

ATTACHMENT J4

MacDill AFB Wastewater System

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J4 MacDill AFB Wastewater System

J4.1 MacDill AFB Overview

MacDill Air Force Base is located approximately eight miles south of downtown Tampa on the tip of the Interbay Peninsula in Hillsborough County, Florida. The base is surrounded by Tampa Bay on the south and west; by Hillsborough Bay on the east, and by the city of Tampa on the north. The base covers about 5,630 acres of land and has an approximate population of 5,322 active duty and 1,077 civilian personnel.

MacDill is home for the 6th Air Mobility Wing (6th AMW). The 6th AMW is the host unit at MacDill AFB and supports several organizations including the United States Special Operations Command (USSOCOM) and the United States Central Command (USCENTCOM) along with 14 additional tenant organizations.

Based on present real estate records, MacDill AFB provides operations and maintenance support for approximately 624 separate facilities. This includes approximately 67 administration facilities; 16 dormitories (10 for Unaccompanied Enlisted Personnel, 2 for Visiting Airmen Quarters, and 4 for Visiting Officer Quarters); 3 Temporary Lodging Facilities; and 140 Military Family Housing Buildings (623 Individual Family Units). The remaining facilities are considered commercial or industrial use facilities and range from small shop spaces to large maintenance hangars.

J4.2 Wastewater System Description

J4.2.1 Wastewater System Fixed Equipment Inventory

The MacDill AFB wastewater system consists of all appurtenances physically connected to the collection system from the point of demarcation defined by the Right of Way. 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 Contractor with a general understanding of the size and configuration of the 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.

Items specifically excluded from the wastewater system privatization are:

- Grease Traps
- Oil/Water Separators
- Septic Systems

J4.2.1.1 Description

MacDill AFB has a sewage collection and treatment system that serves most areas of the base. Local septic tanks and drainage fields and other on-site systems such as mound systems handle some of the smaller, more remote areas. By far, the majority of the sewage is taken by gravity sewer lines, pump stations and force mains to a central treatment facility. The wastewater treatment plant (WWTP) has a permitted capacity of approximately 1.2 million gallons per day (mgd). The WWTP discharges to a reclaimed holding pond and golf course holding pond then to irrigation on two base golf courses and spray irrigation fields.

The main WWTP was originally constructed in 1952 as a primary treatment plant that discharged to Hillsborough Bay. The facility has been upgraded several times over the years. Secondary treatment was added in 1969 with the construction of mechanical aeration basins. The base began land application of treated effluent to restricted access sprayfields in 1976. In 1984 sand filtration was added for better suspended solids removal and an effluent reuse system was constructed for golf course irrigation. In 1994 flow equalization and chlorine contact tanks were added. In 1999, new sand filters were constructed. In 2001, two new secondary clarifiers were added and the old clarifiers were converted into equalization basins. A construction contract is currently underway to replace the bar screen and grit removal equipment. Design is underway for a new wastewater treatment plant building, including a laboratory and office area. This project is not yet funded. Discharging to Hillsborough Bay has ceased entirely.

Domestic sewage is collected throughout MacDill AFB through underground pipelines, ranging in size from 4 inches, for house or building connections, to 24 inches for the main sewer connections. The depth of pipe burial ranges from three to nineteen feet with an average depth of ten feet. Most of the system is 40 years old or more. Original pipe materials of construction included vitrified clay. Later expansions used cast iron and asbestos cement. No marker tape or tracer wire has been used in the system. Overall, there is an estimated 372,000 linear feet of sewer pipe and force mains and 390 manholes. There are approximately 61 pump stations on the base. A few of the pump stations serve septic drainfields, while the majority connects to the sewage collection system. The ages of the pump stations and force mains range from 20 years to less than 1 year. All of the pump stations are the submersible type. A construction project is underway to replace five pump stations and rehabilitate 14 pump stations.

The WWTP is conventional activated sludge system with the following unit processes: mechanical bar screen, grit removal, a flow equalization basin, pump station, fine-bubble aeration basins, clarifiers, sand filters, chlorine contact basin, and effluent pumping. Under normal operations treated effluent is sent to the north pond to supply two golf courses for irrigation. The golf courses include about 320 acres of land on the base. Reclaimed water that cannot be sent to the golf courses during wet weather or cannot be used at the golf courses due to effluent quality is sent to a 20 million-gallon effluent holding pond constructed in 1999, or to sprayfields that consist of about 10 acres of land on the base. The wastewater sludge is aerobically digested and hauled off-site by a contractor for disposal. A diesel generator provides emergency back-up power. The plant has six pump stations that telemeter status information to the central personal computer located in the control

room/laboratory. The pumps can be controlled from the plant. Influent flow is approximately 0.6 mgd. This is about 25% of the total plant capacity.

