

ATTACHMENT J3

Fort Hood Water Distribution System

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J3 Fort Hood Water Distribution System

J3.1 Fort Hood Overview

Fort Hood is located in central Texas, approximately 65 miles north of Austin and approximately 20 miles west of Interstate Highway 35 along U.S. Highway 190. The Post covers approximately 339 square miles, straddling Coryell and Bell counties and abutted to the east by the City of Killeen, Texas and to the west by the City of Copperas Cove, Texas.

Fort Hood consists of the five major areas: Main Cantonment area, West Fort Hood, North Fort Hood, maneuver and live-training areas (the Ranges), and the Belton Lake Outdoor Recreation Area (BLORA). The Main Cantonment area represents the original site for South Camp Hood. The site was originally selected in 1941 and construction started 1942. South Camp Hood was designated as Fort Hood in 1951.

Construction of North Camp Hood, which is now known as North Fort Hood, started shortly thereafter. North Fort Hood is located approximately 17 miles to the north of the Main Cantonment area. Approximately 244 square miles of land between North Fort Hood and the Main Cantonment area is used for maneuvers and live fire exercises. Fort Hood has two active airfields: Hood Army Airfield and Robert Gray Airfield. Hood Army Airfield is located on the eastern edge of the Cantonment area and Robert Gray Airfield is located on West Fort Hood. BLORA is located on the eastern-most portion of Fort Hood.

Fort Hood's primary mission is to prepare both active and reserve military components for deployment and execution of military and domestic missions worldwide. The Post is distinctive in that it is the only military installation in the United States capable of stationing and training two armored divisions. A major element of Fort Hood's mission is derived from its extensive training areas. The maneuver and training areas within the Ranges are used to simulate battlefield conditions and support infantry, armor, artillery, and air training operations.

Fort Hood has privatized the military family housing villages on the Post. The exception is Liberty Village (300), which is leased housing.

The Villages of Montague, Comanche I, Comanche II, Comanche III, Kouma, Pershing, Venable, McNair, Chaffee, Wainwright, Patton, and Walker were privatized on 1 October 2001 and were transferred to a limited partnership, Fort Hood Family Housing (FHFH). FHFH is renovating existing housing units, constructing 974 new housing units, and demolishing approximately 368 existing housing units over the first 5 years of the 50-year base contract period.

As of 1 December 2003, new construction has been completed on Comanche II Infill (36 units); Kouma 2a, 2b, 2c (224 units); Montague 3 (146 units); and Comanche 3a Infill (80 units). Construction is ongoing in Comanche 4 (326 units). The approved final construction plans for Montague 4 (80 units) and Comanche 5 (16 units) are expected to be awarded before 31 January 2004.

Six units have been demolished and an additional 26 units will be demolished as a part of the Comanche 5 project. The 336 units in Walker Village are expected to be demolished in the 2005-2006 timeframe.

All Star Maintenance maintains the privatized housing for FHFH. Actus-Lend Lease is the design and construction contractor (new houses, renovations, and demolition) for FHFH. The FHFH Partnership (includes Army) owns and depreciates the supporting utility infrastructure that it installs. The Army agreed to operate and maintain this infrastructure. In order to comply with requirements of the FHFH Partnership after utility privatization, the Army has included in this solicitation's scope the requirement to operate and maintain this infrastructure that will continue to be owned by the FHFH Partnership, and shall be titled "Government Retained" property.

J3.2 Water Distribution System Description

J3.2.1 Water Distribution System Fixed Equipment Inventory

The Fort Hood potable water distribution system consists of the network and all associated appurtenances physically connected to the system as defined by the points of demarcation beginning at the connection to the supplier and ending at each end use facility. The system may include, but is not limited to, pipelines, valves, fire hydrants, storage facilities, pumps, and meters. The actual inventory of items sold will be conveyed to the Contractor using the Bill of Sale shown in Attachment J42 to the RFP 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 distribution system. The description and inventory were developed based on best available data.

The Offeror shall base its proposal on site inspections, information in the technical library, and other pertinent information, as well as the following description and inventory. If after award the Offeror identifies additional inventory not listed in section J3.2.1.3, the Offeror may submit to the Contracting Officer a request for an equitable adjustment. If the Offeror determines that the inventory listed in section J3.2.1.3 is overstated, the Offeror shall report the extent of the overstatement to the Contracting Officer, who will determine an equitable adjustment.

J3.2.1.1 System Description

The Fort Hood water distribution system is physically separated into three distribution systems. One system serves the Main Cantonment area and West Fort Hood, the second serves North Fort Hood, and the third serves BLORA.

The potable water distribution system at Fort Hood supplies water for residential, industrial, and fire fighting purposes. The system serves approximately 3,500 facilities on the Main Cantonment area, 100 facilities on West Fort Hood, 130 facilities on North Fort Hood, and 10 facilities at BLORA.

Fort Hood's water distribution system consists of water storage tanks, pump stations, distribution mains, valves, valve boxes, service lines, fire hydrants, and meters. Construction of the water distribution system infrastructure began in the early 1940s and

continues today as the installation grows. The steel water tanks are protected by impressed current cathodic protection systems and portions of the underground metallic pipe, fittings, and valves were installed with sacrificial anode cathodic protection.

Specifically excluded from the water distribution system privatization are:

- Non-potable systems.
- Deluge tanks and pump stations associated with fire protection systems.
- Irrigation systems.
- Backflow preventers.
- Pipelines owned by entities other than Ft. Hood.
- Mains, service laterals, and associated appurtenances in Liberty Village.
- Ownership of the mains, service laterals and appurtenances in housing areas defined as Comanche II Infill, Comanche 3a, Comanche 4, Comanche 5, Kouma 2 a&b, Kouma 2c, Montague 3, and Montague 4. The utility infrastructure in these housing areas is retained by the government and not included with the utility system being conveyed.

J3.2.1.1.1 Main Cantonment Area and West Fort Hood

Belton County Water Control and Improvement District No. 1 (BCWCID) supplies water to the Main Cantonment and West Fort Hood from four separate transmission lines. A 48-inch transmission main supplies water to three BCWCID ground storage reservoirs located on the installation near the intersection of Highways 190 and 195. The BCWCID supplies water via a 30-inch line to Fort Hood from these tanks, through a meter, to three below ground storage tanks and the main pump station, Bldg. 6898, owned by Fort Hood. Fort Hood's main pump station (Bldg. 6898) draws water from the Fort Hood below ground storage tanks or direct from the 30-inch line and pressurizes the distribution system for the Main Cantonment and West Fort Hood. Ownership of the main 30-inch supply line changes from BCWCID to Fort Hood at the downstream side of the BCWCID meters located in a meter house between the Fort Hood and BCWCID ground storage tanks.

In the vicinity of Bldg. 6898, two additional lines can be used to supply water to Fort Hood. BCWCID 24-inch and 18-inch supply lines connected to transmission lines for the City of Killeen join into a 30-inch line connected to the eastern-most below-grade storage tank owned by Fort Hood, Bldg. 6895, adjacent to pump station 6898. The point of demarcation is at the flanged fitting where the 30-inch connects to the tank (Bldg. 6895). The 18- and 24-inch lines are currently valved off and used only as an emergency water supply source.

BCWCID also supplies potable water to Fort Hood at three locations along the BCWCID Copperas Cove transmission line. All three connections to the Copperas Cove transmission lines are for emergency purposes and are normally valved closed. A point of demarcation is found at the Bldg. 69010 pump and meter station. This station serves as an interconnect between Fort Hood's water distribution system and the Copperas Cove transmission main line that runs parallel to and north of Highway 190. This connection facilitates metered water sharing between Fort Hood and BCWCID systems. The point of demarcation at this facility is the shutoff valve on the upstream side (BCWCID side) of Bldg. 69010.

The second point of demarcation with the BCWCID Copperas Cove transmission line is located approximately ½ mile east of Clarke Road, south of Hwy 190. A 6-inch tap on the Copperas Cove line supplies metered water to the distribution system. The point of demarcation on the 6-inch line is the downstream side of the BCWCID meter in the meter vault.

The third point of demarcation with the BCWCID Copperas Cove transmission line is located approximately ¼ mile west of Clarke Road, north of Hwy. 190. A 10-inch tap on the Copperas Cove line supplies metered water to the water distribution system. The point of demarcation on the 10-inch line is the downstream side of the BCWCID meter in the meter vault.

J3.2.1.1.2 North Fort Hood

The City of Gatesville supplies water to North Fort Hood through a 16-inch transmission main that bisects North Fort Hood along Texas Hwy 36. At North Fort Hood, water is stored in a 1.5 million-gallon storage tank (Facility 57130). The storage tank is located just to the south of the bottom border of North Fort Hood Grid NFH28 along a dirt road that runs approximately one mile southwest starting at Texas Highway 36. The point of demarcation is the downstream side of the City of Gatesville water meter located approximately 50 feet west of Hwy. 36.

J3.2.1.1.3 BLORA

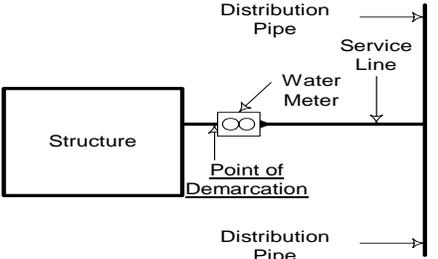
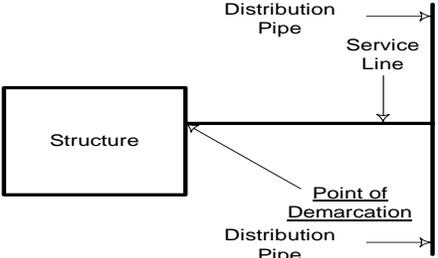
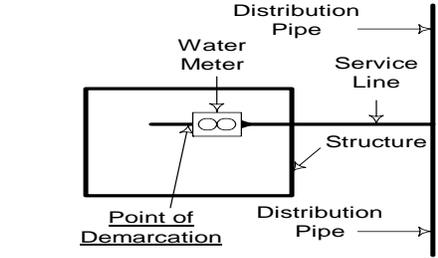
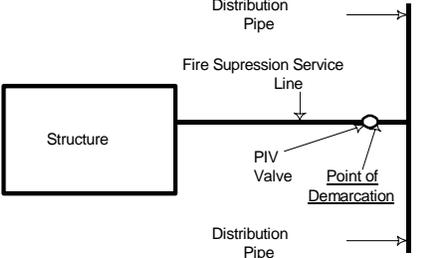
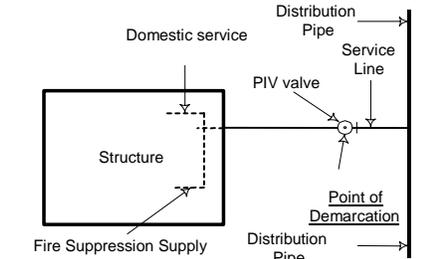
BCWCID supplies water to BLORA via a 6-inch tap off the BCWCID 48-inch transmission main that feeds the Main Cantonment Area approximately 10 miles to the east of the main cantonment. The downstream side of the BCWCID water meter on the 6-inch line marks the point of demarcation between BCWCID and Fort Hood ownership for the BLORA system.

