. The current contract includes a process guarantee to reduce WWTP effluent to below USEPA Method 418.1 for grease, petroleum hydrocarbons, and phenol. The subcontractor is also responsible for monitoring the oil level in the oil/water separators, holding tanks, and grease traps. The LAFB staff will continue to fund and administer this contract.

The sanitary collection system is arranged in gravity collection zones leading to a lift station that lifts the waste to the next gravity zone. With the exception of the MFH collection areas, all of the sanitary waste flows to sewage lift station #798 located 400 feet south of the 139th Street and Phantom Street intersection. From there, wastewater is pumped into a 15-inch RCP gravity main that flows to the LAFB WWTP.

Wastewater Treatment Plant

The LAFB WWTP is located at the corner of the intersection of El Mirage Road and Glendale Avenue in the City of Glendale, Arizona. The LAFB WWTP is designed to accept all of the sanitary flow from the LAFB sanitary sewer collection system through a 15-inch RCP main gravity line flowing to the site on the north side of Glendale Avenue.

The LAFB WWTP was constructed in the 1940's and was upgraded in 1994. The facility is designed to produce 1.2 million gallons per day (MGD) of Arizona Class A+ water for reuse. Currently, the facility is treating approximately 0.5 MGD that is used to irrigate the LAFB golf course and other recreational areas at the base or is discharged to the Agua Fria River. The treatment process is described in the following paragraphs.

The primary treatment process is designed to remove solids from the influent prior to secondary treatment. Wastewater enters an air flotation basin that was designed to remove oil and grease. Currently, no oil or grease accumulates or is removed from the aeration basin. Wastewater then flows through a manual bar screen into an aerated grit removal chamber. The bar screen is used; however, the grit removal chamber and associated dewatering screw are not. A micro-screen is installed following the grit removal chamber to remove debris that passes the bar screen. An automated rake removes debris from the screen and deposits the solids in a container for disposal. After the solids are removed from the wastewater, it passes through a 12-inch Parshall flume before entering the secondary treatment process. None of the primary treatment processes are equipped with odor control devices or are enclosed within buildings.

The secondary treatment process is designed to biologically reduce the concentration of carbonaceous and nitrogen compounds. Return Activated Sludge (RAS) is mixed with the influent in the raw sewage pump station in preparation for secondary treatment. Two (2) 600-gallon per minute (gpm) and two (2) 1,200-gpm pumps transfer the wastewater and RAS to three (3) anoxic basins for denitrification (conversion of nitrates to nitrogen gas). In addition, a 5,000-gpm pump circulates wastewater from the oxidation ditch to the anoxic basins. Each anoxic basin is mixed with a 2-horsepower propeller. Wastewater in the anoxic basins passes over a weir and into the oxidation ditch for the reduction of carbonaceous material and nitrification (conversion of ammonia to nitrates). Three (3) 40-horsepower brush rotors are used to mix and aerate the oxidation ditch. Biologically stabilized wastewater is removed from the oxidation ditch and routed through a series of splitter boxes to the secondary clarifiers.

The LAFB WWTP has eight (8) rectangular clarifiers. Clarifiers 1, 2, 3, and 4 are not adequate for the treatment process and are not currently operable. Clarifiers 5 and 6 are operable but not currently used. Plant operators are currently using only Clarifiers 7 and 8. Activated sludge flows by gravity from the clarifiers to either the raw sewage pump station or waste sludge pump station. The waste sludge pump station has two (2) 475-gpm pumps that transfer the waste activated sludge (WAS) to either the 38,000 gallon anaerobic sludge holding tank or the drying beds. Supernatant from the clarifiers flows to the filter pump station that transfers the wastewater to the tertiary treatment processes. The filter pump station contains two (2) 400-gpm transfer pumps.

The tertiary treatment process is designed to reduce the concentration of suspended solids and disinfect the wastewater. Supernatant from filter pump station is treated using two (2) traveling bridge sand filters. The filters are 40 feet long, 12.5 feet wide, and 8 inches deep. Backwash is sent to the raw sewage pump station and filtrate to the filtrate pump station. The filtrate pump station has (2) 200-gpm pumps that transfer the wastewater to the open channel ultraviolet (UV) disinfection system. The UV disinfection system uses 3 modules containing low-pressure, low intensity lamps. The system is designed to provide a dose of $78,257 \mu\text{W}\cdot\text{s}/\text{cm}^2$ at 75% UVT. Effluent from the disinfection system either flows to the Agua Fria River through a Parshall flume or to the waste reuse system.

