FORT LEAVENWORTH

Army Cleanup Program

Installation Action Plan Final

June 2024

TABLE OF CONTENTS

STATEMENT OF PURPOSE

The Installation Action Plan (IAP) provides evidence that the Army is firmly committed to expeditious identification and cleanup of environmental contamination, and that the installation has a credible, organized program to carry out that commitment. The IAP provides an outline of the total multi-year environmental cleanup program for each site with ongoing or future planned restoration activity and includes the (1) environmental restoration requirements, (2) the rationale for the selected technical approach, and (3) foundation to develop corresponding financial needs for each cleanup site.

INSTALLATION OVERVIEW

Installation Name: FORT LEAVENWORTH
Installation City: FORT LEAVENWORTH
Installation County: LEAVENWORTH
Installation State: KANSAS
Regulatory Participation - Federal: US Environmental Protection Agency (USEPA) (Region VII)
Regulatory Participation - State: Kansas Department of Health & Environment (KDHE)

ACRONYMS

Acronym	Definition
AOPI	Areas of Potential Interest
bgs	Below Ground Surface
CAP	Corrective Action Plan
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measures Study
CRL	Cleanup Restoration & Liabilities
CS	Confirmation Sampling
DD	Decision Document
DES	Design
DPW	Department of Public Works
DRMO	Defense Reutilization and Marketing Office
EC	Engineering Controls
ECAS	Environmental Compliance Assessment Survey
EE/CA	Engineering Evaluation/Cost Analysis
ENV	Environmental
FAWQC	Federal Ambient Water Quality Criteria
FS	Feasibility Study
FY	Fiscal Year
FYR	Five-Year Review
HRS	Hazard Ranking System
IAP	Installation Action Plan
IC	Institutional Control
ID	Identification
IM	Interim Measure
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operations)
IR	Installation Restoration
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
KDHE	Kansas Department of Health and Environment
LTM	Long-Term Management
LTO	Long-Term Observation

Acronym	Definition
LUC	Land Use Control
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MD	Munitions Debris
MEC	Munitions and Explosives of Concern
mg/L	milligram per liter
MNA	Monitored Natural Attenuation
MR	Munitions Response
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
NFA	No Further Action
ng/g	nanograms per gram
ng/L	nanograms per liter
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OMA	Operations and Maintenance, Army
PA	Preliminary Assessment
PAH	Polyaromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
POL	Petroleum, Oil and Lubricants
PR	Periodic Review
PRG	Preliminary Remediation Goal
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-In-Place
RR Cut	Railroad Cut
RRSE	Relative Risk Site Evaluation
RSL	Regional Screening Level

Acronym	Definition
SC	Site Closeout
SI	Site Inspection
SOB	Statement of Basis
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TAPP	Technical Assistance for Public Participation
USACE	US Army Corps of Engineers
USAEC	US Army Environmental Command
USAEHA	US Army Environmental Hygiene Agency
USDB	US Disciplinary Barracks
USEPA	US Environmental Protection Agency
USGS	US Geological Survey
UST	Underground Storage Tank
UE	Unrestricted Exposure
UU	Unlimited Use
VOC	Volatile Organic Compound

PHASE TRANSLATION TABLE

CERCLA Phase	RCRA Phase	RCRA UST Phase
Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
Remedial Design (RD)	Design (DES)	Design (DES)
Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
Remedial Action (Operations) (RA(O))	Corrective Measures Implementation (Operations) (CMI(O))	Implementation (Operations) (IMP(O))
Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

PROGRAM SUMMARY

Number of Open Sites with Response Complete/Total Open IR Sites: 20/23

Number of Open Sites with Response Complete/Total Open MR Sites: 2/2

Number of Open Sites with Response Complete/Total Open CC Sites: 1/1

SITE-LEVEL INFORMATION

20395.1002_FTL-02_INACTIVE LANDFILL

Env Site ID: FTL-02

Cleanup Site: INACTIVE LANDFILL

Alias: FTL-02

Regulatory Driver: RCRA-D

RIP Date: 10/31/2005

RC Date: 10/31/2005

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1999
CS:	7/31/1999	12/31/1999
RFI/CMS:	1/31/2000	11/30/2004
DES:	9/30/2004	2/28/2005
IRA:	- -	- -
CMI(C):	4/30/2005	10/31/2005
CMI(O):	- -	- -
LTM:	10/31/2005	9/30/2054