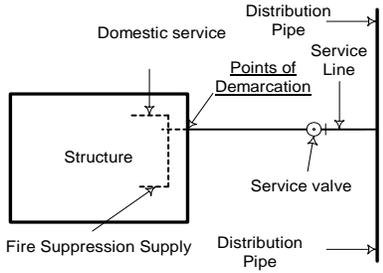
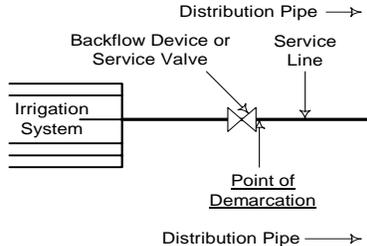
J3.2.1.2 Points of Demarcation

The Fort Hood potable water distribution system being studied consists of all components from the point where the Post takes ownership from the supplier to the point where water is supplied to end-users. The beginning point of demarcation was described above in sections J3.2.1.1.1 through J3.2.1.1.3. The point of demarcation for each end user is defined as the point or component on the distribution system where ownership changes from the utility owner to the building owner. In most cases the point of demarcation is the first upstream component (i.e., meter, valve, regulator, etc.) of the system located outside of the facility footprint. However, in situations where the facility water meter is located within the facility, the point of demarcation will be inside the facility and the Contractor will be required to coordinate his work with the facility. The technical Library contains a list of facilities where the point of demarcation is located within the facility.

Table 1 identifies the type of service and general location of the point of demarcation with respect to each building served by the distribution system.

TABLE 1
Water Distribution System Points of Demarcation
Water Distribution System, Fort Hood, Texas

Point of Demarcation	Applicable Scenario	Sketch
<p>Point of demarcation is the downstream side of the water meter or valve (closest apparatus to the exterior of the structure)</p>	<p>Non-residential service. Water meter or valve is located on the service line entering the structure within 25 feet of the exterior of the structure.</p>	
<p>Point where the service line enters the structure. <i>Note: Service valve may be installed within 25 feet of the structure at any time. Downstream side of the service valve will become the point of demarcation.</i></p>	<p>Non-residential service. No water meter, backflow prevention device, or valve exists on the service line entering the structure within 25 feet of the exterior of the structure.</p>	
<p>Point of demarcation is the downstream side of the Water Meter.</p>	<p>Non-residential service. Water meter is located on the service line entering the structure within the structure.</p>	
<p>Point of demarcation is the upstream side of the PIV valve.</p>	<p>Non-residential service. Fire suppression system on dedicated feed from water main.</p>	
<p>Point of demarcation is the upstream side of the PIV valve.</p>	<p>Non-residential service. Fire suppression system on the same feed as domestic service from water main and service line has PIV valve.</p>	

Point of Demarcation	Applicable Scenario	Sketch
<p>Point of demarcation is where the service enters the building.</p> <p><i>Note: Service valve may be installed within 25 feet of the structure at any time. Service valve will become the point of demarcation.</i></p>	<p>Non-residential service. Fire suppression system on the same feed as domestic service from water main and service line does not have PIV valve or service valve within 25 feet of structure.</p>	 <p>The diagram shows a rectangular structure on the left. A dashed line extends from the structure to a service valve on the right. A horizontal line represents the service line, with a 'Points of Demarcation' label pointing to the structure's boundary. Above the structure, a 'Domestic service' line enters. Below the structure, a 'Fire Suppression Supply' line enters. To the right of the structure, a 'Distribution Pipe' runs horizontally, with a 'Service Line' branching off to the service valve. Another 'Distribution Pipe' is shown below the service valve.</p>
<p>Point of demarcation is the downstream side of the closest shut-off valve upstream of the water meter.</p>	<p>Killeen Independent School District schools located on Post.</p>	<p>None</p>
<p>Point of demarcation is the upstream side of the backflow prevention device or service valve.</p>	<p>Irrigation system fed directly from distribution system or backflow prevention device exists on the service line entering the structure.</p>	 <p>The diagram shows an 'Irrigation System' on the left, represented by three horizontal lines. A horizontal line represents the 'Service Line' connecting it to the right. A 'Backflow Device or Service Valve' is located on the service line. A 'Point of Demarcation' label points to the structure's boundary. Above the structure, a 'Distribution Pipe' runs horizontally, with a 'Service Line' branching off to the backflow device. Another 'Distribution Pipe' is shown below the backflow device.</p>
<p>Point of demarcation is the downstream side of the shutoff valve closest to the main.</p>	<p>Residential service, McNair Village</p>	<p>None</p>
<p>Point of demarcation is the downstream side of the shutoff valve located outside the front or side of the structure.</p>	<p>Residential service, Montague Village</p>	<p>None</p>
<p>Point of demarcation is the downstream side of the shutoff valve located outside the front or side of the structure.</p>	<p>Residential service, Montague II Village</p>	<p>None</p>
<p>Point of demarcation is the downstream side of the shutoff valve located outside the front of the structure.</p>	<p>Residential service, Patton Park Village</p>	<p>None</p>
<p>Point of demarcation is the downstream side of the shutoff valve closest to the main.</p>	<p>Residential service, Wainwright Village</p>	<p>None</p>
<p>Point of demarcation is the downstream side of the shutoff valve located outside the front of the structure.</p>	<p>Residential service, Walker Village</p>	<p>None</p>
<p>Point of demarcation is the downstream side of the shutoff valve located outside the front of the structure.</p>	<p>Residential service, Pershing Park Village</p>	<p>None</p>

Point of Demarcation	Applicable Scenario	Sketch
<p>Point of demarcation is the downstream side of the shutoff valve closest to the main.</p> <p><i>Note: If valve does not exist on service, point of demarcation is the downstream side of the tee where the service connects to the main.</i></p>	Residential service, Venable Village	None
<p>Point of demarcation is the downstream side of the shutoff valve closest to the main.</p>	Residential service, Kouma I Village	None
<p>Point of demarcation is the downstream side of the shutoff valve closest to the main.</p>	Residential service, Chaffee Village	None
<p>Point of demarcation is the downstream sides of the tee where the service line splits to the separate units within the structure.</p> <p><i>Note: FHFH Partnership shall own the tee.</i></p>	Residential service, Comanche I Village	None
<p>Point of demarcation is 10 feet downstream from the street curb and up to the last tee on the cul-de-sac.</p> <p><i>Note: FHFH Partnership shall own the tee.</i></p>	Residential service, Comanche II Village. Shut off valve is located within the structure	None
<p>Point of demarcation is 10 feet downstream from the street curb and up to the last tee on the cul-de-sac.</p> <p><i>Note: FHFH Partnership shall own the tee.</i></p>	Residential service, Comanche III Village. Shut off valve is located within the structure	None
<p>Point of demarcation is the downstream side of the area water meter on the line serving the housing village.</p>	Residential service, Liberty Village	None
<p>Point of demarcation is the downstream side of the 8" valve at the corner of Washington Street and Johnson Street.</p> <p><i>Note: This un-metered service to Liberty Village is a back-up water source for emergencies and the valve is normally</i></p>	Residential service, Liberty Village	None

Point of Demarcation	Applicable Scenario	Sketch
<i>closed.</i>		
<p>Point of demarcation for utility ownership is where FHFH installed infrastructure connects to the existing water distribution main.</p> <p><i>Note: Contractor shall provide utility service as defined by the point of demarcation for residential housing installed by FHFH.</i></p>	<p>Residential housing installed by FHFH, Comanche II Infill, Comanche 3a, Comanche 4, Comanche 5, Kouma 2a&b, Kouma 2c, Montague 3, and Montague 4.</p>	<p>See Attachment J for general representations of points of demarcation separating FHFH installed infrastructure and existing water distribution main.</p>
<p>Point of demarcation for utility service is the upstream side of the shutoff valve closest to the structure.</p> <p><i>Note: Point of demarcation for residential service is complimentary to the point of demarcation established by the FHFH initiative. All components of the water distribution system not included as a part of the residence are included with water distribution system.</i></p>	<p>Residential housing installed by FHFH, Comanche II Infill, Comanche 3a, Comanche 4, Comanche 5, Kouma 2a&b, Kouma 2c, Montague 3, and Montague 4.</p>	<p>None</p>
<p>Point of demarcation is where the telephone wires attach to the terminals of the AMR system.</p>	<p>AMR system</p>	<p>None</p>

J3.2.1.2 Condition Assessment

Several components in the Fort Hood water distribution piping have either exceeded or are approaching the end of their useful lives. These include:

- Cast iron and concrete pipe installed in the 1940s and 1950s.
- Hydrants and valves installed in the 1940s, 1950s, and 1960s.

Fort Hood has several pump stations that were installed prior to 1980. Although the buildings are serviceable, the pumps and controls have either exceeded their design life or are approaching the end of their useful life.

The post-wide supervisory control and data acquisition (SCADA) system in place at Fort Hood has not been adequately maintained and most of the system is no longer functional and is not being used. Only the components of the SCADA that are connected to the water distribution system components are included with the system. The SCADA computer is not included with the system.

An independent SCADA system is in operation at the Main Pump Station (Facility 6898). The system controls operation of the five pumps at the pump station based on the water levels in Tank 4001. The computer to control this system is located in the Utility Shop (Facility 4210).