In the past, during wet weather, excessive flows cause bypassing of the filters and overloading of the restricted access sprayfields. This resulted in ponding and surface discharges at the sprayfields. During dry weather, the MacDill WWTP has no problem meeting permit conditions. An outside contractor performs compliance testing. Operators perform operational testing on site. Sludge generated at MacDill is categorized as Class B. Land application by a contract hauler is practiced. Sludge characteristics meet current and proposed permit conditions.

J4.2.1.2 Inventory

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

TABLE 1
Fixed Inventory
Wastewater Utility System MacDill AFB

Component Item	Size (Inches)	Material Type	Quantity	Unit of Measure	Approximate Year of Installation
GC Irrigation Piping	2	PVC	16,065	LF	1984
	3	PVC	84,965	LF	1984
	4	PVC	59,310	LF	1984
	6	PVC	14,000	LF	1984
	8	PVC	6,900	LF	1984
Control Tube	0.5	PVC	624,000	LF	1984
Piping	4	VC	60,060	LF	1941
Housing		VC	17,940	LF	1941
		CI (FM)	3,850	LF	1941
Housing		PVC	1,350	LF	1978
		CI	2,400	LF	1941
Piping	6	CI (FM)	4,100	LF	1941
Housing		CI	2,200	LF	1941
		CI	4,700	LF	1941
		PVC	200	LF	2001
Piping	8	CI (FM)	1,600	LF	1941
		CI	38,860	LF	1941
Housing		CI	7,140	LF	1941
Housing		PVC	1,200	LF	1978
		PVC	400	LF	2001
Piping	10	CI	18,000	LF	1941
		ASP	302	LF	1941

Component Item	Size (Inches)	Material Type	Quantity	Unit of Measure	Approximate Year of Installation
Piping	15	CI	9,065	LF	1941
		CI	3,885	LF	1941
		ASP	7,484	LF	1941
Piping	16	CI	3,400	LF	1941
Piping	18	CI	9,500	LF	1941
		ASP	2,797	LF	1941
Piping	24	CI	1,250	LF	1941
Sewage Treatment Plant	1.2 MGD		1	EA	1953
Lift Stations	.5 HP to 3 HP	Housing	24	EA	1979
			3		1979
			3		1999
		Housing	1		1999
			2		2001
		Housing	1		2001
			5		2003
	7.5 HP to 10 HP		16	EA	1999
			1		2002
	11 HP to 15 HP		5	EA	1979
Monitoring Wells			9	EA	1984
Lift Station Valve Vaults	Housing	Concrete	38	EA	1941
			11		1941
			2		2001
			1		2002
		Fiberglass	3	EA	1977
			1		2001
			4		2003
	Housing		1		2003
Emergency Generators	30 KW		1	EA	1993
	30 KW		1	EA	2000
	60 KW		1	EA	1993
	180 KW		1	EA	1993
	400 KW		1	EA	1999

Component Item	Size (Inches)	Material Type	Quantity	Unit of Measure	Approximate Year of Installation
Manholes	4' Dia x 8'	Brick	304	EA	1940
Housing			86	EA	1940
	4' Dia x 8'	Concrete	9	EA	2001
Electric Power Wire	#10	Cu	52,000	LF	1965
Irrigation Pump	5 hp		1	EA	1965
	25 hp		2	EA	1965
	75 hp		2	EA	2000
Irrigation Heads			1,071	EA	1984
Swing Joints			1,071	EA	1984
Irrigation Zone Controllers			10	EA	1984
Electro Mechanical Controllers			23	EA	1984
Central System Control			1	EA	1984
Master Control			1	EA	1984
Legend: CI - Cast Iron HP - horsepower Man holes are 8' deep on average VC - Vitrified Clay KW - kilowatt EA - Each dia - diameter FM - Force Main ASP - asbestos cement pipe LF - Linear Feet PVC - Polyvinyl Chloride MGD - Million Gallons Daily					

