

ATTACHMENT J6

U.S. Army Water Distribution System

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J6 U.S. Army Water Distribution System

J6.1 U.S. Army Overview

Selfridge is located on the north side of the metropolitan area of Detroit, Michigan, along the western shore of Lake St. Clair. Selfridge is the home of a garrison of the United States Army and the 127th Wing of the Michigan Air National Guard. Army Garrison-Selfridge provides base operations and services to include housing, morale welfare and recreation, and family services to a joint military community, affiliated civilian employees and their family members. Housing units are located on the base and at an offsite housing area referred to as Seville Manor. Many of the residents are part of the Tank-automotive and Armaments Command (TACOM) supporting tank construction in the Detroit area. Other army units stationed at Selfridge include an active Army Readiness unit, Army Reserves, and a unit of the Army Guard (Rangers). The Army portion of Selfridge also provides housing for military personnel. The airfield is the home of the 127th Wing of the Michigan Air National Guard. The Air Force Reserve (AFRC) 927th Air Refueling Wing provides the KC-135 mission on base and occupies numerous facilities on ANG property, making it the third largest group on base. The 127th Wing is the host command.

Several other branches of the U.S. military also have offices or units on the base. They include the 425th infantry and Army Guard Recruiting, Naval Mobile Construction Battalion, Naval Air Reserve Activity Selfridge, Naval Reserve Center, Immigration and Naturalization Service for U.S. Boarder Patrol, Marine Wing Support Group 47, the Army's 3rd Brigade, 85th Division, and the 75th Explosive Ordnance Company. The Coast Guard Air Station Detroit also uses Selfridge as a base of operations.

The population on the Army side of Selfridge is currently 468 staff and 2000 residents.

The site upon which Selfridge is located initially was established as an airfield during the early part of the 20th century. It began being used as an airfield for the U.S. Army Air Corps in the 1920s. Over the years, it grew into an active duty base for the Air Force. In 1971 the U.S. granted a license to the State of Michigan for the use of the former Selfridge Air Force Base for National Guard purposes. The base at that time consisted of roughly 3,075 acres of land, including a complete airfield, buildings to support base operations and flight-line activities, 593 on-base housing units and associated quality of life facilities, and miscellaneous other buildings. In 1989, the Air Force transferred 520 acres of the base and the 102-acre Seville Manor housing area to the U.S. Army. The ANG also leases another area at the southeast corner of the base to the U.S. Army.

Currently the 127th Wing side of the base contains 228 buildings, and the U.S. Army side including Seville Manor contains 495 buildings (mostly housing). The total structure surface area over the entire base covers 1,922,310 ANG, 1,513,954 Army for a total of 3,436,255 square feet.

In 1997 Team Selfridge completed the Vision 2000 Base Renovation Plan for the 127th Wing. The Vision 2000 document identifies the condition of many aspects of the utility infrastructure, pavement, and buildings on the site. It also lays out a plan for implementing

the recommendations for renovations presented in the plan. Based upon the Vision 2000 document, plans for demolition, construction, and new infrastructure projects have begun. Of particular interest to this feasibility analysis report is the expectation that demolition and construction on the base will result in a net reduction in the surface area of structures (127th Wing and U.S. Army). The reduction in building area is expected to result in a proportionate reduction in demand for the four commodities being analyzed by the project..

J6.2 Water Distribution System Description

J6.2.1 Water Distribution System Fixed Equipment Inventory

The U.S. Army water distribution system consists of all appurtenances physically connected to the distribution system from the point at which Government ownership currently starts to the point of demarcation. The system may include, but is not limited to, pipelines, valves, fire hydrants, storage facilities, exterior backflow devices, pumps, and meters. The actual inventory of items sold will be in the bill of sale at the time the system is transferred. The following description and inventory is included to provide the Contractor with a general understanding of the size and configuration of the distribution system. The Government makes no representation that the inventory is accurate. The Contractor shall base its proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description and inventory. Under no circumstances shall the Contractor be entitled to any service charge adjustments based on the accuracy of the following description and inventory.

Specifically excluded from the water distribution system privatization are:

- Irrigation System on grounds and at golf course
- Fire Suppression Systems inside buildings

J6.2.1.1 Description

The 127th Wing receives water from Mount Clemens and supplies water to the U.S. Army Garrison at Selfridge, and to Seville Manor as well. The water distribution systems at Selfridge Base (127th Wing and U.S. Army Garrison) are designed to operate as a single large grid system serving the entire installation and as a result, are interconnected at several locations. This interconnection makes it difficult to divide the two systems in an operational way, they are divided only by the property ownership line shown on site maps. The Seville Manor housing complex is served by a single line that delivers water from the main portion of the base to the water tower on Seville Manor. The Army owns and maintains the water distribution grid on their property and at Seville Manor.