Booster pump station (Facility 93008) supplies water to West Fort Hood. The SCADA control of this pump station is not operational and the pump station is operated manually, based on the water levels in ground tanks 92082 and 92083. Manual operation of pump station 93008 results in overfilling of the tanks to maintain sufficient system pressure 24 hours per day.

The water storage tanks at Fort Hood have significant life remaining. A video camera survey conducted in 2003 found a few anodes that were disconnected but otherwise the tanks were in generally good condition. Repairs to Bldg. 6895 were completed in 2002. It has been reported that at least one steel tank has lead paint on the exterior.

The impressed current cathodic protection systems installed at the steel water storage tanks are generally in good condition. Monthly readings of the rectifiers were taken through February 2003. At that time, the readings were stopped due to staffing limitations. The extent to which buried metallic water distribution piping is protected by sacrificial anodes and the condition of the anodes is unknown.

The following recent reports provide greater detail regarding the condition of the Fort Hood Water Distribution System:

- "Water System Performance Evaluation", prepared by the U.S. Army Center for Health Promotion and Preventive Medicine, August 2000.
- "Engineering Assistance for Water/Wastewater Study: Water System Report Fort Hood, Texas", prepared by CH2M HILL, August 2003.

J3.2.1.3 Inventory

The potable water distribution piping system consists of approximately 300 miles of buried piping ranging in size from 0.5-inch service lines to 30-inch main lines. The average burial depth for buried infrastructure is 5 feet below ground surface. Approximately 20 to 25 percent of the distribution system is underneath parking lots, pavements, roadways, etc. There are 18 water storage tanks and 11 pump stations (five of which are directly associated with a water storage tank) to manage system pressure throughout the Post. Other components include fire hydrants, valves, and meters. Detailed inventories of the potable water distribution system piping, water storage tanks, pump stations, and other system components are shown in **Tables 2A, 2B, 2C, 2D, and 2E** respectively.

The approximate year of construction for distribution mains were based on the oldest age of facilities served on a particular distribution line or loop, and then adjusted based on a review of the drawings with utility shop personnel to account for system replacements and new construction. The approximate year of construction was then adjusted to a mid-decade convention e.g., components constructed in the 1970s were shown in the inventory as 1975. Components installed since 2000 were shown in the inventory as 2000.

The components of the water distribution system that are being retained by the government are shown in **Table 2F**. This infrastructure represents the mains, services and appurtenances in Comanche II Infill, Comanche 3a, Comanche 4, Comanche 5, Kouma 2 a&b, Kouma 2c, Montague 3, and Montague 4, and will not be conveyed with the utility system being privatized; however, the Contractor shall provide utility services for this infrastructure in accordance with Section C of the service contract and this utility specific J Attachment.

When not specifically identified by system drawings, the size and type of system components were estimated, generally based on the size of the piping the component was connected to. Additionally, when the year of construction was not known, it was estimated based on the age of the piping (for system valves and fire hydrants) or the age of the facility served (for isolation valves). Facility ages were based on the Fort Hood Real Property report. Meters were estimated based on meter lists. AMR meters are meters currently connected to and being read by the Fort Hood automated meter reading system. AMR meters include the meter and meter interface unit (MIU). Non-AMR meters are currently being read manually and are not connected to the AMR system. Other meters are meters that were previously read, based on the FY 1993 meter books, but are not being tracked currently as AMR or Non-AMR meters.

TABLE 2A
Fixed Inventory, Water Distribution Piping Summary
Water Distribution System, Fort Hood, Texas

Material	Size	Approximate Year of Construction (quantity is LF)							Total
		1945	1955	1965	1975	1985	1995	2000	
AC Pipe	4 in.	90	1,670	646	10,443	94			12,943
AC Pipe	6 in.	17,107	37,963	52,499	47,684	2,055	189		157,497
AC Pipe	8 in.	5,742	25,114	60,086	28,720	26,435			146,097
AC Pipe	10 in.		5,605	6,444	9,452				21,501
AC Pipe	12 in.	2,956	1,053	23,311	4,843				32,163
AC Pipe	14 in.		587						587
AC Pipe	16 in.	620	680	1,132	1,532				3,964
AC Pipe	18 in.			345					345
AC Pipe	20 in.		1,558	194	859				2,611
AC Pipe Total		26,515	74,230	144,657	103,533	28,584	189	-	377,708
C-900 Pipe	0.75 in.					308			308
C-900 Pipe	1 in.					1,167	754		1,921
C-900 Pipe	1.5 in.					69			69
C-900 Pipe	2 in.						2,503	223	2,726
C-900 Pipe	2.5 in.						90		90

UTILITIES PRIVATIZATION

Approximate Year of Construction (quantity is LF)									
Material	Size	1945	1955	1965	1975	1985	1995	2000	Total
C-900 Pipe	3 in.					8	1,125		1,133
C-900 Pipe	4 in.					1,335	762		2,097
C-900 Pipe	6 in.					7,417	28,201	5,706	41,324
C-900 Pipe	8 in.					6,465	39,324	5,042	50,831
C-900 Pipe	10 in.					16,458	16,647	6,598	39,703
C-900 Pipe	12 in.				6,589	11,108	18,378	1,741	37,816
C-900 Pipe	16 in.					24,655	1,228		25,883
C-900 Pipe	20 in.						877		877
C-900 Pipe Total		-	-	-	6,589	68,990	109,889	19,310	204,778
CI Pipe	0.5 in.				70				70
CI Pipe	1 in.	8,104	4,273	6,475	5,314	145	124		24,435
CI Pipe	1.25 in.	1,319	1,530		584				3,433
CI Pipe	1.5 in.	1,962	3,593	571	5,256				11,382
CI Pipe	2 in.	4,850	3,878	10,568	3,287	85	245	249	23,162
CI Pipe	2.5 in.	1,099	66	230	3,584				4,979
CI Pipe	3 in.	1,070	849	10,103	2,416				14,438
CI Pipe	4 in.	2,191	904	611	8,226		102		12,034
CI Pipe	6 in.	49,955	24,142	24,237	17,718	7,841	1,123	267	125,283
CI Pipe	8 in.	21,839	23,856	29,416	9,266	3,427	2,740		90,544
CI Pipe	10 in.	9,864	2,672	12,134	5,884			466	31,020
CI Pipe	12 in.	6,802		391	3,696	1,120			12,009
CI Pipe	14 in.		200						200
CI Pipe	16 in.	608			12,806				13,414
CI Pipe	18 in.	693				317			1,010
CI Pipe	20 in.			6,110	69				6,179
CI Pipe	24 in.					704			704
CI Pipe	30 in.					922			922
CI Pipe Total		110,356	65,963	100,846	78,176	14,561	4,334	982	375,218
Concrete Pipe	16 in.		7,276						7,276
Concrete Pipe	20 in.		2,538		19	9,194			11,751

UTILITIES PRIVATIZATION

Approximate Year of Construction (quantity is LF)									
Material	Size	1945	1955	1965	1975	1985	1995	2000	Total
Concrete Pipe	24 in.					8,549			8,549
Concrete Pipe Total		-	9,814	-	19	17,743	-	-	27,576
Cu Pipe	0.75 in.			136					136
Cu Pipe	1 in.	5,306	2,400	4,185					11,891
Cu Pipe	1.25 in.	511	158	1,076					1,745
Cu Pipe	1.5 in.	955	342	1,705					3,002
Cu Pipe Total		6,772	2,900	7,102	-	-	-	-	16,774
Galv Pipe	1 in.				3,539				3,539
Galv Pipe	2 in.					144			144
Galv Pipe Total		-	-	-	3,539	144	-	-	3,683
PE Pipe	1 in.							175	175
PE Pipe	1.5 in.							256	256
PE Pipe	2 in.					362	2,208	13,605	16,175
PE Pipe Total		-	-	-	-	362	2,208	14,036	16,606
PVC Pipe	0.375 in.				231				231
PVC Pipe	0.5 in.						23		23
PVC Pipe	0.75 in.					556	133		689
PVC Pipe	1 in.			1,320	5,464	13,862	3,777	1,849	26,272
PVC Pipe	1.25 in.				6,741	1,578	415		8,734
PVC Pipe	1.5 in.				1,670	5,080	1,660	1,309	9,719
PVC Pipe	1.75 in.						8		8
PVC Pipe	2 in.			534	4,983	33,930	16,061	7,574	63,082
PVC Pipe	2.5 in.				827	3,115	809		4,751
PVC Pipe	3 in.			326	476	2,720	2,987	202	6,711
PVC Pipe	4 in.				2,884	11,662	5,035	103	19,684
PVC Pipe	6 in.				2,340	54,880	25,267	3,732	86,219
PVC Pipe	8 in.				2,419	55,113	42,511	3,121	103,164

Approximate Year of Construction (quantity is LF)									
Material	Size	1945	1955	1965	1975	1985	1995	2000	Total
PVC Pipe	10 in.				16	5,257	10,256	4,243	19,772
PVC Pipe	12 in.				3,067	2,415	5,193		10,675
PVC Pipe	14 in.					251			251
PVC Pipe	16 in.				20,125	7,186			27,311
PVC Pipe	18 in.					1,052	2,584		3,636
PVC Pipe	20 in.					1,304			1,304
PVC Pipe	24 in.					26,843		5,463	32,306
PVC Pipe Total		-	-	2,180	51,243	226,804	116,719	27,596	424,542
Steel Pipe	2 in.	1,744	1,333	5,672					8,749
Steel Pipe	2.5 in.	377	2,250	1,286			192		4,105
Steel Pipe	3 in.	624		1,489	1,353				3,466
Steel Pipe Total		2,745	3,583	8,447	1,353	-	192	-	16,320
Grand Total Pipe		146,388	156,490	263,232	244,452	357,188	233,531	61,924	1,463,205

Notes:

AC = asbestos cement
 C-900 = PVC pipe, class 900
 CI = cast iron

Cu = copper
 Galv = galvanized
 PE = polyethylene
 PVC = polyvinyl chloride

TABLE 2B
 Fixed Inventory, Water Distribution System Storage Facilities
 Water Distribution System, Fort Hood, Texas