Site Narrative: Site FTL-02 is an old construction and demolition landfill/abandoned borrow pit located 500-feet west of the Missouri River on the southeast end of Fort Leavenworth. The 2000 Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) determined that the site is approximately 4.6-acres. The northern site boundary is One Mile Creek which originates in the Normandy Family Housing area and flows east to the Missouri River. The site is also bordered to the north by FTL-03 which starts on the north side of the creek. The eastern side of FTL-02 boundary is an old government railroad right-of-way that is now a hiking trail. The southern boundary follows the hiking trail as it curves to the west. The western boundary is Sherman Avenue. There is family housing and a school to the west. The 1984 US Army Environmental Hygiene Agency (USAEHA) report stated that the landfill received demolition waste in 1982 and 1983 but indications are that it received wastes before then. The report recommended that it be permitted with KDHE but there is no information that a permit was ever requested or received. The USAEHA report estimated the site at about three acres, but subsequent investigations found it to be much larger at 4.6 acres. The site is fairly level. The site was a water-filled depression prior to the landfill being capped. The area may have been used as a borrow area for soil to build Bundel Road, a government railroad track and the Union Pacific railroad tracks. The resulting depression held stagnant water that was a breeding ground for mosquitoes. The report stated that 28000 cubic meters of construction demolition waste was placed in the site in 1983. The debris at that time was coming from a group of concrete block buildings located on the southwest corner of the intersection of Cody and Grant but could have originated from anywhere on Fort Leavenworth. The site historically supported trees but very little grass. During a 1987 inspection concerns about lead resulted in an assessment of the site. The US Army Corps of Engineers (USACE) site inspection (SI) performed in 1998 found some metals in the soil exceeding several of the Kansas interim remedial guidelines for residential use. The contractor performed an RFI on the site in 2000. Their report was issued in spring 2001. The contractor found that the site is much larger than originally reported. The contamination levels were consistent with the preliminary assessments (PA). Polyaromatic hydrocarbons (PAHs) and

polychlorinated biphenyls (PCBs) were detected in soil at concentrations exceeding screening criteria. A habitat evaluation was completed for a risk assessment cover evaluation groundwater sampling surface water sampling and sediment sampling and prepared a final corrective measures study (CMS) in August 2004. The USEPA regulatory approval of the final remedial design (RD) was issued in September 2005. The landfill cover installation was completed in August 2006. The statement of basis (SOB) [i.e. decision document (DD)] was finalized in June 2005. The site was closed under the USEPA corrective action complete with land use control (LUC) classification in 2006; however, the KDHE Statutes and Administrative Regulations require long-term care of the site. Actions during post-closure care include groundwater monitoring and landfill inspection/maintenance every five years beginning in fiscal year (FY) 14. The 2004 CMS implementation at FTL-02 required the repair and maintenance of the landfill cap groundwater monitoring and LUCs. Installation of the landfill cap groundwater monitoring and LUCs was implemented at FTL-02 in August 2006. Cleanup/Exit Strategy - The long-term management (LTM) includes, periodic reviews, landfill maintenance, and LUCs. It should be noted that USEPA determined that groundwater monitoring could be discontinued based on the lack of elevated contaminants detected in monitoring samples in the RCRA permit issued in 2010. Fort Leavenworth has programmed funds for LTM/long-term observation (LTO) to continue post-closure efforts. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials. Kansas Statutes and Administrative Regulations require long-term care of the site which began in 2006 when the landfill closed (Kansas Statutes Annotated 65-3406(a)(18)). USEPA Region VII used Kansas Statute 65-3406(a)(18) as the basis for the 30-year duration of the post-closure monitoring schedule. USEPA signed the final SOB for this site on June 20, 2005, and the 30-year regulatory monitoring requirement will end on June 20, 2035. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for unlimited use (UU)/unrestricted exposure (UE), the site will remain open indefinitely until UU/UE is achieved.

20395.1003_FTL-03_INACTIVE LANDFILL

Env Site ID: FTL-03

Cleanup Site: INACTIVE LANDFILL

Alias: FTL-03

Regulatory Driver: RCRA-D

RIP Date: 6/20/2005

RC Date: 6/20/2005

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1998
CS:	7/31/1998	6/30/1999
RFI/CMS:	7/31/1999	11/30/2004
DES:	9/30/2004	2/28/2005
IRA:	- -	- -
CMI(C):	4/30/2005	6/20/2005
CMI(O):	- -	- -
LTM:	6/20/2005	9/30/2054

Site Narrative: Site FTL-03 is a construction demolition landfill of approximately two acres that had some large pieces of concrete at the surface. The northern site boundary is about 50 meters north of the intersection of Wint and Stimson Avenues. Further to the north is a steep embankment which slopes to the east until it reaches the Missouri River. The eastern site boundary is the abandoned government railroad right-of-way which comes from FTL-02 from the south and is now a hiking trail. An active Union Pacific railroad track and the Missouri River are past the trail. The southern boundary One Mile Creek forms the boundary between this site and FTL-02. The western boundary is Stimson Avenue. The closest development is family housing about 100 meters from the northwest corner of the former Bell Hall which housed the Command and General Staff College. Features of note include a large abandoned natural gas pipeline running across the south side of the site and along the west side. The site has numerous steep slopes trending downhill to the river on the east and the creek on the south. The history of this site is unclear. The 1983 a USAEHA study found that the site received waste in 1975 which consisted of clean fill comprised of soil rocks and concrete. There are locations where large pieces of concrete extended above the surface. The study reported that Fort Leavenworth requested a permit for this site in May 1984; however, no records have been located to show that a permit was requested or issued. The 1988 USAEHA report indicated that this site had a low hazard potential and did not require investigation. The 1997 environmental compliance assessment survey (ECAS) inspection recommended that this site be investigated based on a concern that construction waste could contaminate the stream or river. The USACE performed and completed the site investigation in 1998. The investigation found levels of PCBs in the soil that were above the USEPA accepted screening levels. Volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) have been a concern with all of the restoration landfills and the regulators required testing for VOCs and SVOCs in soil and groundwater. In 2000 the contractor performed an RFI and in October 2001 submitted their final report recommending further investigation of FTL-03. The investigation reported that even though the extent of the landfill material appears to have been delineated the extent of the contamination has not. The perimeter of the