The City of Mount Clemens supplies potable water to the Selfridge water distribution system through a master meter at the entrance to the Base near Joy road. There is no single meter that serves to measure water consumption by the U.S. Army Garrison Selfridge, so the 127th Wing prorates the water usage based upon typical averages and secondary water meters that measure actual water use at specific buildings.

The U.S. Army Garrison Selfridge water distribution system consists of approximately 116,000 linear feet of pipe delivering water to most parts of the base. Pipe materials are cast iron, ductile iron, transite and copper, with sizes varying from 1 to 12 inches. They were

installed between 1930 and 1999. Pipes, valves, and fire hydrants are being replaced in an organized manner.

Water and wastewater pipes belonging to the Army in the 200, 700, 400, and 900 housing areas were replaced in 1998. The remaining system components consist of a variety of ages, from the 1980s to the 1940s. Water is supplied to Seville Manor Housing Area through an 8-inch transite line branching from the pipe that connects Area 1400 to Area 1000. The Seville Manor line is owned and maintained by the 127th Wing. Water storage for emergency use and maintaining system pressure in Seville Manor is provided by a 100,000-gallon elevated tank in Seville manor. The water system for Seville Housing Area was installed in the 1960s.

J6.2.1.2 Inventory

Table 1 provides a general listing of the major water distribution system fixed assets for the U.S. Army Garrison Selfridge water distribution system included in the sale.

TABLE 1
Fixed Inventory
Water Distribution System U.S. Army Garrison Selfridge

Item	Size (in.)	Quantity	Unit	Approximate Year of Construction
Ductile Iron Pipe	4	390	lf	1983
	6	11896	lf	1977
	8	5,500	lf	1977
	8	13,548	Lf	1998
	12	5,777	lf	1998
Copper	1	5,000	lf	1961
	1.25	4,776	lf	1998
	1.5	7,424	lf	1961
	2	1,709	lf	1998
Asbestos Concrete Pipe (Transite)	6	22,497	lf	1956
	8	20,384	lf	1960
Gate Valves	4	5	ea	1985
	6	56	ea	1960
	8	6	ea	1960
	10	0	ea	1980
	12	18	ea	1998
	6	37	ea	1998
	8	22	ea	1998
	Tapping sleeve and well	8	5	ea
Fire Hydrants (4.5-inch Valve Size)		42	ea	1970
		57	ea	1998
Meter Pit (Seville Manor)		1	ea	1998
Gate Wells		63	ea	1998
Water Meters	1	103	ea	1998
	2	13	ea	1998

Curb Stops	1.25	57	ea	1998
	2	25	ea	1998
Elevated Storage Tank (100,000 gal. Capacity)	100,000 gal	1	ea	1960

Water Meters

Notes:

PVC = Polyvinyl chloride

EA = Each

GAL= Gallon

LF = Linear Feet

J6.2.2 Water Distribution System Non-Fixed Equipment and Specialized Tools

TABLE 2 LISTS OTHER ANCILLARY EQUIPMENT (SPARE PARTS) AND TABLE 3 LISTS SPECIALIZED VEHICLES AND TOOLS INCLUDED IN THE PURCHASE. OFFERORS SHALL FIELD VERIFY ALL EQUIPMENT, VEHICLES, AND TOOLS PRIOR TO SUBMITTING A BID. OFFERORS SHALL MAKE THEIR OWN DETERMINATION OF THE ADEQUACY OF ALL EQUIPMENT, VEHICLES, AND TOOLS.

TABLE 2

Spare Parts

Water System U.S. Army Garrison Selfridge

Qty	Item	Make/Model	Description	Remarks
			There are no spare parts to transfer with the system	

TABLE 3

Specialized Vehicles and Tools

Water Distribution System U.S. Army Garrison Selfridge

Description	Quantity	Location	Maker
There are no special vehicles or tools to transfer with the system			

J6.2.3 Water Distribution System Manuals, Drawings, and Records

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

TABLE 4

Manuals, Drawings, and Records

Water Distribution System U.S. Army Garrison Selfridge

Qty	Item	Description	Remarks
	None Identified		

J6.3 Specific Service Requirements

The service requirements for the U.S. Army Garrison Selfridge water distribution system are as defined in the Section C, *Description/Specifications/Work Statement*. The following requirements are specific to the U.S. Army Garrison Selfridge 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.