Description	Size	Year of Construction
Tank 11000, Concrete, Above Ground	1 MG	1955
Tank 1673, Steel, Elevated	0.5 MG	1947
Tank 20145, Steel, Aboveground	0.064 MG	1977
Tank 4001, Steel, Elevated	0.5 MG	1942
Tank 4655, Steel, Elevated	1.5 MG	1967
Tank 51604, Steel, Elevated	1 MG	1976
Tank 5486, Steel, Elevated	0.5 MG	1968
Tank 57130, Concrete, Aboveground	1.5 MG	1986
Tank 6891, Concrete, Underground	1 MG	1942

Description	Size	Year of Construction
Tank 6893, Concrete, Underground	0.75 MG	1942
Tank 6895, Concrete, Underground	0.75 MG	1942
Tank 88025, Steel, Elevated	0.5 MG	1990
Tank 90010, Steel, Elevated	0.15 MG	1970
Tank 90062A, Steel, Aboveground	0.005 MG	1963
Tank 90062B, Steel, Aboveground	0.005 MG	1963
Tank 92069, Steel, Elevated	0.075 MG	1969
Tank 92081, Concrete, Underground	0.1 MG	1969
Tank 92082, Concrete, Underground	0.1 MG	1969

Notes:

MG = Million gallons

TABLE 2C

Fixed Inventory, Water Distribution System Pump Stations
Water Distribution System, Fort Hood, Texas

Pump Station/Pumps	Component	Size	unit	Year of Construction
Pump Station 20145	Building	110	Sf	1977
1 pump @ 15 Hp	Mechanical	15	Hp	1977
Pump Station 51600 (NIS)	Building	150	Sf	1976
Pump Station 6898	Building	4,442	Sf	1963
1 pump @ 100 Hp	Mechanical	100	Hp	2003
1 pump @ 200 Hp	Mechanical	200	Hp	2003
1 pump @ 300 Hp	Mechanical	300	Hp	2003
1 pump @ 500 Hp	Mechanical	500	Hp	2003
1 pump @ 500 Hp	Mechanical	500	Hp	2003
Generator	Mechanical	750	kW	1983
Pump Station 69010	Building	240	Sf	1986
1 pump @ 100 Hp	Mechanical	100	Hp	1986
Pump Station 7033	Building	200	Sf	1998
1 pump @ 10 Hp	Mechanical	10	Hp	1998
Pump Station 90059	Building	64	Sf	1963
1 pump @ 10 Hp	Mechanical	10	Hp	1983
Pump Station 90061	Building	64	Sf	1963
1 pump @ 10 Hp	Mechanical	10	Hp	1983
Pump Station 92085	Building	252	Sf	1969

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Pump Station/Pumps	Component	Size	unit	Year of Construction
1 pump @ 20 Hp	Mechanical	20	Hp	1989
1 pump @ 20 Hp	Mechanical	20	Hp	1989
Pump Station 92086 (NIS)	Building	100	Sf	1969
1 pump @ 20 Hp	Mechanical	20	Hp	1989
Pump Station 93008	Building	373	Sf	1969
1 pump @ 25 Hp	Mechanical	25	Hp	1989
1 pump @ 25 Hp	Mechanical	25	Hp	1989
Pump Station 93022	Building	753	Sf	1969
1 pump @ 75 Hp	Mechanical	75	Hp	1989
1 pump @ 75 Hp	Mechanical	75	Hp	1989
1 pump @ 20 Hp (NIS) ^a	Mechanical	20	Hp	1989

Note:

^a 20-Hp pump is configured to support the out-of-service fire protection deluge tank 93023.

NIS = Not in Service

Hp = Horsepower

kW = Kilowatts

Sf = Square foot

TABLE 2D

Fixed Inventory, Water Distribution System Component Summary
Water Distribution System, Fort Hood, Texas

Component	Size	Approximate Year of Construction (quantity is EA)							Total
		1945	1955	1965	1975	1985	1995	2000	
Fire Hydrant	5.25-in.	216	260	316	214	203	286	33	1528
Ball Valve	0.5-in.				1				1
Ball Valve	0.75-in.					3	1		4
Ball Valve	1-in.	63	46	78	110	75	50	7	429
Ball Valve	1.25-in.	7	2	5	18	3			35
Ball Valve	1.5-in.	8		7	12	17	2	49	95
Ball Valve	1.75-in.						1		1
Ball Valve	2-in.	14	13	43	37	52	43	45	246
Ball Valve	2.5-in.	4	9	12	25	12	3		65
Ball Valve	3-in.	6	6	31	19	10	29	1	102
Ball Valve	4-in.	7	30	17	51	23	21	1	150
Ball Valve Total		109	106	193	273	194	150	103	1,128

UTILITIES PRIVATIZATION

Approximate Year of Construction (quantity is EA)									
Component	Size	1945	1955	1965	1975	1985	1995	2000	Total
Butterfly Valve	12-in.						6		6
Gate Valve	6-in.	102	90	142	121	114	135	37	741
Gate Valve	8-in.	34	68	140	60	81	110	13	506
Gate Valve	10-in.	12	5	22	27	20	32	14	132
Gate Valve	12-in.	11	2	21	23	22	35	4	118
Gate Valve	14-in.					3			3
Gate Valve	16-in.	1	7	1	9	22			40
Gate Valve	18-in.	4				1	2		7
Gate Valve	20-in.			7	5	4	1		17
Gate Valve	24-in.					12		2	14
Gate Valve Total		164	172	333	245	279	315	70	1,578
PIV Valve	6-in.					3	8		11
PIV Valve	8-in.					2	3		5
PIV Valve Total		-	-	-	-	5	11	-	16
Pressred Valve	1-in.						1		1
Pressred Valve	1.5-in.			1			3		4
Pressred Valve	2-in.	4				1			5
Pressred Valve	2.5-in.	1					2		3
Pressred Valve	6-in.				1	1	5		7
Pressred Valve Total		5	-	1	1	2	11	-	20
Pressrelief Valve	1-in.		1			1			2
Pressrelief Valve	1.5-in.					2			2
Pressrelief Valve	2-in.			1	1	2			4
Pressrelief Valve	4-in.			1	1	4			6
Pressrelief Valve	6-in.		1	3	8	23			35
Pressrelief Valve Total		-	2	5	10	32	-	-	49
									-

Component	Size	Approximate Year of Construction (quantity is EA)							Total
		1945	1955	1965	1975	1985	1995	2000	
Valve Total		278	280	532	530	513	493	173	2,799
Meters, AMR							141		141
Meters, Non-AMR						49			49
Meters, Other					30	31			61
Meters Total					30	80	141		251

Notes:

Valve totals include valves on distribution system pipelines and do not include valves at storage tanks or pump stations, e.g., altitude valves, check valves, etc.

Meter ages older than 2000 are estimated

AMR = Automatic Meter Reading System

EA = Each

in. = Inch

PIV = Post Indicator Valve

Pressrelief = Pressure Relief Valve

Pressred = Pressure Reducing Valve

TABLE 2E

Fixed Inventory, Water Distribution System Cathodic Protection

Water Distribution System, Fort Hood, Texas

Water Tank	Rectifier Manufacturer & Model	Rectifier Material	Rectifier Year Replaced	Anodes Year Replaced
90010	Harco TASCA, 30-08Z-10	Titanium	1997	1989
92609	Harco TASCA, 30-08Z-10	Titanium	1997	1989
20155	Harco TASCA, 30-08	Titanium	1997	1997
51417	Harco TASCA, 30-08Z-10	Titanium	1997	1997
4001	Harco TASCA, 30-08Z-10	Titanium	1997	1989
1673	Harco TASCA, 30-08Z-10	Titanium	1997	1989
4655	Harco TASCA, 30-08	Titanium	1997	1989
5486	Harco TASCA, 30-08Z-10	Titanium	1997	1988
90097	Harco TASCA, 30-08Z-10	Titanium	1997	1997
88025	Harco TASCA, 30-08	Cast Iron	1997	1990
93023	Harco TASCA, 30-08	Cast Iron	1997	1990

TABLE 2F
 Fixed Inventory, Government Retained Infrastructure
 Water Distribution System, Fort Hood, Texas

Approximate Year of Construction is 2002				
Village Name	Component	Size	Units	Quantity
COMANCHE II INFILL	PVC Pipe	4 in.	LF	39
COMANCHE II INFILL	PVC Pipe	6 in.	LF	1,571
COMANCHE II INFILL	Fire Hydrant	5.25 in.	EA	5
COMANCHE II INFILL	GATE Valve	6 in.	EA	7
COMANCHE II INFILL	Pressrelief Valve	6 in.	EA	2
COMANCHE II INFILL	Meters, AMR	0.75 in.	EA	4
COMANCHE 3a	PVC Pipe	6 in.	LF	1,836
COMANCHE 3a	PVC Pipe	8 in.	LF	2,111
COMANCHE 3a	Fire Hydrant	5.25 in.	EA	8
COMANCHE 3a	GATE Valve	6 in.	EA	9
COMANCHE 3a	GATE Valve	8 in.	EA	4
COMANCHE 3a	Meters, AMR	0.75 in.	EA	8
COMANCHE 4	PVC Pipe	6 in.	LF	19,501
COMANCHE 4	DI Pipe	6 in.	LF	2,612
COMANCHE 4	Fire Hydrant	5.25 in.	EA	43
COMANCHE 4	BALL Valve	1.25 in.	EA	24
COMANCHE 4	GATE Valve	12 in.	EA	12
COMANCHE 4	GATE Valve	16 in.	EA	11
COMANCHE 4	GATE Valve	6 in.	EA	11
COMANCHE 4	Meters, AMR	0.75 in.	EA	33
COMANCHE 5	PVC Pipe	6 in.	LF	1,207
COMANCHE 5	Fire Hydrant	5.25 in.	EA	2
COMANCHE 5	GATE Valve	6 in.	EA	4
COMANCHE 5	Meters, AMR	0.75 in.	EA	2
KOUMA 2 a&b	DI Pipe	6 in.	LF	46