landfill was defined by the geophysical survey during the RFI; however high PCB detections at the north edge of the landfill indicate that the extent of PCB contamination may extend further north and possibly west. The investigation also reported that aside from the fill material in the landfill the abandoned natural gas pipeline located north of the target landfill might also be the source of PCBs. They have completed a habitat evaluation for a risk assessment cover evaluation groundwater sampling surface water sampling and sediment sampling and in August 2004 a final CMS was prepared. Final USEPA regulatory approval of the RD was issued in September 2005. The landfill cover installation was completed in August 2006. The SOB (i.e., DD) was finalized in June 2005. The site was closed under the USEPA corrective action complete with LUC classification in 2006; however, the KDHE Statutes and Administrative Regulations require long-term care. Post-closure actions include groundwater monitoring and landfill inspection/maintenance. Cleanup/Exit Strategy- LTM includes periodic corrective measures performance evaluations on a five-year frequency, landfill maintenance, and LUCs. It should be noted that USEPA determined that groundwater monitoring could be discontinued based on the lack of elevated contaminants detected in monitoring samples in the RCRA permit issued in 2010. This site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials. Kansas Statutes and Administrative Regulations require long-term care of the site which began in 2006 when the landfill closed (Kansas Statutes Annotated 65-3406(a)(18)). USEPA Region VII used Kansas Statute 65-3406(a)(18) as the basis for the 30-year duration of the post-closure monitoring schedule. USEPA signed the final SOB for this site on June 20, 2005, and the 30-year regulatory monitoring requirement will end on June 20, 2035. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1004_FTL-04_INACTIVE SANITARY LANDFILL

Env Site ID: FTL-04

Cleanup Site: INACTIVE SANITARY LANDFILL

Alias: FTL-04

Regulatory Driver: RCRA-C

RIP Date: 6/30/2005

RC Date: 6/30/2005

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1988
CS:	9/30/1995	1/31/1997
RFI/CMS:	7/31/1999	11/30/2004
DES:	9/30/2004	2/28/2005
IRA:	3/31/1997	11/30/1997
CMI(C):	9/30/2004	6/30/2005
CMI(O):	- -	- -
LTM:	7/31/2005	9/30/2054

Site Narrative: Site FTL-04 is an inactive sanitary landfill determined by the RFI to be approximately 4.4 acres. It is bordered on three sides by family housing. The northern border of the site was a soccer field and family housing. The eastern site boundary is family housing units that are accessed via the 3d Infantry Road. The southern boundary is an open area, with the Harold Youth Center at the end. The western boundary is Kansas Avenue. The site is divided north to south by a seasonal creek that extends up to Hancock Avenue on the north. From that point, the creek runs through a storm sewer pipe. The landfill is in the form of a U around the creek. The site is also divided east and west by Hancock Avenue on the north end. This landfill has been covered with soil and has a good cover of grass that is kept mowed in the summer. The landfill was active from the late-1940s to the early-1950s and contained general refuse. Houses were constructed around the site in the 1960s and 1970s. The 1988 USAEHA report stated that this site had a low hazard potential and did not require investigation. In 1993 a retired Fort Leavenworth employee stated that radioactive medical wastes might have been buried in this landfill. Based on this, the site was investigated for chemical and radioactive contaminants. The SI was performed in 1996. The investigation consisted of borings and monitoring wells but did not find any chemical levels above the screening levels used at that time. In spring 1997 the Naval Sea Systems Command surveyed the site for radioactive objects and located one radioactive source, a compass with a radium painted dial. All other areas had normal background or below background levels of radiation. The compass was removed and shipped off-post, using radioactive material disposal procedures. This site was initially listed as Defense Environmental Restoration Account response complete (RC) based on the 1997 findings; however, in 2000, regulatory agencies disallowed the use of the 1997 laboratory data for decision-making purposes following the disclosure by the laboratory testing contractor of fraudulent manipulation of organic data on projects not related to Fort Leavenworth. Additional site characterization activities were completed that included a cover evaluation, groundwater, sediment, and surface water sampling, in order to replace the questionable data and to evaluate the potential hazards posed by this site. These activities demonstrated that the site was properly capped. In June 2005 the

SOB was completed. The site was closed under the USEPA corrective action complete with LUC classification. Groundwater monitoring continued at the site through the guaranteed fixed price remediation contract warranty period with a completion date in FY10. The KDHE Statutes and Administrative Regulations require long-term care of the site for 30 years. In 2008 this site was evaluated for the purpose of redevelopment as a Community and Aquatic Center. In September 2009 a contract was awarded for the removal of landfill waste. The majority of waste from the former landfill was removed and transported to a permitted landfill followed by backfill with compacted uncontaminated structural soil fill material to match approved grades with the undisturbed areas restored. However, a small amount of waste was left in place under an electrical transformer. A final inspection was conducted in November 2010 with remaining deficiencies corrected in June 2011. A certified construction report was submitted in December 2010 with no further action (NFA) unrestricted site use recommendation. USEPA Region 7 reviewed and approved the Certified Construction Report in their letter dated Jan. 18, 2011. Cleanup/Exit Strategy - LUCs are required for this site which consist of annual inspections. Because hazardous substances or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely and periodic reviews are required.