- The contractor must subscribe to the *MISSDIG* utilities locating service
- Coordinate any change to the water system that may affect fire protection with the Base Fire Department
- Coordinate replacement or changes to fire hydrants with the Base Fire Department
- Painting of fire hydrants shall meet base standards
- Water services includes chlorination and fluoridation as needed
- Periodic water pressure testing of all fire hydrants

J6.4 Current Service Arrangement

The primary water service provider to the Selfridge ANGB is the City of Mount Clemens and the Charter Township of Harrison supplies water for emergencies/fire suppression. The 127th Wing supplies water to the U.S. Army Garrison Selfridge. Water bills are prorated based on meter readings and the square feet of structures surface area. The domestic water demand was assumed to be equal to the peak day demand (the peak day demand is equal to twice the average day demand). The average daily domestic water demand was calculated to be 464 gpm. In addition to domestic demand, fire demands must be included in the total water system demand. The fire demand was calculated to be 2,800 gpm. Therefore, the total system demand is estimated as 3,264 gpm. Expansion, additions and demolition of buildings are outlined in the Vision 2000 report. The result appears to be a net reduction in square footage of structures on the base.

J6.5 Secondary Metering

J6.5.1 Existing Secondary Meters

Table 5 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings for all secondary meters IAW Paragraph C.3 and J6.6 below.

TABLE 5
 Existing Secondary Meters
Water Distribution System U.S. Army Garrison Selfridge

Meter Location – Building Number	Meter Description (Type)
400,700,769,770,774,775,776,701,708, 715,718,780,971,	13 Army Garrison-Selfridge buildings
2250	Sebille Manor/Water Tower
227a,227b,229a,229b,231a,231b,233a,233b,235a,235 b,256a,256b,257a,257b,258a,258b,259a,259b,260a,2 60b,261a,261b,262a,262b,263a,263b,264a,264b,265a ,265b,266a,266b,267a,267b,268a,268b,269a,269b,270 a,270b	40 Army Garrison-Selfridge 200 Area Housing

Meter Location – Building Number	Meter Description (Type)
403,404, 405, 406, 407, 408, 409, 422, 432, 424, 426, 427, 428, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 474, 476, 480, 482, 486, 488, 490, 492, 494, 496,484	62 Army Garrison-Selfridge 400 Area Housing,
908, 909, 910, 911, 915, 916, Naldrett School	6 Army Garrison-Selfridge 900 Area Housing

J6.5.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 6**. New secondary meters shall be installed IAW Paragraph C.13, Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Paragraphs C.3 and J6.6 below.

TABLE 6
 New Secondary Meters
 Water Distribution System U.S. Army Garrison Selfridge

Meter Location – Building Number	Meter Description
325,326,328,333,672,714,715,781,835,903,905,912,914,924,922,923,929,930,931,935,936,942,944,945,951,970,971,972,1060	29 Army Garrison-Selfridge new secondary meters. Provide meters that are the same manufacturer and model as already in use at installation

J6.6 Monthly Submittals

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

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

Name: US Army Garrison-Selfridge, DPW
Address: Building 970, Mount Clemens, MI 48045
Phone number: (810) 307-4189

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: US Army Garrison-Selfridge, DPW
Address: Building 970, Mount Clemens, MI 48045
Phone number: (810) 307-4189

3. Meter Reading Report. The monthly meter reading report shall show the current and previous month 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: US Army Garrison-Selfridge, DPW
Address: Building 970, Mount Clemens, MI 48045
Phone number: (810) 307-4189

