

### ART 4.5.1.3 Provide Waste Management

This ART covers how units operate, maintain, or upgrade existing utilities. Units construct, operate, and maintain new utilities systems for the purpose of waste management. ART 4.5.1.3 includes wastewater collection and treatment systems, refuse collection, and disposal. Special consideration is given to disposing hazardous waste. (FM 3-34) (USAES)

NO.	Scale	Measure
01	Yes/No	The supported unit was not delayed, disrupted, or prevented from accomplishing its mission. Soldiers and civilians residing in the area of operations (AO) were not placed at risk of injury or disease because of the improper collection, treatment, and disposal of sewage, refuse, and hazardous waste.
02	Yes/No	Unit constructed sewer system to plan specifications within allotted time.
03	Yes/No	Waste management facilities safeguarded the health of Soldiers and noncombatants in the AO.
04	Yes/No	Sewage in the AO stabilized so that it did not overload the disposal medium or ability in lake, stream, or drain field.
05	Yes/No	Unit had environmental considerations planning and procedures in place and followed planning and procedures.
06	Yes/No	Unit considered or included the Overseas Environmental Baseline Guidance Document or final governing standards in construction.
07	Yes/No	Unit used transportation assets to backhaul waste for disposal.
08	Time	To refine waste management program after receipt of warning order.
09	Time	To prepare engineer construction estimate that determines the effort needed to meet the waste management requirements in the AO, assign operational and construction responsibilities, and determine additional personnel and equipment

		requirements.
10	Time	To evaluate the site for suitability and conditions, identify construction problems and possible courses of action, and update or revise the engineer estimate.
11	Time	To prepare construction directive for a sewage or hazardous treatment facility and issue it to the construction unit. This directive states the exact assignment, project location, and start and completion times; specifies additional personnel, equipment, and materials available; prioritizes the entire project; and specifies type and frequency of construction reports, time needed for special procurement, and coordination instructions with user agency.
12	Time	To coordinate for and receive engineer assets to perform task.
13	Time	To monitor construction and perform quality assurance inspections.
14	Time	To perform location survey to establish permanent benchmarks for vertical control and well-marked points for horizontal control.
15	Time	To perform construction layout survey.
16	Time	To install sheeting and bracing on sewer trenches.
17	Time	To verify accuracy of construction plans and specifications to include ensuring the bill of materials includes all required materials to complete construction.
18	Time	To install or repair plumbing and sewage pipes in facilities.
19	Time	To install lavatories or sinks, water closet, and urinals.
20	Percent	Of sewage or hazardous material produced per day in the AO that are disposed of in a manner that safeguards the health of Soldiers and noncombatants and the environment.
21	Percent	Of difference between planned and actual requirements for waste management in the AO.
22	Percent	Of planned waste management capabilities completed in the AO.
23	Percent	Of required waste management capabilities provided by

		host nation.
24	Percent	Of existing waste management capabilities modernized in the AO.
25	Percent	Of existing waste management capabilities that unit can use in their current condition.
26	Percent	Of existing waste management capabilities in the AO damaged by combat actions or natural disaster.
27	Percent	Of nonbattle injuries and disease in the AO attributable to inadequate waste management.
28	Percent	Of waste reduced through recycling.
29	Number	Of kilograms and types of hazardous material produced per day in the AO.
30	Number	Of liters of sanitary sewage produced per day in the AO.
31	Number	Of liters of industrial sewage produced per day in the AO.
32	Number	Of liters of storm sewage produced by individual storms in the AO.
33	Number	Of liters of ground water that enters the sewage system per day.
34	Number	Of cesspools constructed in the AO.
35	Number	And capacity of septic tanks constructed in the AO.
36	Number	And capacity of sewage treatment plants constructed in the AO.
37	Number	Of kilograms per day of disinfectants added to chemically treat sewage in the AO.
38	Number	And capacity of sewage lagoons constructed in the AO.
39	Number	Of meters of sewer systems constructed per day in the AO.

**Supporting Collective Tasks:**

<b>Task No.</b>	<b>Title</b>	<b>Proponent</b>	<b>Echelon</b>
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