20395.1005_FTL-05_INACTIVE SANITARY LANDFILL

Env Site ID: FTL-05

Cleanup Site: INACTIVE SANITARY LANDFILL

Alias: FTL-05

Regulatory Driver: RCRA-D

RIP Date: 6/30/2005

RC Date: 6/30/2005

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/29/1988
CS:	6/30/1988	6/30/1995
RFI/CMS:	8/31/1996	10/31/2003
DES:	11/30/2003	8/31/2004
IRA:	- -	- -
CMI(C):	9/30/2004	6/30/2005
CMI(O):	- -	- -
LTM:	7/31/2005	9/30/2054

Site Narrative: FTL-5 landfill is approximately eight acres and received sanitary solid waste. The north edge of the site is approximately 120 meters south of McPherson Avenue along a fence. The kennel for the hunting dogs occupies the area located between the road and the site. The east boundary is a fence that is about 200 meters west of West Warehouse Road. The south boundary of the site is Quarry Creek. The west boundary is a fence that runs primarily north and south from the Hunt Club riding arena. Access to the site is from McPherson Avenue down the road leading past the riding arena. This sanitary landfill was used from 1970 to 1977. A portion of the site was used as a horse pasture. A new sanitary landfill replaced this landfill (see FTL-09). The site was covered with soil when it was closed. The 1983 USAEHA report indicated the site was covered with shallow gullies that had cut into the top of the refuse. Additional cover was being placed on the site at the time the report was written. The 1988 USAEHA Solid Waste Management Unit (SWMU) report recommended an investigation of this site. An SI was performed in 1990 and was completed in 1993. SVOCs and metals were detected in the groundwater. Cadmium and lead above maximum contaminant levels (MCL) were detected in one groundwater monitoring well. Annual groundwater and surface water sampling of the monitoring wells at this site began in 1994. The groundwater and surface water samples were analyzed for VOCs, SVOCs and target analyte list (TAL) metals. None of the groundwater or surface water results exceeded the MCLs for tested analytes. In October 2000 an engineering evaluation/cost analysis (EE/CA) was completed for the site. A CMS recommended repairing the landfill cover to comply with the prescriptive remedy for the landfill cover. The recommended interim remedial action (IRA) was approved by USEPA and KDHE. The work was performed as part of the completion of the corrective measures implementation (construction) (CMI(C)). The IRA cover was installed in the fall of 2004. The SOB (i.e., DD) was finalized in June 2005. The site was closed under the USEPA corrective action complete with LUC classification in 2005; however, the KDHE Statutes and Administrative Regulations require long-term care of the site. Post-closure actions include landfill inspection/maintenance. On April 29, 2014, Fort Leavenworth notified USEPA that they tentatively planned to reuse the landfill by converting the site

back to a horse pasture. USEPA approved the reuse idea on April 29, 2014, and Fort Leavenworth Department of Public Works (DPW) Roads and Ground installed orange warning mesh barrier fencing as a demarcation barrier for the landfill cap. Approximately two- to four- feet of on-post fill material was placed on top of the demarcation barrier to protect the landfill cap. DPW Roads and Grounds completed adding the fill material in 2017 and regraded the fill material and the surface area is again contoured as relatively flat open ground. The Hunt Kennel Club had DPW Roads and Ground re-seeded the area with pure grass horse pasture mix which is comprised of 30% Climax Timothy 25% Ginger Kentucky Bluegrass 25% Orchard Grass and 20% Tetraploid Perennial Ryegrass. In addition, a demarcation barrier of approximately 100- by 200-feet was installed in the southwest corner of the landfill for storage of compost material. FTL-05 was completed as a horse pasture in 2020. Cleanup/Exit Strategy - LTM includes periodic corrective measures performance evaluations on a five-year frequency, landfill maintenance, and LUCs. This site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials. The KDHE Statutes and Administrative Regulations require long-term care of the site which began in 2005 when the landfill closed (Kansas Administrative Statutes Article 34-Solid Waste 65-3406(a)(18)). The USEPA Region VII used the Kansas Statutes Annotated, Article 34-Solid and Hazardous Waste, 65-3406 (a) (18) as the basis for the duration of the monitoring schedule (30 years). USEPA Region VII signed the final SOB for this site on June 20, 2005, and the 30-year monitoring requirement ends on June 20, 2035. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1006_FTL-06_INACTIVE LANDFILL

Env Site ID: FTL-06

Cleanup Site: INACTIVE LANDFILL

Alias: FTL-06

Regulatory Driver: RCRA-D

RIP Date: 6/30/2005

RC Date: 6/30/2005

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1988
CS:	6/30/1988	6/30/1995
RFI/CMS:	8/31/1996	10/31/2003
DES:	11/30/2003	8/31/2004
IRA:	- -	- -
CMI(C):	9/30/2004	6/30/2005
CMI(O):	- -	- -
LTM:	7/31/2005	9/30/2054