J6.7 Water Conservation Projects

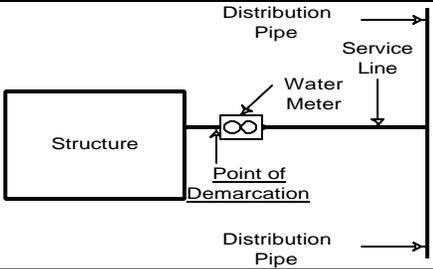
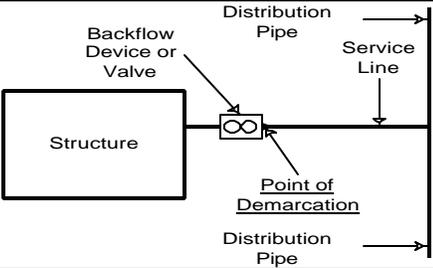
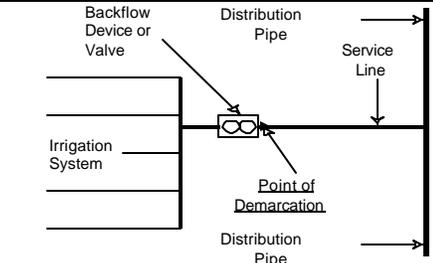
IAW Paragraph C.3, Utility Service Requirement, the following projects have been implemented by the Government for conservation purposes.

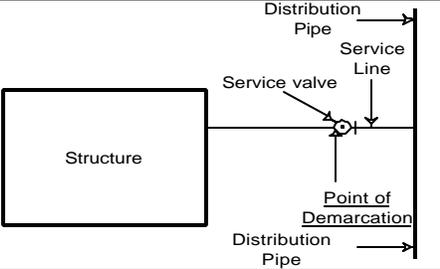
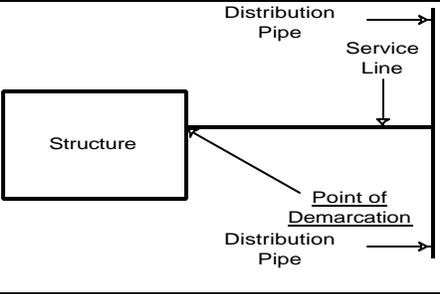
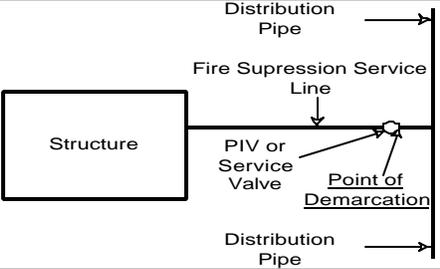
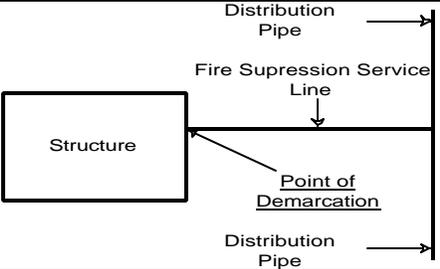
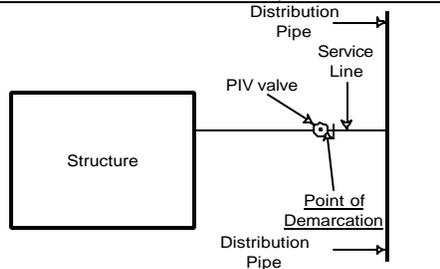
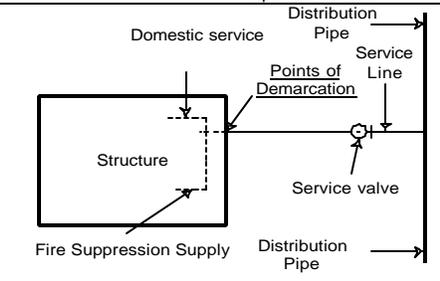
None Identified

J6.8 Service Area and Points of Demarcation

IAW Paragraph C.4, Service Area, the service area is defined as all areas within the U.S. Army Garrison Selfridge boundaries. Seville Manor is also included in the water distribution service area. The following discusses points of demarcation at Selfridge.

The point of demarcation is defined as the point on the piping system where ownership changes from the utility owner to the building owner. The table below identifies the general locations of these points with respect to the building served.

Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the downstream side of the water meter	Water meter is located on the service line entering the structure within 25 feet of the exterior of the structure.	 <p>The sketch shows a rectangular box labeled 'Structure' on the left. A horizontal line representing the 'Service Line' connects the structure to a vertical line on the right representing the 'Distribution Pipe'. A 'Water Meter' is located on the service line, closer to the structure. An arrow points to the right side of the water meter, labeled 'Point of Demarcation'. Arrows on the distribution pipe indicate flow direction.</p>
Point of demarcation is the upstream side of the backflow device.	Backflow device, is located on the service line entering the structure.	 <p>The sketch shows a rectangular box labeled 'Structure' on the left. A horizontal line representing the 'Service Line' connects the structure to a vertical line on the right representing the 'Distribution Pipe'. A 'Backflow Device or Valve' is located on the service line, closer to the structure. An arrow points to the left side of the backflow device, labeled 'Point of Demarcation'. Arrows on the distribution pipe indicate flow direction.</p>
Point of demarcation is the upstream side of the backflow device.	Irrigation system fed directly from distribution system.	 <p>The sketch shows a vertical line on the left representing the 'Irrigation System'. A horizontal line representing the 'Service Line' connects the irrigation system to a vertical line on the right representing the 'Distribution Pipe'. A 'Backflow Device or Valve' is located on the service line, closer to the irrigation system. An arrow points to the left side of the backflow device, labeled 'Point of Demarcation'. Arrows on the distribution pipe indicate flow direction.</p>

