Attachment J03

Fort Eustis Wastewater System

Table of Contents

J03.1 Fort Eustis Overview 1
J03.2 Wastewater System Description 1
J03.3 Current Service Arrangement 3
J03.4 Secondary Metering 3
J03.5 Submittals 4
J03.6 Infiltration and Inflow (I&I) Projects and System Monitoring 4
J03.7 Service Area 5
J03.8 Off-Installation Sites 5
J03.9 Specific Transition Requirements 6
J03.10 Wastewater System Points of Demarcation 6
J03.11 Unique Points of Demarcation 7
J03.12 Plants 8

List of Tables

1. Fixed Inventory 2
2. Spare Parts 3
3. Specialized Equipment and Vehicles 3
4. Manuals, Drawings, and Records 3
6. I&I Projects 5
7. Service Connections and Disconnections 6
8. System Improvement Projects 6
9. Points of Demarcation 6
10. Unique Points of Demarcation 7
11. Plants 8

J03 Fort Eustis Wastewater System

J03.1 Fort Eustis Overview

Fort Eustis is a U.S. Army installation located in the western neck of a peninsula formed on the west by the James River and Hampton Roads and on the east by the York River and the Chesapeake Bay. Named in honor of Brevet Brig. Gen. Abraham Eustis, a distinguished artillery officer who served from 1808 to 1843, Fort Eustis was established in 1918 as an artillery training area. It is currently home to the Army Transportation Center and School, the Army Aviation Logistics School, the 7th Transportation Group and other command activities. The Post trains thousands of officers and enlisted soldiers every year in aviation maintenance, harbor craft operations and maintenance and rail and line haul motor transport. The Post is also responsible for Fort Story, an over-the-shore training sub-installation near Virginia Beach, where Army personnel learn logistical operations.

J03.2 Wastewater System Description

The Fort Eustis Wastewater Collection System comprises all appurtenances physically connected to the system from the point in which the Government ownership currently starts to the point of demarcation defined by the real estate instruments. Generally, the point of demarcation will be the building footprint. The system includes, but is not limited to the manholes, lift stations, and the collection piping including service laterals. The following description and inventory is included to provide the Offeror with a general understanding of the size and configuration of the collection system. The inventory is assumed to be approximately 90 percent complete. The Offeror shall base the proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description. Under no circumstances shall the successful Contractor be entitled to any rate adjustments based on the accuracy of the following description and inventory.

J03.2.1 Wastewater System Fixed Equipment Inventory

Collection System

The existing sanitary collection system at Fort Eustis comprises approximately 45 miles of gravity sewers, including service connections, ranging in size from 3-inch to 30-inch and approximately 810 collection system manholes. The majority of the original collection system was installed during the 1940s and 1950s and the primary piping material is terra cotta. There are several sections of concrete pipe as well as sections that have been rehabilitated through use of trenchless technology. The Post has 20 sanitary sewage lift/pump stations that convey the wastewater to the gravity sewers and ultimately to an on-post pump station owned by Hampton Roads Sanitation District (HRSD). HRSD pumps the wastewater offsite to be treated at an HRSD wastewater treatment facility.

The collection system on the Post is divided, primarily, by Madison Avenue, Marshall Street, Washington Boulevard, and Taylor Avenue. The main trunk line follows these roadways to the HRSD owned pump station at the end of Taylor Avenue. The 20 wastewater lift/pump stations either discharge directly to the gravity trunk line or to gravity piping adjacent the trunk line.

The wastewater collection system consists of collection mains ranging in diameter from 6-inch to 30-inch. These estimates are reflected in inventory spreadsheets as actual linear footage for the various line sizes and do not reflect any quantities for building services.

Lift Stations

The Installation has 20 lift stations within the complete wastewater collection system. Sixteen lift stations of various sizes serve the main post. Most of the lift stations are housed in brick masonry buildings, approximately 16' x 16' and most are equipped with auxiliary power diesel generators for backup. The diesel generators are exercised once per week. Lift station 3512, pumping septic tank to drain field for an isolated group of buildings near the Countermeasures Test Facility, is not included in the inventory.

Table 1 provides a general listing of the major Wastewater system fixed assets for the Fort Eustis in this offering.