Site Narrative: FTL-6 landfill is approximately two acres and received incinerator ash. It is located across an intermittent creek north of McPherson Avenue. The east side of the site extends on to Sylvan Trail Road and is heavily wooded. The west side is forested. Prior to the remediation the stream ran west to east through a pipe across the site. The 30-inch concrete culvert was constructed in the creek channel with ash and other debris filled in around it. The depth of the fill over the culvert was six to eight feet. The 1983 USAEHA report states that a large refuse incinerator was active at this site in the 1940s until sometime into the 1950s. The ash from the incinerator was reportedly deposited in the surrounding area. The materials incinerated included household refuse office waste and maintenance shop waste. The 1988 USAEHA SWMU report recommended that this site be investigated due to the potential of contamination caused by toxic metals in the fill material. The SI started in 1990 and was completed in 1993. One SVOC (benzo(a)pyrene) was detected in soil at a level above the USEPA Region IX preliminary remediation goal (PRG). One metal (chromium) was detected in groundwater at a level above surface water criteria and/or MCLs. Two metals (lead and zinc) were detected in surface water at levels above the Federal Ambient Water Quality Criteria (FAWQC). Annual sampling of the monitoring wells at this site started in 1994. The groundwater and surface water samples were analyzed for VOCs, SVOCs, and TAL metals. None of the groundwater or surface water results exceeded the MCLs for analytes that were tested with the exception during the 1994 sampling event of an exceedance of lead and cadmium from monitoring well 6W2 and in the reinstate blank associated with this sample. The surface water samples collected from 1994 through 2000 had no exceedances for VOCs or SVOCs. Lead and zinc were detected at levels that exceeded the FAWQC during this period although zinc was detected in the reinstate blanks also associated with these samples. A study was completed in 2001 that detected lead in the fill material above regulatory standards. An EE/CA report for the site was completed in 2002. A CMS recommended grouting the culvert in place rerouting the stream through a channel constructed east of the landfill along Sylvan Trail Road and repairing the landfill cover (including placing contaminated stream sediments under the landfill cover) to comply with the prescriptive remedy for landfills. The recommended IRA was

approved by USEPA and KDHE. Although the work was performed as part of the CMI(C) it was referenced as an IRA due to phasing of remedial work performed prior to the completion of the SOB. The IRA was completed in April 2005. The SOB (i.e., DD) was finalized in June 2005. The site was closed under the USEPA corrective action complete with LUC classification in 2005; however, the KDHE Statutes and Administrative Regulations require long-term care of the site. Cleanup/Exit Strategy - The LTM includes periodic corrective measures performance evaluations on a five-year frequency, landfill maintenance, and LUCs. This site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials. Kansas Statutes and Administrative Regulations require long-term care which began in 2005 when the landfill closed (Kansas Statutes Annotated 65-3406(a)(18)). The USEPA Region VII used the Kansas Statutes Annotated, Article 34-Solid and Hazardous Waste, 65-3406 (a) (18) as the basis for the duration of the monitoring schedule (30 years). USEPA Region VII signed the Final SOB for this Site on June 20, 2005, and the 30-year monitoring requirement ends on June 20, 2035. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1007_FTL-07_INACTIVE SANITARY LANDFILL

Env Site ID: FTL-07

Cleanup Site: INACTIVE SANITARY LANDFILL

Alias: FTL-07

Regulatory Driver: RCRA-D

RIP Date: 12/31/2006

RC Date: 12/31/2006

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1998
CS:	- -	- -
RFI/CMS:	10/31/2001	4/30/2006
DES:	3/31/2002	8/31/2006
IRA:	- -	- -
CMI(C):	3/31/2002	12/31/2006
CMI(O):	- -	- -
LTM:	1/31/2007	9/30/2054

Site Narrative: FTL-07 is a landfill of approximately four acres located northeast of FTL-06 the Girl Scout area. The northern boundary of the site and the area to the east and southwest is forest. A gravel road marks the western boundary of the site with forest beyond that. FTL-07 was used as a sanitary landfill between 1967 and 1970. The 1988 USAEHA report lists petroleum, oil, and lubricants (POL) wood waste ash from incinerated material and other types of solid waste as being disposed of in FTL-07. In 1990 the site was used as a disposal site for lime sludge from FTL-23 which was a lime sludge lagoon. The USAEHA report indicated that this site had a low hazard potential and did not require investigation; however, this assessment was made before the site was covered with lime sludge. Regulatory agencies requested investigation of the site to characterize the nature and extent of contamination. The legal driver for restoration activities on Fort Leavenworth is a RCRA permit (No. KS4213720499) issued by the USEPA Region VII. An initial site characterization was completed and a draft RFI report was prepared in 2003. Site characterization activities included soil boring sampling surface soil sampling monitoring well installation groundwater sampling lime sludge sampling waste delineation via geophysical surveys and cover evaluation. Based on the review of the draft RFI report additional site characterization was conducted in winter 2004. In August 2006 CMS and RD documents were prepared. In November 2006 the landfill cover installation was completed. The SOB (i.e., DD) was completed on Sept. 19, 2006. The site was closed under the USEPA corrective action complete with LUC classification in 2006. Cleanup/Exit Strategy - The LTM includes periodic corrective measures performance evaluations on a five-year frequency, landfill maintenance, groundwater monitoring, and LUCs. This site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials. Kansas Statutes and Administrative Regulations require long-term care of the site which began in 2005 when the landfill closed (Kansas Statutes Annotated 65-3406(a)(18)). USEPA Region VII used Kansas Statute 65-3406(a)(18) as the basis for the 30-year duration of the post-closure monitoring. USEPA signed the final SOB for this site on Sept. 19, 2006, and the 30-year regulatory monitoring

requirement will end on Sept. 19, 2036. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1008_FTL-08_INACTIVE SANITARY LANDFILL