WAS from either the clarifiers or sludge holding tank is sent to the sludge-drying beds. The facility has nine (9) 86 feet long by 23 feet wide sand drying beds. Beds 1 through 6 are clay lined and moles have compromised the liners in two of the beds. Beds 7 to 9 are asphalt lined. Dry filter cake is manually raked to the center of each bed and removed by the facility's Bobcat skid loader. The sludge is generally a Class A biosolid that is stored on-site for sixty days and then transported to a local landfill for disposal.

The LAFB WWTP currently operates under a regulatory framework that includes the following permits:

- National Pollution Discharge Elimination System (NPDES) issued by the U.S. Environmental Protection Agency (USEPA), Region 9, and designed to protect the Agua Fria River and any other surface water that may receive the plant effluent.
- Aquifer Protection Permit (APP) issued by the Arizona Department of Environmental Quality (ADEQ) and designed to protect the groundwater from contamination. Monitoring well 101 is used for compliance sampling.
- Reclaimed Water Permit (RWP) issued by ADEQ and designed to protect the public health.

The most recent inspection (February 2002) conducted by ADEQ found no deficiencies or violations of the NPDES or APP permits. However, LAFB did report the following deficiencies that the new owner may choose to address.

- Air Conditioning not adequate at WWTP Building
- Automatic pump controls for water reuse system are not operational
- Complaints from community regarding WWTP odors
- Grit removal system is not functional
- Sand washing out of sand filter during backwash
- Cannot isolate anoxic basins
- Dissolved Oxygen meters in oxidation ditch are not operational
- Drying beds 1 and 5 damaged by moles

- UV intensity meters not operational
- Well #4 and #16 located within 200 feet of WWTP
- Cannot decant supernatant from sludge holding tank
- Water from deep well being mixed with reuse water for irrigation

Routine expenses associated with permit renewals, laboratory certification, and compliance sampling are incurred by the WWTP facility. The privatization contractor will be responsible for all expenses required to maintain compliance with applicable local, state, and federal regulations.

Non-Potable Water Reuse System

The LAFB water reuse system was installed in 1994 in conjunction with the improvements to the LAFB WWTP. The reuse system was constructed in response to Arizona Department of Health Services urging maximum use of wastewater treatment effluent. The system consists of two (2) separate storage ponds.

The Effluent Holding Pond, [which is included under this privatization initiative](#), is located at the LAFB WWTP site. This lined pond was built to provide up to 4-hours storage of WWTP effluent. Five vertical turbine pumps are installed to transfer water from the Effluent Holding Pond. Three (3) 1,500-gpm pumps discharge plant effluent through a 10-inch ductile iron force main to the Irrigation Storage Pond. The two (2) 120-gpm pumps provide a water supply for washdown, chemical makeup, and irrigation at the LAFB WWTP site. Two (2) steel pressure vessels (approximately 1,500 and 1,700 gallons) and associated compressors are installed at the Effluent Holding Pond.

The Irrigation Storage Pond, [which is not included under this privatization initiative](#), is located on the LAFB perimeter near the intersection of Corsair and Litchfield Streets. The 2.5 million gallon lined pond was built to provide a 2-3 day stored supply of effluent operating in a normal depth range of 5 to 7 feet. Three (3) 500-gpm vertical turbine irrigation pumps supply water to a 12-inch and 8-inch force main. The 8-inch force main delivers reuse water to the main irrigation pond for the Falcon Dunes Golf Course located within the base perimeter. The 12-inch force main delivers water to the softball diamonds within Fowler Park and a one-block wide grassy "Mall" area between F and G streets extending the six blocks westward from the Fighter Wing Headquarters just west of the main gate. One (1) steel pressure vessel (approximately 1,700 gallons) and an associated compressor are installed at the Irrigation Storage Pond.

J4.2.1.2 Inventory

Table 1 provides a general listing of the major fixed assets for the LAFB wastewater collection systems included in the sale.