Approximate Year of Construction is 2002

Village Name	Component	Size	Units	Quantity
KOUMA 2 a&b	DI Pipe	8 in.	LF	92
KOUMA 2 a&b	PVC Pipe	6 in.	LF	1,177
KOUMA 2 a&b	PVC Pipe	8 in.	LF	4,001
KOUMA 2 a&b	Fire Hydrant	5.25 in.	EA	10
KOUMA 2 a&b	GATE Valve	6 in.	EA	4
KOUMA 2 a&b	GATE Valve	8 in.	EA	13
KOUMA 2c	DI Pipe	6 in.	LF	65
KOUMA 2c	DI Pipe	8 in.	LF	305
KOUMA 2c	PVC Pipe	6 in.	LF	1,380
KOUMA 2c	PVC Pipe	8 in.	LF	4,189
KOUMA 2c	Fire Hydrant	5.25 in.	EA	12
KOUMA 2c	GATE Valve	6 in.	EA	5
KOUMA 2c	GATE Valve	8 in.	EA	17
KOUMA 2a&b, 2c	Meters, AMR	0.75 in.	EA	22
MONTAGUE 3	C-900 Pipe	8 in.	LF	652
MONTAGUE 3	PVC Pipe	6 in.	LF	2,451
MONTAGUE 3	PVC Pipe	8 in.	LF	7,633
MONTAGUE 3	Fire Hydrant	5.25 in.	EA	23
MONTAGUE 3	GATE Valve	6 in.	EA	11
MONTAGUE 3	GATE Valve	8 in.	EA	22
MONTAGUE 3	Meters, AMR	0.75 in.	EA	15
MONTAGUE 4	PVC Pipe	6 in.	LF	4,007
MONTAGUE 4	Fire Hydrant	5.25 in.	EA	9
MONTAGUE 4	GATE Valve	6 in.	EA	15
MONTAGUE 4	Meters, AMR	0.75 in.	EA	8

Notes:

PVC = polyvinyl chloride
 C-900 = PVC pipe, class 900
 DI = ductile iron

AMR = Automatic Meter Reading System
 EA = Each
 Pressrelief = Pressure Relief Valve

J3.2.2 Water Distribution System Non-Fixed Equipment and Specialized Tools

Table 3 lists other ancillary equipment (spare parts), and **Table 4** 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 3
Spare Parts
Water Distribution System, Fort Hood, Texas

Qty	Item	Make/Model	Description	Remarks
No spare parts are included with the Fort Hood Water Distribution System				

TABLE 4
Specialized Vehicles and Tools
Water Distribution System, Fort Hood, Texas

Qty	Item	Make/Model	Description	Remarks
No specialized vehicles or tools are included with the Fort Hood Water Distribution System				

J3.2.3 Water Distribution System Manuals, Drawings, and Records

Table 5 lists the manuals, drawings, and records that will be transferred with the system.

TABLE 5
Manuals, Drawings, and Records
Water Distribution System, Fort Hood, Texas

Qty	Item	Description	Remarks
1	Electronic	CAD Drawings	Electronic Copy
1	Electronic Database	GIS Database	Electronic Copy
3	O&M Manuals	Manuals for O&M of system components	Hard Copy
4	Inspection Reports	System component inspection reports	Hard Copy
3	Reports	System Analysis/Performance Reports	Hard Copy
1	FHT 420-X10	Digging Permit Process Form	Hard Copy
1	Exercises Procedures	Requirements of utility support during exercises for Darnel Hall	Hard Copy
1	Utility Study	"Engineering Assistance for Water/Wastewater Study: Water System Report Fort Hood, Texas", prepared by CH2M HILL, August 2003	Hard Copy

Qty	Item	Description	Remarks
1	Design Standards	Fort Hood Design Guides	Hard Copy
1	Fort Hood EPANet 2.0 Water Model Network	Working copy of Water Distribution System Model.	Electronic Copy
1	Utility Study	"Water System Performance Evaluation", prepared by the U.S. Army Center for Health Promotion and Preventive Medicine, August 2000	Hard Copy

Note: Manuals, drawings, records, and reports included with the Fort Hood Water Distribution System are included in the Bidders' Library.

J3.3 Specific Service Requirements

The service requirements for the Fort Hood water distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the Fort Hood water distribution 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.

J3.3.1 Government-retained Utilities Infrastructure

Several new family housing projects are currently under construction or will have begun construction by the time this contract is awarded. The FHFH Partnership, may install additional utilities infrastructure from the existing Fort Hood utility systems to the points of demarcation of these newly constructed housing units (see Paragraph J2.2.1.3 Points of Demarcation).

The Contractor shall separately cost services for the infrastructure to be retained by the Government under CLIN AE, *Fixed Monthly Charge for Government Retained Infrastructure*, see Paragraph B.5.5 (Offerors proposing a Tariff under Schedule B-1) or B.6.5 (Offerors proposing under Schedules B-2, B-3 or B-4), and Paragraph C.2.1.2, *Acquisition of Utility Services for Government Retained Infrastructure*.

J3.3.2 Digging Permits

J3.3.2.1 Contractor-Provided Permits

Contractor shall participate in the Fort Hood Department of Public Works (DPW) digging permit process. The Contractor shall complete the section of form FHT 420-X10, *Coordination for Land Excavation*, which may impact on the integrity of his Utility Systems and the safety of the requestors and return it to the DPW at building 4612, Fort Hood, Texas for each permit within 3 working days of receipt of the form from DPW. As part of this process, the Contractor shall routinely accept and process digging permit requests from Government work force; military units; FHFH partnership; maintenance, construction, and Army operations contractors; cable and phone maintenance and installation companies; fence rental companies; individual residents, and additional entities as identified by Contracting Officer to have a valid need for a digging permit. Contractor shall identify methodology of accepting, processing, approving, and listing reason(s) for disapproval.

Contractor shall be responsible for all repairs, costs, and damages due to excavations by others for which he did not properly mark his utilities as part of the DPW digging permit process.

J3.3.2.2 Fort Hood-Provided Permits

The Contractor shall first obtain digging permits directly from DPW for utilities owned by the Government before any drilling, digging, or excavation is undertaken. The Contractor shall provide a completed form FHT 420-X10, Coordination for Land Excavation, to the DPW building 4612, Fort Hood, Texas for each permit. Allow 14 Working days for Government review of digging permit requests. A digging permit for a specified area of excavation expires 30 days after the issue date; Contractor must re-apply for a new permit to perform excavation in the area if the excavation was not started within the 30-day period. Permits will identify all underground utilities within 1,500 mm (5 feet) of the designated area. Contractor shall be responsible for all repairs, costs, and damages due to his excavations that fail to comply with the DPW digging permit process, including excavations extending beyond areas that have been cleared for excavation.

J3.3.3 Inspection and Maintenance Program

J3.3.3.1 Water Storage Tanks

The Contractor shall allow the Government access to operate and maintain any communication equipment, obstruction lights, emergency warning equipment, public address equipment, and other Government equipment on water storage tanks being privatized. The Contractor shall develop a procedure for granting the Government access. This procedure shall be submitted to the Contracting Officer for approval.

The Contractor shall own, maintain and operate the cathodic protection systems for the water storage tanks and other applicable metal components of the water distribution system. The Contractor shall determine what is required and shall implement cathodic protection as necessary to comply with applicable rules and regulations. The Government reserves the right to review the Contractor's cathodic protection system records.

The Contractor shall adhere to Fort Hood Design Guides for all painting and markings on water storage tanks.

J3.3.3.2 Fire Flow

The Contractor shall perform flow testing and marking of fire hydrants IAW National Fire Protection Association standards/recommended practices. The Government reserves the right to review the Contractor's flow test records.

The Contractor shall operate, maintain, and test the Post water system IAW Texas Commission on Environmental Quality (TCEQ) regulations. The Contractor shall provide the Contracting Officer with a copy of any and all testing information and reports submitted to the TCEQ.

The Contractor shall coordinate any changes to the water distribution system that may affect fire flow capabilities with DPW and Fort Hood Fire Department.

J2.3.3.4 Cathodic Protection System Maintenance

The Contractor shall own, operate, and maintain the water distribution system cathodic protection systems for carbon steel piping and tanks IAW applicable standards. The Contractor shall determine what is required and shall implement cathodic protection as necessary to comply with applicable rules and regulations. The Government reserves the right to review the Contractor's cathodic protection system records.

J3.3.4 Supervisory Control and Data Acquisition System

The Supervisory Control and Data Acquisition (SCADA) system in place at Fort Hood has not been maintained and is no longer functioning. The Contractor shall install a SCADA system, or an alternate data capturing system approved by the Contracting Officer, that he shall own, operate, and maintain.

The Contractor shall determine the type, extent, and requirements of the SCADA system in accordance with applicable standards. The Contractor shall provide the Government read only access to the SCADA system for monitoring system components on Fort Hood. The Contractor shall coordinate with the Contracting Officer to establish the means for Government access.

At a minimum, the Contractor shall include real time monitoring for water pump station Facilities 6898, 93008, 92085, and 90059. Monitoring shall include pump status (H/O/A), pump function (off/on), and amp draw. Real time monitoring shall include pump station flowrate to include instantaneous flowrate in 15 minute increments and total daily consumption.

At a minimum, the Contractor shall include real time monitoring of water levels in the Ground Storage tanks, 92082 and 92083, Elevated tanks 4001 and 92069, and hydro pneumatic tank only at 92062.

J3.3.5 Meters

The Contractor shall operate, maintain, and calibrate all secondary water meters, IAW applicable standards and regulations. The Government reserves the right to review the Contractor's meter and maintenance and calibration records.

J3.3.5.1 Connectivity to the Automated Meter Reading (AMR) System

All new meters and replacement meters installed shall meet Fort Hood's design standards and industry standard requirements for measuring water consumption and shall be connected to the Fort Hood Automated Meter Reading (AMR) System (see the *Fort Hood AMR Requirements* exhibit in the Technical Library). The Contractor shall test and confirm successful connection and transmission of flow information to Fort Hood's AMR system. The Contractor shall provide all labor, equipment or materials necessary to install, connect, test, and calibrate meters. DPW will make the final connection between the meter sensor and the meter interface unit (MIU) as part of Installation Quality Control.

J3.3.5.2 Meter Reading

Fort Hood currently reads meters manually and with the AMR. The Contractor shall read meters each month as defined in Paragraph J2.5 *Secondary Metering*. Fort Hood will provide the Contractor a list each month of the meters that were not successfully read using the AMR. The Contractor shall also read these meters each month. Historically, approximately 3 percent of the AMR meters fail to be read successfully by the AMR system each month.