Point of Demarcation	Applicable Scenario	Sketch
<p>Point of demarcation is the downstream side of the closest service valve to the structure.</p>	<p>Service valve is located on the service line entering the structure within 25 feet of the exterior of the structure.</p>	
<p>Point of demarcation is 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>No water meter, backflow 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 upstream side of the PIV.</p>	<p>Fire suppression system on dedicated feed from water main.</p>	
<p>Point of demarcation is where the service enters the building. <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>Fire suppression system on dedicated feed from water main with no PIV and service valve is greater than 25' from structure.</p>	
<p>Point of demarcation is the upstream side of the PIV valve.</p>	<p>Fire suppression system on the same feed as domestic service from water main and service line has PIV valve.</p>	
<p>Point of demarcation is where the service enters the building. <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>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' of structure. <i>Note: Service line may have existing service valve greater than 25' from structure.</i></p>	

The following paragraphs present anomalous (unique) points of demarcation that do not fit the above categories.

Building No.	Unique Point of Demarcation Description
Water lateral from Selfridge ANG to Seville Manor housing.	The U.S. Army portion of Seville Manor water distribution system piping begins at the point where the transite pipe that connects to the main installation crosses the Seville Manor property line.
Lines crossing shared Property Line between Air National Guard and U.S. Army Garrison	The utility system transfers from ownership by the Air National Guard to ownership by the U.S. Army at points where the system crosses the shared property line between these to entities.

Sale of the system also includes the following water tower.

Description	Facility Number	State Coordinates	Other Information
100,000 Gallon Elevated Water tower	N/A	On Seville Manor (U.S. Army property), surrounded by residential areas.	This is a water tower at the Seville Manor housing area for pressure equalization and fire flow.

J6.9 Off-Installation Sites

The Seville Manor Housing area is an off-installation site located 2.6 miles north of the base. It is currently owned and managed by the U.S. Army. Seville Manor is included in the sale of the U.S. Army Garrison- Selfridge water distribution system.

J6.10 Specific Transition Requirements

IAW Paragraph C.13, Transition Plan, **Table 7** provides a listing of service connections and disconnections required upon transfer.

TABLE 7
 Service Connections and Disconnections
Water Distribution System U.S. Army Garrison Selfridge

Location	Description
None	

J6.11 Government Recognized System Deficiencies

Table 8 provides a listing of system improvements that the Government has planned. The Government recognizes these improvement projects as representing current deficiencies associated with the U.S. Army Garrison Selfridge water distribution system. If the utility system is sold, the Government will not accomplish these planned improvements. The Contractor shall make a determination as to its actual need to accomplish and the timing of any and all such planned improvements. Capital upgrade projects shall be proposed

through the Capital Upgrades and Renewal and Replacement Plan process and will be recovered through Schedule L-3. Renewal and Replacement projects will be recovered through Sub-CLIN AB.

TABLE 8
 System Deficiencies
Water Distribution System U.S. Army Garrison Selfridge

Project Location	Project Description
Sebille Manor – Fire Hydrants	The fire hydrants do not contain gate valves to stop water supply
OMA Areas	The gate valves are in boxes not wells
George Avenue to Golf Course Clubhouse	Approximately 4000 feet of 8" main running along George Avenue to the golf course clubhouse is beyond its service life and is in need of replacement
Lateral from Perimeter Road to Sebille Manor	<p>The 8" transite pipe from Perimeter Road to Sebille Manor (approximately 2.6 miles) and the water tower are beyond their service life and are in need of replacement. Preferred solution is as follows;</p> <p>The water quality in Sebille Manor is occasionally inadequate – new owner needs to abandon the lateral between Selfridge and Sebille Manor and provide the design/permitting/construction necessary to make Chesterfield the water provider to Sebille Manor.</p>