Env Site ID: FTL-08

Cleanup Site: INACTIVE SANITARY LANDFILL

Alias: FTL-08

Regulatory Driver: RCRA-C

RIP Date: 9/30/2008

RC Date: 9/30/2008

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1998
CS:	7/31/1998	6/30/1999
RFI/CMS:	7/31/1999	10/31/2007
DES:	11/30/2007	12/31/2007
IRA:	- -	- -
CMI(C):	1/31/2008	9/30/2008
CMI(O):	- -	- -
LTM:	10/31/2008	9/30/2054

Site Narrative: The Inactive Sanitary Landfill comprising approximately 7.5 acres is located in the northwest corner of the flood plain area of Fort Leavenworth. The site is bounded on the north by flood plain forest and the Missouri River. The area to the east is farmland that had been leased to a private individual. The area to the south starts with the levee and a wetland area. The west side is bounded by Union Pacific railroad tracks. The 1983 USAEHA report indicates that this site was used from the 1950s to 1967 as a wood recycling area where tree trimmings and other wooden debris were sent. Wood that was not recycled was burned and/or buried on the site. The USAEHA report indicates this landfill received construction and demolition waste residential waste and bulk waste. Bulk waste consisted of appliances, mattress springs and wood waste. The report lists this site as a sanitary landfill. In 1998 several employees reported that this site was used as a burn area to reduce the debris coming from the numerous wooden barracks that Fort Leavenworth demolished in 1975 and 1976. The July 1997 ECAS inspection recommended that this site be investigated. US Army Training and Doctrine Command Headquarters provided FY98 funds for investigation. The PA performed in summer 1998 found sufficient contamination to allow the site to be placed into the Army restoration program. The primary concerns were lead in the soil and benzene in the groundwater above regulatory limits. Several other SVOCs, PCBs, and pesticides also were detected in the soil at low levels. In 2001 an RFI was performed on the site. Due to anomalies found during a previous geophysical investigation that indicated possible contamination, the contractor also investigated a 3.5-acre area to the east of the site as part of the RFI at FTL-08. In October 2001 the final report was issued. The contractor advanced a total of eight soil borings at the site and installed six observation wells. Contamination levels consistent with the PA were found. Numerous VOCs, SVOCs, PCBs, and pesticides were detected in surface and subsurface soil within the landfill; only benzo(a)pyrene exceeded human health screening criteria. Arsenic, iron, and lead were detected in soil at levels exceeding human health screening criteria. Two VOCs were detected in the groundwater but neither exceeded human health screening criteria. SVOCs, PCBs, and pesticides were not detected in the groundwater but arsenic iron and manganese exceeding human health screening

criteria were detected. PCBs were not detected by the testing. Groundwater testing began in May 2005 to support finalization of the RFI/CMS. Results of the RFI were used to complete a risk assessment. The risk assessment results were incorporated into a CMS for the site that was used for selecting a remedy. The CMS completed in June 2007 included the selection of landfill cover as the remedy. Design and implementation were completed in December 2007. Remediation work was substantially completed in May 2008. The SOB (i.e., DD) was finalized in March 2008. In October 2008 a final construction completion and closure report was submitted. The site was closed under the USEPA corrective action complete with LUC classification in 2008. Post-closure care actions include groundwater monitoring and landfill inspection/maintenance, periodic corrective measures performance evaluations on a five-year frequency, and LUCs. Cleanup/Exit Strategy - This site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. Future use of this site is limited to activities that do not disturb the materials contained in the landfill or the cover materials. Kansas Statutes and Administrative Regulations require long-term care of the site which began in 2008 when the landfill closed (Kansas Statutes Annotated 65-3406(a)(18)). USEPA Region VII used Kansas Statute 65-3406(a)(18) as the basis for the 30-year duration of the post-closure monitoring schedule. USEPA signed the final SOB for this site on March 10, 2008, and the 30-year regulatory monitoring requirement will end on March 10, 2038. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1010_FTL-10_OLD FIRE TRAINING AREA/BURN PIT

Env Site ID: FTL-10

Cleanup Site: OLD FIRE TRAINING AREA/BURN PIT

Alias: FTL-10

Regulatory Driver: RCRA-C

RIP Date: 10/31/2006

RC Date: 9/30/2032

RC Reason: Not assigned

SC Date: 9/30/2032

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1988
CS:	7/31/1988	6/30/1995
RFI/CMS:	8/31/1996	1/31/2006
DES:	3/31/2002	1/31/2006
IRA:	10/31/2005	9/30/2006
CMI(C):	3/31/2002	9/30/2006
CMI(O):	10/31/2006	9/30/2032
LTM:	- -	- -