TABLE 1
 Fixed Inventory
Wastewater Collection System Luke AFB

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
Wastewater Collection System and Piping				
Vitrified Clay Pipe - Housing	4	6,275	LF	1957
Concrete Pipe/Asbestos Cement Pipe - Housing	6	5,900	LF	1957
Standard RCP Sanitary Sewer Manhole – Housing (Avg. 6’ depth)	4’ dia	23	EA	1957
Wastewater Lift/Pump Station 2104	4 Hp	2	EA	1999
Wastewater Lift/Pump Station Commissary	13 Hp	2	EA	2002
PVC Pipe	2	2,250	LF	1997
PVC Pipe	2	500	LF	1990
PVC Pipe	3	75	LF	1997
PVC Pipe	3	225	LF	1980
PVC Pipe	4	4,050	LF	1997
PVC Pipe	4	950	LF	1980
PVC Pipe	4	1,375	LF	1990
PVC Pipe	4	1,450	LF	1990
PVC Pipe	6	3,150	LF	1980
PVC Pipe	6	600	LF	1980
PVC Pipe	6	6,500	LF	1990
PVC Pipe	6	600	LF	2000
PVC Pipe	6	153	LF	2001
PVC Pipe	8	3,700	LF	1987
PVC Pipe	8	1,900	LF	1980
PVC Pipe	8	900	LF	2000
PVC Pipe	10	1,615	LF	2000
Cast Iron Pipe	4	958	LF	1960
Cast Iron Pipe	6	750	LF	1942
Cast Iron Pipe	6	1,200	LF	1957
Cast Iron Pipe	6	1,206	LF	1960
Cast Iron Pipe	8	550	LF	1957
Cast Iron Pipe	10	9,200	LF	2001
Ductile Iron Pipe	6	3,350	LF	1997

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
Ductile Iron Pipe	10	40	LF	1994
Ductile Iron Pipe	16	13,000	LF	1994
Vitrified Clay Pipe	4	2,400	LF	1942
Vitrified Clay Pipe	4	1,125	LF	1957
Vitrified Clay Pipe	4	2,925	LF	1960
Vitrified Clay Pipe	6	7,625	LF	1942
Vitrified Clay Pipe	6	1,700	LF	1957
Vitrified Clay Pipe	6	3,550	LF	1960
Concrete Pipe/Asbestos Cement Pipe	6	8,600	LF	1942
Concrete Pipe/Asbestos Cement Pipe	6	2,230	LF	1957
Concrete Pipe/Asbestos Cement Pipe	6	5,825	LF	1960
Concrete Pipe/Asbestos Cement Pipe	8	13,200	LF	1942
Concrete Pipe/Asbestos Cement Pipe	8	2,500	LF	1957
Concrete Pipe/Asbestos Cement Pipe	8	3,350	LF	1960
Concrete Pipe/Asbestos Cement Pipe	8	9,520	LF	1957
Concrete Pipe/Asbestos Cement Pipe	10	6,660	LF	1942
Concrete Pipe/Asbestos Cement Pipe	10	1,350	LF	1957
Concrete Pipe/Asbestos Cement Pipe	10	2,300	LF	1960
Concrete Pipe/Asbestos Cement Pipe	24	9,520	LF	1942
Water Reuse Valves	16	1	EA	1994
Water Reuse Valves	16	1	EA	1994
Standard RCP Sanitary Sewer Manhole (Avg. 6' Depth)	4' dia	17	EA	1997
Standard RCP Sanitary Sewer Manhole (Avg. 6' Depth)	4' dia	165	EA	1942
Standard RCP Sanitary Sewer Manhole (Avg. 6' Depth)	4' dia	29	EA	1942
Standard RCP Sanitary Sewer Manhole (Avg. 6' Depth)	4' dia	30	EA	1957
Standard RCP Sanitary Sewer Manhole (Avg. 6' Depth)	4' dia	48	EA	1960
Standard RCP Sanitary Sewer Manhole (Avg. 6' Depth)	4' dia	18	EA	1980
Standard RCP Sanitary Sewer Manhole (Avg. 6' Depth)	4' dia	6	EA	1990
Standard RCP Sanitary Sewer Manhole (Avg. 6' Depth)	4' dia	3	EA	2001