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 Utility System MacDill AFB

Qty	Item	Make/Model	Description	Remarks
None				

TABLE 3
 Specialized Vehicles and Tools
 Wastewater Utility System MacDill AFB

Description	Quantity	Location	Maker
None			

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 Utility System MacDill AFB

Qty	Item	Description	Remarks
1	Basis of Design Report, Repairs to Base Sewers at MacDill AFB, Florida, May 1998.		
1	Wet Weather Storage Pond Mounding Analysis and Engineering report, MacDill Air Force Base, Tampa, Florida, Inc., November 1998		
1	Final Report, Master Plan of Basewide Sewer System at MacDill Air Force Base, Florida, September 1997. (referred to as Master Plan Study)		
1	Operation and Maintenance Manual Wastewater Treatment Plant Environmental Study, MacDill Air Force Base, Florida, August 1995		
1	MacDill Air Force Base Commander's Summary		
1	MacDill AFB WWTP/Compliance Agreement #98-17596 DW, January 19, 1999.		
1	NPDES Permit No. DO29-222584. Permit No FLA012124-001-DW1P		
1	MacDill AFB Sanitary Sewerage System drawings, G-2 Sheets 1 through 4, Dated April 1997	Wastewater System Record Drawings	Must be field verified

J4.3 Specific Service Requirements

The service requirements for the MacDill AFB wastewater system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the MacDill 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.

The contractor shall obtain its own contracts for routine compliance sampling and laboratory testing as well as removal and land application of biosolids generated from the Wastewater Treatment Plant (WWTP) in accordance with WWTP Operating permit # FLA012124-001-DW1P. After the transfer, MacDill AFB will terminate its current contracts for this work.

The Waste Water Treatment Plant (WWTP) at MacDill AFB is operated pursuant to permit number FLA012124-001-DW1P, issued by the Hillsborough County Environmental Protection Commission (EPCHC) in accordance with Rule 62-620 Florida Administrative Code (F.A.C.). Part 340 of the Rule provides for the transfer of the permit. The EPCHC has informed MacDill AFB that processing a request to transfer the permit to a new operator requires 30 days. Therefore, in order for operation of the WWTP to transfer, the successful contractor is required to provide a fully executed copy of Form 62-620.910(11) F.A.C. to MacDill AFB no later than 45 days prior to sale of the WWTP. The successful purchaser is required to have a valid permit on the date of transfer and will be responsible for regulatory compliance upon transfer of the WWTP.

For areas where piping is installed under hard surfaces, esp. parking lots and roads, we use, where feasible, directional boring or jack/bore drilling techniques. This may not be feasible for gravity sewer mains or in housing areas that have closely spaced laterals. Under soft surfaces (green spaces), cut and cover may be used. However, in areas that have extensive landscaping, it may be more economical to use directional boring, to prevent replacing expensive shrubbery or trees.

LOCAL SECURITY PROCEDURES

Due to heightened security concerns on military installations, effective immediately, all Contractor and subcontractor personnel who must enter onto MacDill AFB to perform this contract must undergo a background check. Background checks will be conducted using the following information: the name, driver's license numbers, and/or social security number and date of birth of the person that will be entering the installation. These measures will continue until you are notified otherwise. If any of your employees or the employees of any of your subcontractors do not consent to a background check, such individuals will be prevented from entering the installation until you are otherwise notified. **Any derogatory information resulting from a background check or which otherwise comes into the possession of the contracting officer may also result in such individuals being prevented from entering the installation for purposes of performing work at any time on the subject contract. However, nothing in this clause shall excuse the Contractor from proceeding with the contract as required.**

Contractors are further reminded to ensure their employees and those of their subcontracts have the proper credentials allowing them to work in the United States. Persons later found to be undocumented or illegal aliens will be remanded to the proper authorities. The contractor shall not be entitled to any compensation for delays or expenses associated with complying with the provisions of this clause.

Material Deliveries. All contractor (including subcontractor) deliveries shall be made by accessing the Port Tampa Gate. In order to gain entry onto MacDill AFB, the driver must have a valid driver's license rated for the type of vehicle being operated, proof of insurance, social security number, the name and contact (telephone) number of someone receiving the delivery. In some cases, an escort may be required to assist drivers in completing the delivery. Contractors may be required to provide the escort and must be done so without cost, liability, or time extension to the contract. Drivers are required to exit the installation immediately after completing the delivery.

In accordance with Paragraph C.7, *Service Interruption/Contingency Plan*, the Contractor shall provide support during increased Force Protection Conditions (FPCONs) as outlined in MacDill AFB FPCON Checklist's. The MacDill AFB FPCON Checklist will be available in the technical library.

The contractor shall maintain existing security mechanisms (i.e. locks, fences) to protect the utility systems, such as pumping stations, critical nodes and valve pits. The mechanisms should ensure controls to prevent tampering or sabotage.

In accordance with Paragraph C.7, *Service Interruption/Contingency Plan*, the Contractor shall notify the following agencies for Service Interruption/Contingency Response Plan: 6th Airlift Wing Command Post (6 AW/CP; the 6th Civil Engineer Squadron Fire Department (6 CES/CEF; and the 6th Security Forces Squadron/Security Forces Control Center, (6SFS/SFCC).