Site Narrative: Site FTL-10 is located on the Missouri River floodplain at the north end of the levee area towards the northeast corner of the area. The surface area is approximately 0.80 acre (60 by 60 meters) and is primarily an open field with a few trees. A levee road borders the north side of the site. The east, south and west sides are bounded by agricultural areas. The site was used for firefighting training. These activities probably started in the 1950s and continued until 1980. The flammable materials used for firefighting training are reported to have been POL waste solvents, paint thinners, paint sludge, and other flammable materials. These materials were placed directly on the ground and ignited. In 1981 Fort Leavenworth requested that the USAEHA analyze four samples of soil from the area for PCBs. The request stated that the area was contaminated with organic solvents, paint sludges, and thinners that had been placed in the area and ignited semiannually for use in firefighting training. In June 1981 approximately 40 drums and ten five-gallon cans of various ignitable solvents were removed from the site and taken to a shed located at FTL-09. The 1983 USAEHA inspection found 30 drums at the site. These drums were believed to contain POL and/or other solvents. The USAEHA found oily residue material adjacent to the drum storage area. The drums were properly disposed of in accordance with regulatory requirements. The assessment did not find records identifying the type or quantities of waste that had been disposed at this site. After their site visit in the early-1980s, shortly after the site ceased to be used as a fire training area, the USEPA directed Fort Leavenworth to perform a time-critical removal action. Discussions indicated that Fort Leavenworth personnel performed surface remediation of contaminated soil in the early-1980s, and that the material was buried in the sanitary landfill FTL-09. An SI began in October 1988 for examination of this site. The USAEHA report recommended that this study continue, and appropriate corrective measures be determined. In 1997 an SI was conducted that included installation of four additional monitoring wells and subsurface soil and groundwater sampling. Traces of free-phase hydrocarbons at the soil/groundwater interface and stained soil were observed at several locations during the SI. VOCs were detected throughout much of FTL-10; however, there was only one location where VOC concentrations in the soil exceeded the screening criteria. SVOCs were also

detected in the soil in only one location but none of the concentrations reported exceeded screening criteria. The only metal in the soil that exceeded screening criteria was arsenic; however, the concentrations are believed to be naturally occurring. Ten VOCs were detected at levels that exceeded criteria in various samples at FTL-10. SVOCs exceeded screening criteria in the groundwater at two locations. Monitoring well 10W5 also contained extremely elevated metals in the groundwater. Investigation of the site continued in fall 1998 when the USACE site characterization and penetrometer system truck was brought to the site. Groundwater contaminated with VOCs was found at depths ranging from 40 to 65 feet below ground surface (bgs). Fort Leavenworth obtains drinking water from wells screened at 120 feet bgs located approximately 3500 feet to the south of FTL-10. Cleanup Exit Strategy - This site is in the corrective measures implementation (operation) (CMI(O)) phase for monitored natural attenuation (MNA). The frequency of groundwater monitoring was required annually per the final SOB. However, the 2017 Post-Wide Site-Closure Report for FTL-10 recommended a reduction in groundwater monitoring to every five years and EPA concurred with those recommendations on February 27, 2018. The remaining maintenance will occur every five years. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. LUCs are required, along with periodic corrective measures performance evaluations on a five-year frequency for this site until 2032. Two additional monitoring events will be required based on the fate and transport model of contaminants in the CMS and are anticipated to occur in FY27 and FY32, at which time the site is expected to be closed. FTL-10 is located within Sherman Army Airfield and future land use will remain industrial in nature. FTL-10 is part of FTL-76 for Per- and Polyfluoroalkyl Substances (PFAS) project.

20395.1015_FTL-15_USED SOLVENT TANK (UST)

Env Site ID: FTL-15

Cleanup Site: USED SOLVENT TANK (UST)

Alias: FTL-15

Regulatory Driver: RCRA-D

RIP Date: 3/31/2006

RC Date: 9/30/2032

RC Reason: Not assigned

SC Date: 9/30/2032

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1988
CS:	7/31/1988	10/31/1994
RFI/CMS:	11/30/1994	10/31/2005
DES:	11/30/2005	1/31/2006
IRA:	3/31/2003	3/31/2005
CMI(C):	2/28/2006	3/31/2006
CMI(O):	3/31/2002	9/30/2032
LTM:	- -	- -

Site Narrative: The FTL-15 site is located at a former dry-cleaning shop that was inside the old US Disciplinary Barracks (USDB) located on McPherson Avenue along the west side of the USDB about 100 meters north of the south wall. The source for the contamination at this site was underground tanks containing tetrachloroethylene and other dry-cleaning solvents. The tanks were located in the grass-covered area between the dry-cleaning shop building and the maintenance shop Building. The site is normally referred to as FTL-15 for convenience since each of the six tanks at this location are assigned a tracking number. The tank location was on the east side of the dry-cleaning shop in a grass-covered area about 50-feet wide and 250-feet long. There is an eight-foot wide and eight-foot-deep steam tunnel below ground running north to south along the entire distance of the site which makes work at the site difficult. The Fort Leavenworth numbers and KDHE tank registration numbers for each tank were- FTL-15 = 23462U036 FTL-16 = 23462U037 FTL-17 = 23462U038 FTL-18 = 23462U039 FTL-50 = 23462U043 and FTL-51 = 23462U044. Prior to 1988 KDHE issued an order directing four tanks at the site be removed (FTL-15 FTL-16 FTL-17 and FTL-18). Records show that a removal contract for the four tanks was issued in 1988 and documentation of the removal was filed with KDHE. No other information about this contract has been located. During the removal action, two more tanks (FTL-50 and FTL-51) were found and were removed in September 1993 under a second contract. Based on the results of the sampling conducted at the time of the removal of the first four tanks, the 1989 USAEHA report documented that additional testing was required. The test results were forwarded to regulatory agencies for their review and determination of the necessary corrective actions. After the last two tanks were removed KDHE issued an administrative order based on RCRA underground storage tank (UST) regulations directing Fort Leavenworth to test and determine the extent of the solvent contamination. In April 1996 the first round of testing was performed. Significant contamination was found in three borings and in each of the three wells that were installed. The sampling indicated contamination had reached the water table and was migrating along it. Subsequent testing in 1997 and 1998 provided a better characterization of the site. Groundwater contamination from the site is moving primarily west and north. The 1997 final site