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
Wastewater Lift/Pump Station 798	30 Hp	3	EA	1997
Wastewater Lift/Pump Station 857	1 Hp	1	EA	1998
Wastewater Lift/Pump Station 912	7 Hp	2	EA	1998
Wastewater Lift/Pump Station Ammo	2 Hp	2	EA	1997
Wastewater Lift/Pump Station 1055	1 Hp	2	EA	1996
Wastewater Lift/Pump Station 1023	1.5 Hp	2	EA	1985
Wastewater Lift/Pump Station 898	5.4 Hp	2	EA	1989
Wastewater Lift/Pump Station 1106	1 Hp	1	EA	1988
Wastewater Lift/Pump Station 1130	2.7 Hp	2	EA	2003
Wastewater Lift/Pump Station 916	6.1 Hp	2	EA	2003
Wastewater Lift/Pump Station 315	1.5 Hp	1	EA	1995
Wastewater Lift/Pump Station 901	25 Hp	2	EA	1997
Wastewater Lift/Pump Station 992	4 Hp	2	EA	2002
Wastewater Lift/Pump Station 1365	4 Hp	2	EA	1996
Wastewater Lift/Pump Station 844	2 Hp	1	EA	1979
Wastewater Lift/Pump Station 985	5 Hp	2	EA	1999
793 Emergency Generator w/ 250-gallon Fuel Tank	100 KW	1	EA	1985
901 Emergency Generator w/ 250-gallon Fuel Tank	60 KW	1	EA	1979
Stationary Jib Crane - 798	N/A	1	EA	1985
1.2 MGD Wastewater Treatment Plant				
Air Floatation Basin	NA	1	EA	1994
Manual Bar Screen	NA	1	EA	1994
Aerated Grit Removal Chamber	NA	1	EA	1994
Automated Fine Screen	NA	1	EA	1994
Influent Parshall Flume	NA	1	EA	1994
Raw Sewage Pump Station	NA	1	EA	1994
Anoxic Basins	NA	3	EA	1994
Oxidation Ditch	NA	1	EA	1994
Clarifiers 1, 2, 3, & 4	NA	4	EA	1940
Clarifiers 5 & 6	NA	2	EA	1940
Clarifiers 7 & 8	NA	2	EA	1940
Waste Sludge Pump Station	NA	1	EA	1994

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
Anaerobic Sludge Holding Tank	NA	1	EA	1994
Drying Beds	NA	6	EA	1940
Drying Beds	NA	3	EA	1994
Filter Pump Station	NA	1	EA	1994
Traveling Bridge Sand Filter	NA	2	EA	1994
Filtrate Pump Station	NA	1	EA	1994
UV Disinfection System	NA	1	EA	1994
Effluent Parshall Flume	NA	1	EA	1994
Control and Laboratory Building	NA	1	EA	1980
WWTP Emergency Generator w/ 1,000-Gallon Fuel Tank	400 KW	1	EA	1994
Turbine Meter	4	1	EA	1994
Turbine Meter	10	1	EA	1994
Turbine Meter	12	1	EA	1994
Water Reuse System				
Effluent Holding Pond	NA	1	EA	1994
Vertical Turbine Pumps	7.5 Hp	2	EA	1994
Vertical Turbine Pumps	75 Hp	3	EA	1994
5' x 12' Pressure Vessel	NA	1	EA	1994
5' x 10' Pressure Vessel	NA	1	EA	1994
Compressor	2 Hp	3	EA	1994

Notes:
 PVC = Polyvinyl Chloride
 Hp = Horsepower
 EA = Each
 KW = Kilowatt
 Dia = Diameter
 GPM = Gallons per Minute

J4.2.2 Wastewater Collection 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 System Luke AFB

Qty	Item	Description	Remarks
2	Pump	Spare for Pump Station 798	
1	4 HP Pump	Spare	
1	Gear Reduction Drive	Spare for Oxidation Ditch Aerator	
1	2 HP Motor	Spare for Anoxic Basins	
1	40 HP Pump	Spare	

TABLE 3
 Specialized Vehicles and Tools
Wastewater Collection System Luke AFB

Description	Quantity	Location	Maker
Skid Loader	1	WWTP	Bobcat
Backhoe Attachment	1	WWTP	Bobcat
Fork Lift Attachment	1	WWTP	Bobcat
Bucket Attachment	1	WWTP	Bobcat
1,500-gpm Pump	1	WWTP	John Deer
Lawn Mower	1	WWTP	John Deer