J03.2.1.2 Inventory

Wastewater system included in the purchase: The system will be sold in a "as is, where is" condition without any warranty, representation, or obligation on the part of Government to make any alterations, repairs, or improvements. Ancillary equipment attached to, and necessary for, operating the system, though not specifically mentioned herein, is considered part of the purchased utility**.**

A new oily wastewater pretreatment facility was installed in 1998. This facility treats the bilge water pumped from ships and other vessels at the Third Port and is operated on an "as-needed" basis. This industrial pretreatment facility is included as part of the wastewater collection system to be privatized. The Installation reserves the right to discharge oily waste into the pretreatment facility from sources other than the Third Port vessels. Details of the oily wastewater pretreatment facility will be available in the technical library.

TABLE 1
1. Fixed Inventory
Wastewater Collection System Fort Eustis

Item	Size	Quantity	Unit	Approximate Year of Construction
Pipe and Mains	Less than 4"	2,780	Linear Feet	Various
	4"	5,812	Linear Feet	Various
	6"	51,442	Linear Feet	Various
	8"	119,876	Linear Feet	Various
	10"	12,171	Linear Feet	Various
	12"	19,687	Linear Feet	Various
	15"	4,190	Linear Feet	Various
	18"	5,910	Linear Feet	Various
	20"	540	Linear Feet	Various
	24"	1,130	Linear Feet	Various
	30"	10,000	Linear Feet	Various
Total		233,538	Linear Feet	
Building Services		600	Each	Various
Manholes		810	Each	Various
Non-Typical Pipe System		500	Linear Feet	Various
Lift Stations		20	Each	Various
Wastewater Pretreatment System (for oily waste)		1	Each	1998

J03.2.2 Wastewater Collection System Non-Fixed Equipment and Specialized Tools Inventory

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 and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment and tools. The successful Contractor shall provide any and all equipment, vehicles, and tools, whether included in the purchase or not, to maintain a fully operating system under the terms of this contract.

TABLE 2
2. Spare Parts
Wastewater Collection System Fort Eustis

Qty	Item	Make/Model	Description	Remarks
Fort Eustis maintains an inventory of spare parts for the wastewater collection system. Contents of the inventory vary as items are used and/or purchased. Availability of this inventory to the new owner will be negotiated before or during the transition period.				

TABLE 3
3. Specialized Equipment and Vehicles
Wastewater Collection System Fort Eustis

Description	Quantity	Location	Maker
No specialized equipment or vehicles for maintenance of the Fort Eustis wastewater collection system will be transferred to the new owner of the system.			

J03.2.3 Wastewater System Manuals, Drawings, and Records Inventory

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

TABLE 4
4. Manuals, Drawings, and Records
Wastewater Collection System Fort Eustis

Qty	Item	Description	Remarks
Fort Eustis maintains a limited collection of technical manuals, drawings, and records on the installed components of the wastewater collection system. This information will be transferred to the new owner during the transition period. System maps will be available in the technical library.			

J03.3 Current Service Arrangement

The Fort Eustis wastewater collection system conveys wastewater to an on-post pump station owned by Hampton Roads Sanitation District (HRSD). HRSD pumps the wastewater offsite to be treated at an HRSD wastewater treatment facility.

J03.4 Secondary Metering

The Installation may require secondary meters for internal billings of their reimbursable customers, utility usage management, and energy conservation monitoring. The Contractor shall assume full ownership and responsibility for existing and future secondary meters IAW Paragraph C.3.

J03.4.1 Existing Secondary Meters

TABLE 5

5. Existing Secondary Meters
Wastewater Collection System Fort Eustis

Meter Location	Meter Description
There are no secondary meters in the Fort Eustis wastewater system that are maintained and read by Fort Eustis. If such meters are added in the future, information will be provided to the new owner of the Fort Eustis wastewater system for reading of the meters.	

J03.5 Submittals

In addition to the submittal requirements from Paragraph H.5, the Contractor shall provide the Government monthly submittals for:

1. Invoicing (IAW paragraph G.2) for the previous month's services. The Contractors invoice shall be prepared in a format proposed by the Contractor and accepted by the Contracting Officer.
2. Monthly Service Interruption Report for the previous month.
3. Meter Reading Report in support of internal billings, Wastewater usage management, and monitoring.
4. System Efficiency Report. If required by Paragraph C.3 the Contractors shall submit a system efficiency report in a format proposed by the Contractor and accepted by the Contracting Officer.
5. System malfunctions, discharges, or overflows.
6. All reports required by HRSD.