The Contractor shall keep meter books with monthly consumption for each meter reading (see FY 2003 Meter Books for an example of information required to be included in the Contractor's Meter Books). Meter books shall include building address or facility number, meter number, previous month readings, current month readings, multipliers for each meter, total monthly consumption, points of contact for meter questions, and procedure for converting meter reads into consumption (including multipliers). The Contractor shall coordinate with the Government to determine the format for meter books to be delivered.

J3.3.6 Fire Control and Safety

The Contractor shall abide by Fort Hood fire protection requirements. The utility system purchased by the Contractor may include facilities. These facilities may or may not include fire alarm systems. Where required by federal, state or local regulation, the Contractor shall maintain the fire alarm system for all facilities owned and operated by the Contractor. The Contractor shall permit Fire Department personnel access to their facilities to perform fire inspections and emergency response.

J3.3.7 Cost of Supporting Utilities

The Contractor is responsible for all supporting utilities that may be required to own, operate and maintain the utility system being privatized. Supporting utilities are defined as the supply of electricity necessary to own, operate, and maintain the utility system. The Contractor shall coordinate with Fort Hood DPW and the Contracting Officer for any supporting utilities to be provided by the Government.

J3.3.8 Restricted Access ("Q" Area and Ranges)

The Contractor shall coordinate with and obtain written approval from Fort Hood for entry into the ammo storage facility located on West Fort Hood (known as the "Q" area). Access into the fenced area will require additional security clearance and full time military escort. Contractor shall obtain access to this area at Building 92065.

The Contractor shall coordinate with and obtain written approval from Fort Hood Range Control for any future construction in the areas managed by Range Control. Contractor shall provide 30 day written notice to Range Control prior to performing any routine maintenance, repairs, construction, or other work on the utility system in the Ranges (all areas managed and controlled by Fort Hood Range control). Contractor shall be required to coordinate all work necessary and as directed by Range Control during emergency response situations.

J3.3.9 Crisis Situations

IAW Paragraph C.9.8, *Exercises and Crisis Situations Requiring Utility Support*, the Contractor shall provide support as directed by Fort Hood DPW or equivalent agency for exercises and crisis situations. Contractor shall submit Emergency Response Plans for approval by the Government For all Exercise and Crisis situations IAW C.9.8. Current requirements for supporting annual exercises at Darnel Hospital are included in the Technical Library.

J3.4 Current Service Arrangement

Belton County Water Control and Improvement District No. 1 (BCWCID #1) supplies water to the Main Cantonment and West Fort Hood. The City of Gatesville supplies water to North Fort Hood through a 16-inch transmission main that parallels U. S. Highway 36.

The annual electricity consumption by the water distribution system in 2001 was estimated to be 3,640 MW-h based on a water distribution model developed using EPANet 2.0. The FY 2002 electric utility rate at Fort Hood was \$0.07821/kwh.

J3.5 Secondary Metering

Between the point of delivery and the end user points of demarcation, the Contractor shall own the existing meters, with the exception of the FHFH installed meters in Comanche II Infill, Comanche 3a, Comanche 4, Comanche 5, Kouma 2 a&b, Kouma 2c, Montague 3, and Montague 4, and shall install additional meters at new and upgraded locations as directed by the Contracting Officer. Contractor shall install or cause to have installed utility meters as requested by the Contracting Officer to include accessories that will ensure compatibility with the approved data capturing system as approved by the Contracting Officer.

J3.5.1 Existing Secondary Meters

Tables 6A, 6B and 6C list the existing (at the time of contract award) meters that will be transferred to the Contractor. Table 6A lists meters connected to the AMR system, Table 6B lists meters that are not connected to the AMR system (Non-AMR meters) and Table 6C lists other meters (meters not connected to the AMR system and not currently being read as non-AMR meters). All of the meters identified as AMR, non-AMR and other meters are included with the system to be privatized.

The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3, *Metering*, J2.3.5.3, *Meter Reading*, and J2.6, *Monthly Submittals*. The Contractor shall provide monthly meter readings for non-AMR meters that are identified as non-reimbursable (Table 6B) and all other meters (Table 6C). AMR meters (Table 6A) and non-AMR meters that are identified as reimbursable (Table 6B) will be read by the Government. In the event AMR meters are not able to transmit data to the AMR system, the Contractor shall provide meter readings for AMR meters when requested by the Government.

The Contractor is not required to provide meter readings for the meters identified as government-retained infrastructure (Table 2F).

TABLE 6A

UTILITIES PRIVATIZATION

Existing Secondary Meters Connected to the AMR System
Water Distribution System, Fort Hood, Texas

UID	AMR-Serial #	Body-Serial #	MODEL	MULT	Dials	Install date
MDOO3128(P0_120)	2000750639			10	4	
AAPX0611						
DEFH2960(P?_51733_5)	284345539					
MDOO3112(P?_4905_1)	2000742472					
MDOO3123(P7_420)	2000742520			1000	6	
MDOO3124(P0_4222)	2000746686			100	5	
MDOO6150(P0_4441)	2000745192			100	6	
MDOO3110(P0_4902)	2000743378			10	6	
MD003112(P0_4905_2)	2000742472			100	6	
MDOO3122(P0_4909)	2000691615					
DEFH2946(P0_5852)	2000030667					
DEFH2919(P0_6443_1)	2000029783					
DEFH2700(P0_6791)	6478829					
DEFH2702(P0_6792)	50969899					
DEFH2703(P0_6793)	50969865					
DEFH2704(P0_6794)	33333					
DEFH2705	19006823					
DEFH2706(P0_6796)	50999884					
DEFH2707(P0_6797)	6420857					
DEFH2708(P0_6798)	50969887					
DEFH2709(P0_6799)	99999					
DEFH2711(P0_6821)	50969875					
DEFH2710((P0_6826)	6417416					
MDOO3125(P0_7015)	55444845			20	5	1999
MDOO3125(P0_7015)	2000743689			100	6	
DEFH2953(P0_8130)	200030631					
DEFH2962(P0_8402)	2000034373					
MDOO3134P7_9440)	2000707747			1000	6	
MDOO3102(P0_33001)	2000742440					
MDOO3106(P7_33003)	2000707921				6	

UTILITIES PRIVATIZATION

UID	AMR-Serial #	Body-Serial #	MODEL	MULT	Dials	Install date
MDOO3136(P0_36000_1)	2000727083			1000	6	1999
MDOO3137(P0_36000_2)	2000727658			1000	6	
MDOO3139(P0_36000_4)	2000708069			1000	6	
MDOO3141(P0_36000_6)	2000727169			1000	6	1999
MDOO3121(P7_36001)	2000743629			1000	6	
MDOO3118(P0_36007)	2000743921			1000	6	
MDOO3104(P7_36014)	2000742143			1000	6	
MDOO3116(P0_36017)	2000504081			100	6	
MDOO3117(P0_36019)	2000747332			10	6	
MDOO6100(P0_36027)	2000695309				6	
MDOO6101(P0_36028)	2000694798				6	
MDOO6102(P0_36030)					6	
MDOO3144(P0_39011)	2000747658			10	6	
MDOO3131(P0_39033)	2000744366			1000	6	
DEFH3002(P0_48556_1)	20000228521					
DEFH3003(P0_48556_2)	20000228170					
DEFH3020(P0_48557_1)	20000228186					
DEFH3021(P0_48557_2)	20000212811					
DEFH3004(P0_48558_1)	20000228766					
DEFH3005(P0_48558_2)	20000228752					
DEFH3018(P0_48559_1)	20000213253					
DEFH3019(P0_48559_2)	20000213249					
DEFH3006(P0_48560_1)	20000228777					
DEFH3007(P0_48560_2)	20000212800					
DEFH3016(P0_48561_1)	20000212799					
DEFH3017(P0_48561_2)	20000212801					
DEFH3008(P0_48562_1)	20000219018					
DEFH3009(P0_48562_2)	20000219005					
DEFH3014(P0_48563_1)	20000213016					
DEFH3015(P0_48563_2)	20000214734					
DEFH3010(P0_48564_1)	20000217918					
DEFH3011(P0_48564_2)	20000217784					

UTILITIES PRIVATIZATION

UID	AMR-Serial #	Body-Serial #	MODEL	MULT	Dials	Install date
DEFH3012(P0_48565_1)	06414481					
DEFH3013(P0_48565_2)	06474543					
AAPZ1333(P0_50008)	2642480					
ISOT0102(P0_56135)	44647117					
MDOO3109(P0_76022_2)	2000504255		Kent	100	6	
DEFH4109(P0_6222)						
DEFH4110(P0_6447_1)						
DEFH4111(P0_6447_2)						
DEFH4114(P0_6522)						
DEFH4115(P0_6540_1)						
DEFH4116(P0_6540_1)						
DEFH4117(P0_6541_1)						
DEFH4118(P0_6541_2)						
DEFH4119(P0_6542)						
DEFH4120(P0_6544_1)						
DEFH4121(P0_6544_1)						
DEFH4122(P0_6553)						
DEFH4123(P0_6560)						
DEFH4124(P0_6565)						
DEFH4125(P0_6556_1)						
DEFH4126(P0_6566_2)						
DEFH4127(P0_6570_1)						
DEFH4128(P0_6570_2)						
defh5828(P_84215_1)	6162056480		ABB	10	6	
defh5829(P0_84215_2)	5231138163		ABB	10	6	
defh5830(P0_84236_1)	5231138174		ABB	10	6	
defh5831(P0_84236_2)	6162056470		ABB	10	6	
defh5835(P0_84121)						
defh5836(P0_84125)						
defh5838(P0_84249)						
defh5839(P0_84250_2)						
defh3033(P0_6608)	5231138272		ABB	10	6	