J4.2.3 Wastewater Collection 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 System Luke AFB

Qty	Item	Description	Remarks
1		G-Tabs of the Sanitary Sewer System	
1		Chemical Material Safety Data Sheets	
1		Maintenance Records	
1		As-Built Drawings	
1		Permit Data and Laboratory Results	
1		Quality Assurance Records	
1		Hygiene Assessment Records	

Qty	Item	Description	Remarks
1		Operating Instructions	
1		Laboratory Operating Instructions	

J4.3 Specific Service Requirements

The service requirements for the LAFB Wastewater Collection systems are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the LAFB Wastewater Collection and Water Reuse systems 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.

- The installation shall retain right and title to the Arizona Class A reclaimed water from the discharge point of WWTP.
- The privatization contractor shall negotiate new agreements with existing non-federal customers that chose to continue discharging to the collection system.
- The privatization contractor shall maintain a reclaimed water level at the 2.5 million gallon irrigation pond to meet LAFB requirements. If sufficient effluent is not available, make-up water may be obtained from the government-owned Well #16.

J4.4 Current Service Arrangement

In 2002, approximately 70% of the potable water (170,075 kGal) used by Luke AFB was collected and treated by the facility wastewater utility. Of the wastewater treated, approximately 144,529 kGal were pumped to the water reuse system and used by LAFB for landscaping.

- Provider Name – Luke Air Force Base
- Average Monthly Sewage Flow – 30,000 thousand gallons (kGal) (2002)
- Monthly Sewage Flow Range – 12,100 to 52,200 kGal (2002)

J4.5 Secondary Metering

J4.5.1 Existing Secondary Meters

Table 5 provides a listing of the existing secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3 and J2.6 below.

TABLE 5
Existing Secondary Meters
Wastewater Collection System Luke AFB

Meter Location	Meter Description
LAFB WWTP	10" PVC Turbine Water Meter with Transmitter for use with the water reuse system
LAFB WWTP	4" PVC Turbine Water Meter with Transmitter for use with the water reuse system

J4.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in Table 6. New secondary meters shall be installed IAW Paragraph C.13, Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3 and J2.6 below.

TABLE 6
New Secondary Meters
Wastewater Collection System Luke AFB

Meter Location	Meter Description
None	

J4.6 Monthly Submittals

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

1. Invoice (IAW G.2). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

Name: 56CES/CEOE
Address: 13970 W. Lightning Street, Luke AFB, AZ 85309-1149
Phone number: 623-856-3781

2. Outage Report. The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to:

Name: 56CES/CEOE
Address: 13970 W. Lightning Street, Luke AFB, AZ 85309-1149
Phone number: 623-856-3781

3. Meter Reading Report. The monthly meter reading report shall show the current and previous month readings for all secondary meters. The Contractor's monthly meter

reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to:

Name: 56CES/CEOE

Address: 13970 W. Lightning Street, Luke AFB, AZ 85309-1149

Phone number: 623-856-3781

4. System Efficiency Report. If required by Paragraph C.3, the Contractor shall submit a system efficiency report in a format proposed by the 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: 56CES/CEOE

Address: 13970 W. Lightning Street, Luke AFB, AZ 85309-1149

Phone number: 623-856-3781

J4.7 Energy Saving Projects

IAW Paragraph C.3, Requirement, the following projects have been implemented by the Government for conservation purposes.

No ESPC, DSM, or other projects have been identified.

J4.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the LAFB boundaries.

J4.9 Off-Installation Sites

No other off-site areas are included in the sale of the LAFB Wastewater Collection, Treatment, and Reuse Systems.

J4.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, Table 7 provides a listing of activities required upon transfer.

TABLE 7
Service Connections and Disconnections
Wastewater Collection System Luke AFB

Location	Description
LAFB WWTP	NDPES 0110221 Permit transfer to new Owner.
LAFB WWTP	APP P100563 Permit transfer to new Owner.
LAFB WWTP	RWP R100563 Permit transfer to new Owner.

J4.11 Government Recognized System Deficiencies

Table 8 provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the LAFB systems. If the utility system is sold, the Government will not accomplish these planned improvements. The 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 8
System Deficiencies
Wastewater Collection System Luke AFB

Project Location	Project Description
None	