J03.6 Infiltration and Inflow (I&I) Projects and System Monitoring

IAW paragraph C.3, Utility Service Requirement, the following projects have been implemented by the Government for system control and I&I reduction purposes:

A Sanitary Sewer Evaluation Survey (SSES) was conducted at Fort Eustis. A computerized hydraulic evaluation was made of the entire sanitary sewer gravity collection system. The primary goal of the SSES was to determine the quantity of storm water and groundwater entering the wastewater collection system and to determine the locations where clean water was entering the system. To accurately depict the volume rate of inflow/infiltration and to identify sources, the following was accomplished:

1. Pipe flow monitoring
2. Rainfall gauging
3. Groundwater gauging
4. Physical inspection
5. Smoke testing
6. Night Flow isolations
7. Internal pipeline inspections

The project was conducted in two phases. First, the flow monitoring, rainfall gauging, and groundwater gauging were conducted. After review of the results of the first phase the physical inspections, smoke testing, night flow isolations, and internal pipeline inspections were conducted.

The lift stations located at Fort Eustis are connected to a SCADA system that was last upgraded in 1999. The base station for this system is located in Building 1406. The system polls the lift stations and provides alarms for parameters such as high water wet/dry well, generator fail, power fail, door open, pump run, and pump fail. Alarms are acknowledged at the base station and/or by digital pager. The system allows alarms to be acknowledged remotely through pin numbers. The flow meter from the HRSD station is also interfaced to provide remote flow information. The HRSD station has a high flow alarm interfaced in the Fort Eustis SCADA system as a means of notification. HRSD has that station connected to their telemetry system and the station is not polled by the Fort Eustis SCADA system.

Fort Eustis maintains and operates a Utility Monitoring and Control System (UMCS). The UMCS is used to monitor and control on-post utility systems. It is not currently connected to components in the sewage collection system. In the future, the UMCS may be used to monitor functions in the wastewater collection system. The Contractor will be required to cooperate with UMCS operation at no cost to the government by allowing connection to the utility components when required for support of UMCS monitoring process. Detailed information on the UMCS and its operation will be available in the technical library.

The pipe listed in the table below was installed or rehabilitated to reduce I&I.

TABLE 6
6. I&I Projects
Wastewater Collection System Fort Eustis

Year	Pipe Size	Length (LF)*	Work Type	Cost
FY97	24”	1,054	CIPP**	Total cost for 6 pipe sizes was $900K.
FY97	18”	237	F&F***	
FY97	12”	3,057	F&F	
FY97	10”	268	F&F	
FY97	8”	3,141	F&F	
FY97	6”	194	F&F	
FY99	30”	10,000	CIPP	$1,363K
FY00	12”	1,984	CIPP	Total cost for 5 pipe sizes was $876K
FY00	8”	2,668	CIPP	
FY00	6”	209	CIPP	
FY00	18”	297	CIPP	
FY00	8”	2,061	CIPP	
TOTAL	All sizes	25,170	All processes	$3,139K
* Estimated length in lineal feet.				
** Cured in Place Piping rehabilitation process				
*** Fold and Form piping rehabilitation process				

J03.7 Service Area

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

J03.8 Off-Installation Sites

There are no off-installation sites associated with this scope.

J03.9 Specific Transition Requirements

IAW Paragraph C.17, Transition Plan, **Table 6** lists service connections and disconnections required upon transfer, and **Table 7** lists the improvement projects required upon transfer of the Fort Eustis Wastewater system.

TABLE 7
7. Service Connections and Disconnections
Wastewater Collection System Fort Eustis

Location	Description
None Identified as of the beginning of FY01. A list of service connections and disconnections for the ten-year period from FY91 through FY00 is available in the technical library. Required service connections and disconnections will be provided to the Contractor as the requirements become known.	