J4.3.1 Use of Treated Effluent

The Contractor shall continue to provide treated effluent to the base Golf Course holding ponds or applied to sprayfields in accordance with current operations plans and permits. Any proposed changes to present conditions shall include costs for providing irrigation to the MacDill AFB Golf Course. The Contractor shall not sell effluent to non-government end users without prior approval of the CO.

J4.4 Current Service Arrangement

MacDill Air Force Base owns, operates, and maintains the sewage collection and treatment system that serves the base. The average daily flow for the MacDill Air Force Base wastewater treatment plant is in the range of 0.50 to 0.60 mgd with maximum daily flows of up to 2.0 mgd during wet weather. The high month discharge in FY 02 was May 2002 with 29.8 mg and the low month was July 2002 with 17.7 mg. The treatment plant permitted capacity is 1.2 mgd.

J4.5 Secondary Metering

There are currently no requirements for secondary metering of wastewater included in this contract. Any future wastewater secondary metering requested by the Government will be IAW Paragraph C.3, Future Secondary Meters.

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:	Utility COTR	Utility Contract Administrator
Address:	6 CES/CEQ 7621 Hillsborough Loop Drive MacDill AFB, FL 33621-5207	6 CONS/LGCM 2606 Brown Pelican Avenue MacDill AFB, FL 33621-5000
Phone number:	813-828-4554	813-828-3238

2. Outage Report. The Contractor’s monthly outage report (blockage and overflow information) 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:	Utility COTR	Utility Contract Administrator
Address:	6 CES/CEQ 7621 Hillsborough Loop Drive MacDill AFB, FL 33621-5207	6 CONS/LGCM 2606 Brown Pelican Avenue MacDill AFB, FL 33621-5000
Phone number:	813-828-4554	813-828-3238

3. Infiltration and Inflow Report. If required by Paragraph C.3, the Contractor shall submit an Infiltration and Inflow 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:	Utility COTR	Utility Contract Administrator
Address:	6 CES/CEQ 7621 Hillsborough Loop Drive MacDill AFB, FL 33621-5207	6 CONS/LGCM 2606 Brown Pelican Avenue MacDill AFB, FL 33621-5000
Phone number:	813-828-4554	813-828-3238

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

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

AMC Sewer In flow and Infiltration Analysis and Rehabilitation Plan Development

This project will review existing I&I data, conduct I&I studies, and develop a rehabilitation plan. A review of previous I&I investigations, new non-compliance documentation, and interviews of knowledgeable base personnel will be performed to familiarize those

completing the project with the operation and condition of the sewer system. Appropriate I&I studies will be conducted to quantify and locate I&I problems in main and lateral lines, manholes, and lift stations. Studies will use a combination of smoke testing, dye testing, hydraulic cleaning, camera inspection, and any other techniques necessary and appropriate for evaluating I&I sewer systems. A command-wide rehabilitation plan will be developed for correcting I&I problems identified.

J4.8 Service Area

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

J4.9 Off-Installation Sites

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

J4.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 5** provides a listing of service connections and disconnections required upon transfer.

TABLE 5
Service Connections and Disconnections
Wastewater Utility System MacDill AFB

Location	Description
None	

J4.11 Government Recognized System Deficiencies

Table 6 provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the MacDill AFB wastewater system. 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 6
System Deficiencies
Wastewater Utility System MacDill AFB

Project No.	Project Title, Location, and Description
NVZR 03-0755	Environmental Equipment Enclosure - Project will design and construct a new equipment enclosure for the WWTP. The

Project No.	Project Title, Location, and Description
	existing enclosure was built when the WWTP provided only primary wastewater treatment (early 50's). Since that time, the WWTP was modified several times and now provides state-of-the-art tertiary wastewater treatment. Although the WWTP treatment components were upgraded over the past two or three years, the equipment enclosure was never modified. The new equipment enclosure will allow the WWTP to meet regulatory reliability requirements for the WWTP system control, computer monitoring and telemetry, metering instrumentation, alarms, recording instruments, and laboratory. The new equipment enclosure also upgrades and replaces the existing substandard electrical service.
NVZR9500822	Repair Sanitary Sewer System, Phase 2
NVZR010044	Cross Connection Inspection
NVZR030027	Repair MFH Sewer Lines (Staff Circle)
NVZR040015	Repair MFH Sewer Lines (McClelland Avenue)
NVZR9500823	Repair Sanitary Sewer System, Phase 3
NVZR9500824	Repair Sanitary Sewer System, Phase 4
NVZR9500825	Repair Sanitary Sewer System, Phase 5
NVZR030125	Repair WWTP Effluent Discharge
NVZR990777	Upgrade Lift Stations