UTILITIES PRIVATIZATION

UID	AMR-Serial #	Body-Serial #	MODEL	MULT	Dials	Install date
defh3034(P0_6610)	6161068871		ABB	10	6	
defh3035(P0_6734)	5232140338		ABB	10	6	
defh3036(P0_6735)	6162056465		ABB	10	6	
defh3037(P0_6737)	6162056458		ABB	10	6	
defh3038(P0_6809)	5231138350		ABB	10	6	
defh3039(P0_6813)	6161068854		ABB	10	6	
defh3040(P0_6822)	5231138162		ABB	10	6	
defh3042(P0_6831)	5231138286		ABB	10	6	
defh3043(P0_6851)	5231138175		ABB	10	6	
DEFH0012(P0_51213_1)	None					
DEFH0035(P0_51213_2)	None					
DEFH3208(P0_48557_1)	2000226186		Kent	10	6	
DEFH3209(P0_48557_2)	2000212811		Kent	10	6	
DEFH3210(P0_48559_1)	2000213253		Kent	10	6	
DEFH3211(P0_48559_2)	2000213249		Kent	10	6	
DEFH3212(P0_48560_1)	6161089680		ABB	10	6	
DEFH3540(P0_8102_1)						
DEFH5701(P0_83001_2)		5232140222	ABB Scancoder	10	6	
DEFH5705(P0_84138_1)	10521392		Sensus	100	6	
DEFH5706(P0_84138_2)	54962520		Sensus	100	6	
DEFH5707(P0_84139_1)	09742460		Sensus	1000	6	
DEFH5708(P0_84139_2)	09787112		Sensus	1000	6	
DEFH5709(P0_84140)	09792136		Sensus	1000	6	
DEFH5710(P0_84141_1)	09849237		Sensus	1000	6	
DEFH5711(P0_84141_2)	09742463		Sensus	1000	6	
DEFH5712(P0_84142_1)	09792137		Sensus	100	6	
DEFH5713(P0_84142_2)	09813591		Sensus	1000	6	
DEFH5714(P0_84143)	09787119		Sensus	1000	6	
FBOO4003(P7_85006)						
MDOO3127(P0_90043)	2000746517			100	6	
FBOO4004(P7_WFBANK)						
MDOO6151(P_36015)						

UTILITIES PRIVATIZATION

UID	AMR-Serial #	Body-Serial #	MODEL	MULT	Dials	Install date
DEFH4504(P0_6443-1)						
DEFH4506(P0_6012)						
DEFH4507(P0_6013)						
DEFH4508(P0_6016)						
DEFH4509(P0_6017)						
DEFH4510(P0_6020)						
DEFH4511(P0_6021)						
DEFH4512(P0_6024)						
DEFH4513(P0_6025)						
DEFH4514(P0_6028)						
DEFH45159(P0_6282)						
DEFH4516(P0_6283)						

TABLE 6B
Existing Secondary Meters NOT Connected to the AMR System
Water Distribution System, Fort Hood, Texas

BLDG	UID	OWNER	ADDRESS	REIMBURSEABLE (Y/N)
39014	AAPB0217W1	AAFES Snack Bar	67th and Support Ave	YES
224	AAPG0707W1	AAFES Gas Sta, Main	42nd and HQ Ave	YES
50006	AAPS1223W1	AAFES Package Store	Clear Creek	YES
33012	AAPX0910W1	AAFES 1CD	73rd and Battalion	YES
9401	AAPX0948W1	AAFES 2AD(sprinkler)	20th and Bn Ave	YES
1002	AAPZ1327W1	AAFES Shoppette	Hood Rd & HQ Ave	YES
325	AAPZ1328W1	AAFES Shoppette	37th and T-D Ave	YES
52021	AAPZ1329W1	AAFES Shoppette	Copperas Cove Road	YES
8314	AAPZ1331W1	AAFES Launderette	Martin & Central Dr	YES
85001	AAPZ1332W1	AAFES Shoppette	Martin & Central Dr	YES
70012	AAPZ1335W1	AAFES Shoppette	West Ft Hood	YES
33010	AROO0101W1	Army Res Reg Trng Ct	Support Ave & 72nd	YES
90089adj	ASOT0101W1	ASAS (JTF) Field Off	Mohawk Rd	YES

UTILITIES PRIVATIZATION

BLDG	UID	OWNER	ADDRESS	REIMBURSEABLE (Y/N)
90089adj	ASOT0101W2	ASAS (JTF) Field Off	Mohawk Rd	YES
453	CEOT9900W1	CECOM	BLDG 453	YES
451	CEOT9901W1	CECOM	451	YES
85020	DCOO2201W1	Commissary	10th St & Warrior Way	YES
85020	DCOO2201W2	Commissary	10th St & Warrior Way	YES
51537-3	DEFH2955W1	DEH-Hsg (typ wat)	Coushatta St (Com 2)	NO
51544-3	DEFH2956W1	DEH-Hsg (typ wat)	Coushatta St (Com 2)	NO
51764-1	DEFH2961W1	DEH-Hsg (typ wat)	Comanche Cir (Com 2)	NO
99999	DEMT3001W1	DEH-Hsg (Liberty Wat)	250ft e of Clear Crk	NO
20104	DPBL3923W1	DPCA-BLORA	Cottage Rd	YES
20107	DPBL3923W2	DPCA-BLORA	Cottage Rd	YES
20148adj	DPBL3923W4	DPCA-BLORA	East end of Main Rd	YES
52381	DPCC3507W1	DPCA-Clear Creek GC	Bn Ave (Comanche 1)	YES
51300adj	DPCC3507W2	DPCA-Clear Creek GC	Osage Ct(Comanche 1)	YES
52381adj	DPCC3507W3	DPCA-Clear Creek GC	w end Bn Ave (Com 1)	YES
52381adj	DPCC3507W4	DPCA-Clear Creek GC		YES
50012	DPCC3624W1	DPCA-Comm Ctr (CC)	Clear creek rd	YES
4930	DPRC0601W1	DPCA-Rental Center	Clear creek rd	YES
49010	DPWL2305W1	DPCA Warrior Lanes	BLDG 49010	YES
49010	DPWL2305W2	DPCA Warrior Lanes	BLDG 49010	YES
4105adj	DTOT0101W1	ECS Services	Motor Pool Road	YES
50005	FBOO4001W1	FH Nat Bank,CC	Clear Creek	YES
322	FUOO4001W1	FH Mil Credit Union	37th and HQ Ave	YES
69002adj	HSHS3708W1	DPCA-Hunt & Saddle	Hood Rd,opp Railhead	YES
194	ICNS3809W1	DPCA-Main NCO Club	37th and HQ Ave	YES
70005	ICNW3816W1	DPCA-WFH NCO Club	Base Road, Montague	YES
5764	ICOS3810W1	DPCA-Main Off Club	24th and T-D Ave	YES
9212	ICPI3811W1	DPCA-Patton Inn	20th and Central Ave	YES
42000	ICSD3814W1	DPCA-Sports Dome	75th and Bn Ave	YES
2250	MDOO6104W1	Meddac	HQ Ave	YES
2255	MDOO6152W1	Meddac	HQ and Support ave	YES
99999	MHOT3101W1	Metroplex Hospital	Clear Crk & Hwy 190	YES

BLDG	UID	OWNER	ADDRESS	REIMBURSEABLE (Y/N)
33011	MLPO0226W1	AAFES Popeye's Chick	73rd and Battalion	YES
111	PHPH3001W1	DEH-Hsg (Poxon Hse)	Hood Rd	YES
Main Off	UNOT0101W1	Universal (/ by 2)	entr to Liberty Vil	YES
225	WGOT0301W1	AAFES Car Wash, Main	42nd and HQ Ave	YES

TABLE 6C
Existing Secondary Meters, Other Meters
Water Distribution System, Fort Hood, Texas

BLDG. NO.	UID #	OWNER	ADDRESS	LOCATION	MULT
9001		DPCA-Albee lanes	20th and Central Dr.	S of breezwy in box	100
9212	91506665	DPCA-Patton Inn	20th and Central Ave	N. side in pit	100
9425adj	36869925	GUYCO Engineering	16th St & Bn Ave	W side, W of Fire Hydrant in Bucket	10
7011		AAFES Snack Bar	HAAF	se corner	10
20118	91506664	DPCA-BLORA	Sparta Rd	s side of bldg in pit	100
20148	91506501	DPCA-BLORA	Sparta Rd E. RV Park	E. side of pit	100
	91506655	DPCA-BLORA	E. RV Park	Down hill, west of site #19, in pit	100
10006		2+2 Barracks	28th and central ave		
	45478097	GUYCO	Central Dr & 25th	E of trlr, on Hydrant, S side of Street	10
14008	25528898	AAFES PX Snack Bar	40th and Bn Ave	se corner in pit	10
6796	19006835	DEH-HSG (GOQ)	GOQ Circle, Patton	rt of entr, flowrbed	100
6798		DEH-HSG (GOQ)	GOQ Circle, Patton	right of front door	10
6793	19002371	DEH-HSG (GOQ)	GOQ Circle, Patton	fr entr under spiket	100
6791	51860	DEH-HSG (GOQ)	GOQ Circle, Patton	fr entr under spiket	10
6792	35156417	DEH-HSG (GOQ)	GOQ Circle, Patton	fr entr under spiket	10
6797	19006823	DEH-HSG (GOQ)	GOQ Circle, Patton	right of driveway	100
6795	92561501	DEH-HSG (GOQ)	Patton Circle	Front under spicket	10
6826	9198577	DEH-HSG (GOQ)	Coleman Rd (Patton)	N. side, N. of spiket	10
6821	92524682	DEH-HSG (GOQ)	Coleman Rd (Patton)		10