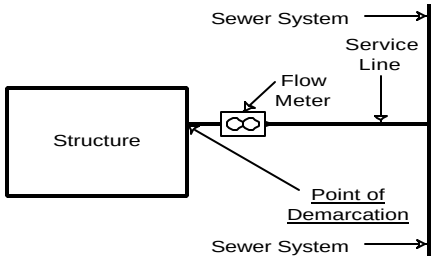
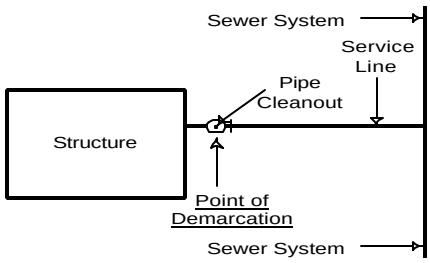
TABLE 8
8. System Improvement Projects
Wastewater Collection System Fort Eustis

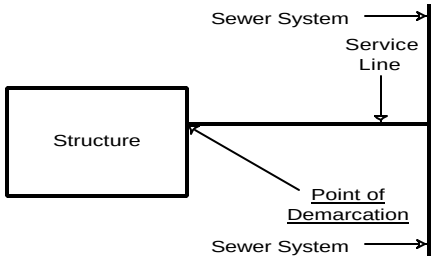
Project Location	Project Description
None Identified	

J03.10 Wastewater System Points of Demarcation

The point of demarcation is defined as the point on the wastewater collection pipe where ownership changes from the Grantee to the building owner. The table below identifies the general locations of these points with respect to the building served. During the operation and maintenance transition period, concurrence on specific demarcation points will be documented during the joint inventory of facilities.

TABLE 9
9. Points of Demarcation
Wastewater Collection System Fort Eustis

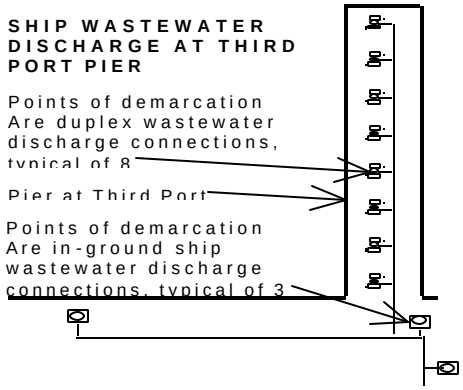
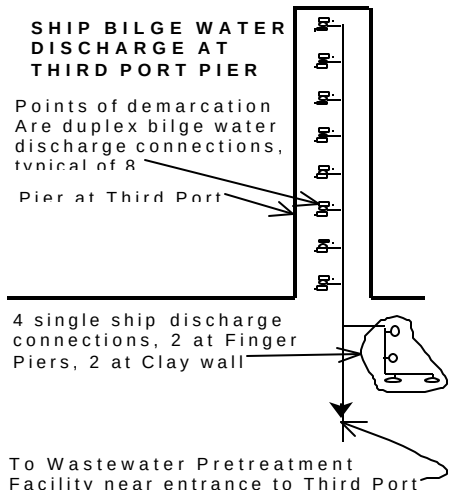
Point of Demarcation	Applicable Scenario	Sketch
Point where the service line enters the structure	Sewer system flow meter is located on the service line entering the structure.	
Point of demarcation is the cleanout device. if within 10' of the building perimeter	No flow meter exists and a sewer system cleanout is located within 10 feet of the building perimeter on the service line.	

Point of Demarcation	Applicable Scenario	Sketch
Point where the service line enters the structure *Note: A new cleanout device should be installed within 10' of building during any stoppage or maintenance action. This will then become the new point of demarcation.*	No flow meter or cleanout exists on the service line entering the structure.	

J03.11 Unique Points of Demarcation

The following table lists anomalous points of demarcation that do not fit any of the above categories.

TABLE 10
10. Unique Points of Demarcation
Wastewater Collection System Fort Eustis

Point of Demarcation	Applicable Scenario	Sketch
Points of demarcation are the ship connections.	SHIP WASTEWATER DISCHARGE AT THIRD PORT PIER	
Points of demarcation are the ship connections on Third Port pier.	SHIP BILGEWATER/OILY WASTE DISCHARGE AT THIRD PORT PIER Ships and other vessels discharge oily waste into piping to the wastewater pretreatment facility located near the entrance to Third Port.	

J03.12 Plants

TABLE 11
11. Plants
Wastewater Collection System Fort Eustis

Description	Facility Number	State Coordinates	Other Information
See note below.			

The only active wastewater treatment plant at Fort Eustis is the wastewater pretreatment plant at Third Port used for treating oily wastewater from vessels before discharge into the wastewater collection system.

No land is to be transferred with the Fort Eustis wastewater collection system.