UTILITIES PRIVATIZATION

BLDG. NO.	UID #	OWNER	ADDRESS	LOCATION	MULT
5852		DEH-Hsg (typ water)	24th & Dupas (Wainwr)	e side by ac in box	10
5794	91506661	DPCA-Anderson GC	Wainwrt Dr & T-D Ave	e of prkg lot, pit	100
5794adj	flow mtr #3	DPCA-Anderson GC	Wainwrt Dr & T-D Ave	n of clubhse, on pit	100
8001adj	flow mtr #4	DPCA-Anderson GC	Wnwrt Dr & Old Bn Av	e of liftsta, on pit	100
6701adj	flow mtr #2	DPCA-Anderson GC	South of T-D Ave	s of #1 tee, in pit	100
6826adj	flow mtr #1	DPCA-Anderson GC	East of Coleman Rd	n of #3 frwy, in pit	100
6606adj	3925126	DPCA Youth Ctr	Patton Dr & T-D Ave	in mech rm s wall	100
136	23955369	AAFES PX Concession	Hood Rd and HQ Ave	s of pkg lot by tree	100
135	29012436	AAFES Mil Clth/Fd Ct	Hood Rd and HQ Ave	se mech rm, e wall	100
314		AAFES PX w/MCC	37th and Bn Ave	north side in box	100
T825	514859	Cobra Inc	20th and Central Dr	on w side of trailer	10
76020	91506658	DPCA-WFH O'Club	Crockett (Montague)	west side curb, box	100
		Texas Na Guard MATES	s of loading dock	opposite gas, in pit	100
	36280873	Silverton Constr	s of loading dock	below gas, portable	10
5488	25835715	AAFES Shoppette	Hoover Rd, Pershing	1st stall e side lot	100
5488adj	393504	JK Richardson	Hoover Rd, Pershing	inside west mech rm	1
51609-2	812268	DEH-Hsg (type water)	Zuni Circle (Com 2)	in yard box	10
51636-7		DEH-Hsg (type water)	Karankawa Cir (Com 2)	in yard box	0
51733-5	284345539	DEH-Hsg (type water)	Karankawa Cir (Com 2)	in yard box	10
51452-3		DEH-Hsg (type water)	Coushatta St (Com 2)	in yard box	10
51537-3		DEH-Hsg (type water)	Coushatta St (Com 2)	in yard box	10
51550		DEH-Hsg (type water)	Coushatta St (Com 2)	in yard box	10
52381	Flow meter #2	DPCA-Clear Creek GC	BN Ave (Comanche 1)	Rd to lift sta, pit	100
2241	8975842	DPCA-Sunburst Inn	58th & Support Ave	s side in pit	100
24007	22626200	AAFES Snack Bar/MCC	58th and Bn Ave	east side in pit	100
2804	313502	DPCA-Bowlers Green	62nd and HQ Ave	ne of bldg, in s pit	100
2804	92522473	DPCA-Bowlers Green	62nd and HQ Ave	ne of bldg, in n pit	100
3203	7032041	DPCA-Car Wash, Saber	72nd & HQ Ave	e side 3202 in box	100
33003	1275782	ICD Troop Med Clinic	Bn/75th	SW corner in box	100
42000	92522472	DPCA-Ports Dome	75th and Bn Ave	se mech rm, e wall	100
4105adj	37291048	DTH Mgmt trailer	Motor Pool Road	ne corner in box	10
4105adj		CSS Inc	Motor Pool Road	e of Taylor by stump	10

BLDG. NO.	UID #	OWNER	ADDRESS	LOCATION	MULT
4310	8541112	Anglin Office Equip	77th and Warehouse	ne crnr of compound	10
50110	2642480	AAFES Shoppette, CC	Clear Crk & Santa Fe	east side, sidewalk	10
50001	125398	Commissary	Clear Crk & Cove Rd	inside, nw corner	10
52019adj	29211776	Shasta Industries	Copperas Cove Rd	portable in bathhouse	100
89010adj	1213959	Odell Geer	Copperas Cove Rd	e side on hydrant	100
88036adj	26348636	Carothers	Clark Rd & Hwy 190	sw corner of Bldg 88036 on hydrant	100
70002adj	91506495	DPCA-WFH RV Park	Clark Rd	n end, row 1-eastmost	100
70002adj	91506494	DPCA-WFH RV Park	Clark Rd	n end, row 2-mideast	100
70002adj	91506662	DPCA-WFH RV Park	Clark Rd	n end, row 3-midwest	100
70002adj	91506657	DPCA-WFH RV Park	Clark Rd	n end, row 4-westmost	100

J3.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 7**. New secondary meters shall be installed IAW Paragraphs C.3.3.1, *Future Meters*, and C.13, *Operational Transition Plan*. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3.3, *Metering*, and J3.6 below.

TABLE 7
New Secondary Meters
Water Distribution System, Fort Hood, Texas

Meter Location	Meter Description
None	

J3.6 Monthly Submittals

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

1. Invoice (IAW Paragraph G.2, *Submission and Payment of Invoices* and Paragraph J2.3.1, *Non-Government Installed Utilities Infrastructure*). The Contractor’s monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. The Contractor’s monthly invoice shall include segregated costs IAW with each CLIN. Costs shall be segregated into two categories: costs associated with Housing areas and costs associated with non-Housing areas. The Contractor shall provide sufficient supporting documentation with each monthly invoice to substantiate all costs included in the invoice for each CLIN as approved by the Contracting officer. The proposed

system of accounts shall be made available in electronic format as directed by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to:

Name: DIRECTORATE OF PUBLIC WORKS
ATTN (Barry Barnett- Contracting Command)
III CORPS AND FORT HOOD
Address: 4612 ENGINEER DRIVE, ROOM 76
FORT HOOD, TEXAS 76544-5028
Phone number: (254) 287-3054

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: DIRECTORATE OF PUBLIC WORKS
ATTN (Bobby Lynn- DPW)
III CORPS AND FORT HOOD
Address: 77TH AND WAREHOUSE AVE., BLDG. 4219
FORT HOOD, TEXAS 76544-5028
Phone number: (254) 287-3054

3. **Meter Reading Report.** The monthly meter reading report shall show the current and previous month's readings for all identified 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: DIRECTORATE OF PUBLIC WORKS
ATTN (Bobby Lynn- DPW)
III CORPS AND FORT HOOD
Address: 77TH AND WAREHOUSE AVE., BLDG. 4219
FORT HOOD, TEXAS 76544-5028
Phone number: (254) 287-3054

J3.7 Water Conservation Projects

IAW Paragraph C.3.4, Energy and Water Efficiency and Conservation, the following projects have been implemented by the Government for conservation purposes.

- There are no energy savings projects associated with the utility system being privatized.

J3.8 Service Area

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the Fort Hood boundaries and include the Main Cantonment Area, West Fort Hood, North Fort Hood, the Ranges, and BLORA. The North Fort Hood and BLORA areas are serviced by separate distribution systems from the Main Cantonment and West Fort Hood areas.

J3.9 Off-Installation Sites

No off-installation sites are included in the privatization of the Fort Hood water distribution system.

J3.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 8** provides a listing of service connections and disconnections required upon transfer.

TABLE 8
Service Connections and Disconnections
Water Distribution System, Fort Hood, Texas

Location	Description
There are no service connections or disconnections required upon transfer of the Fort Hood Water Distribution System	

J3.11 Government Recognized System Deficiencies

Table 9 provides a listing of Government recognized deficiencies. The deficiencies listed may be physical deficiencies, functional deficiencies, or operational in nature. If the utility system is sold, the Government will not accomplish a remedy for the recognized deficiencies listed. The Offeror shall make a determination as to its actual need to accomplish and the timing of any and all such deficiency remedies.

Physical and functional deficiencies may require capital to be invested in the system. If any deficiency remedy requires a capital upgrade project, the capital upgrade project shall be proposed according to the following:

- Capital upgrade projects required to bring the system to standard shall be proposed under Schedule 3 – Initial Capital Upgrade(s)/Connection Charge(s).
- Capital upgrade projects required to replace system components shall be proposed in the first years of Schedule 2 – Renewals and Replacements – 50 Year Schedule, and the cost factored into Schedule 1 – Fixed Monthly Charge, for Renewals and Replacements as part of CLIN AA.
- Transition costs shall be proposed as a one-time cost and shall be treated similar to a capital project and included in Schedule 3 – Initial Capital Upgrade(s)/Connection Charge(s).
- Improvements proposed in the operational component of the work shall be included in Schedule 1 – Fixed Monthly Charge as part of CLIN AA

TABLE 9
 System Deficiencies
Water Distribution System, Fort Hood, Texas

System Component	Deficiency Description	Type of Project
Pump Station Nos. 6898, 93008, 92085, 90059	Flow Meter required to be installed for new SCADA system	Capital Upgrade
Pump Station Nos. 20145, 6898, 69010, 7033, 90059, 90061, 92085, 93008, 93022	Required new electric meter	Capital Upgrade
Distribution System Components	Some portions of the distribution system piping and associated components were installed in the 1940s. These components have exceeded their useful lives and should be replaced.	Renewals and Replacement
SCADA System	The Post-wide SCADA system is ineffective and out-of-date. Field instruments require replacement. Computer hardware/software upgrade is required.	Capital Upgrade
93008 Pump Station	The SCADA system controlling the pump on/off based on storage tank water levels is not operational. As a result, the pump station is operated manually. This has resulted in overfilling of the tanks in West Fort Hood to maintain adequate system pressure 24 hours per day. Currently Fort Hood is addressing this issue and may have the deficiency corrected by the time of contract award.	Capital Upgrade
93022 Pump Station	Pump No. 2 is inoperative. Controls are inoperative and the pumps are controlled manually.	Capital Upgrade
4655 Water Storage Tank	Tank exterior has been painted in lead-based paint. Shrouding will be required whenever the tank is repainted to prevent dispersal of lead into the local environment.	O&M
Fire Flow Capacity at West Fort Hood	One of the 6,000 gallon hydropneumatic tanks was converted to a gravity water storage tank. Evaluate fire water requirements in this area to determine required storage capacity. Install additional capacity if required.	Capital Upgrade
Water Storage Tank Elevations	Survey the water storage tank elevations to determine the working elevations of all tanks.	O&M
Circulation in Water Storage Tanks	Reconfigure piping in the water storage tanks to enhance circulation by filling at the top and emptying at the bottom.	Capital Upgrade
West Ft. Hood	Drawings, data, and operating procedures pertaining to the water distribution system in this area are inadequate.	O&M

System Component	Deficiency Description	Type of Project
North Fort Hood	Drawings, data, and operating procedures pertaining to the water distribution system in this area are inadequate.	O&M
North Fort Hood Water Storage	Transfer ownership or lease the North Fort Hood Water Storage Tank to GWSC. Construct a new service connection between GWSC and North Fort Hood.	Capital Upgrade
General	Determine/verify valve locations and update water distribution system maps.	O&M
General	Develop and implement a program to provide regular maintenance and calibration of meters, gauges, and other instruments.	O&M
General	Develop and implement a system wide comprehensive Unidirectional Flushing Program.	O&M
General	Continue and expand data collection to enhance the fidelity of the water distribution system model	O&M