assessment and 1999 Phase II SI included analytical data which the USEPA later determined to be unreliable due to fraudulent manipulation of organic data on projects not related to Fort Leavenworth. Additional monitoring and injection wells were installed in June 2003. An enhanced bioremediation pilot test began in August 2003 and was successfully completed with a final CMS submitted in July 2005. The results of the investigations pilot study and risk assessment were used in development of the final corrective action plan (CAP) for remedy selection. A plan for the design and implementation of natural attenuation has occurred. A plan for a venting system at the former dry-cleaning building has been developed. The SOB (i.e. DD) was finalized in December 2006. Cleanup Exit Strategy - This site is in the CMI(O) phase for MNA. The frequency of groundwater monitoring was required annually per the final SOB. However, the 2017 Post-Wide Site-Closure Report for FTL-15 recommended a reduction in groundwater monitoring to every five years and EPA concurred with those recommendations on February 27, 2018. The remaining maintenance will occur every five years and two additional monitoring events based on the fate and transport model of contaminants in the CMS. The CMI(O) requires periodic groundwater monitoring, five-year reviews (FYR), maintenance and LUCs. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. The CMI(O) is being performed in accordance with the SOB and the RCRA permit. Since the levels of contamination have continued to decline, it is anticipated that two remaining events once every five years (FY27 and FY32) to occur. The site is expected to close in FY32, and future land use will be office space.

20395.1019_FTL-19_SEWAGE LAGOONS

Env Site ID: FTL-19

Cleanup Site: SEWAGE LAGOONS

Alias: FTL-19

Regulatory Driver: RCRA-D

RIP Date: 7/31/2000

RC Date: 7/31/2000

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1988
CS:	- -	- -
RFI/CMS:	- -	- -
DES:	1/31/1992	6/30/1992
IRA:	- -	- -
CMI(C):	9/30/1992	7/31/2000
CMI(O):	- -	- -
LTM:	2/15/2011	9/30/2054

Site Narrative: FTL-19, known as the Old USDB Pig Farm Sewage Lagoons, consisted of two livestock sewage lagoons that were constructed in 1980. The lagoons were in the northwest corner of the Fort Leavenworth installation and together covered approximately 1.4 acres. Lagoon No. 1 is the smaller of the two and sits to the west of Lagoon No. 2. Lagoon No. 1 was 75 by 120 by 17 feet deep, and Lagoon No. 2 was 150 by 350 by 8 feet deep. Both lagoons were drained and filled with soil in 2008. Groundwater has not been encountered at FTL-19. Current uses at FTL-19 include basketball courts, sidewalk, Army Corrections Brigade Facility perimeter fencing, light poles, perimeter road, grassy landscape, and vehicle parking. The current land use is designated as commercial and industrial and is not anticipated to change in the foreseeable future. FTL-19 was formerly operated as two sewage lagoons that were part of the USDB prison farm. The two farm sewage lagoons at FTL-19 were operational from 1980 to 2008 and regulated under a National Pollutant Discharge Elimination System (NPDES) permit issued by KHDE. From 1980 to 1996, both non-discharging lagoons were used to treat livestock waste and waste from inmate-living facilities. The revised 1996 NPDES permit allowed only Lagoon No. 1 to remain in use to treat human waste. Lagoon No. 2 continued to contain water until both lagoons were closed in 2008 as part of the Residential Construction Initiative construction project under KDHE guidance based on the NPDES permit. No initial response actions have been documented for FTL-19. Groundwater samples have not been collected as part of investigations at FTL-19 and a response is required to ensure groundwater is not impacted by elevated levels of hexavalent chromium in soils. The 2017 SOB defines the CAOs for FTL-19 as Interim groundwater use restrictions that should remain in the Base Master Plan until such time as groundwater sampling confirms that groundwater is not impacted by elevated levels of hexavalent chromium in soil. Cleanup/Exit Strategy - USEPA developed the final SOB for FTL-19 on Feb. 2, 2017. According to that SOB, the contaminants detected in soil are at low concentrations that do not pose an unacceptable risk to human health or ecological receptors. Interim groundwater use restrictions should remain in the Base Master Plan until such time as groundwater sampling confirms that groundwater is not impacted by levels of hexavalent chromium in soil. Annual

LUC inspections are required along with periodic corrective measures performance evaluations on a five-year frequency. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1034_FTL-34_OLD USDB WASH RACK

Env Site ID: FTL-34

Cleanup Site: OLD USDB WASH RACK

Alias: FTL-34

Regulatory Driver: RCRA-D

RIP Date: 7/31/2000

RC Date: 7/31/2000

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Not Evaluated

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	6/30/1988
CS:	- -	- -
RFI/CMS:	- -	- -
DES:	1/31/1992	6/30/1992
IRA:	- -	- -
CMI(C):	10/31/1992	7/31/2000
CMI(O):	- -	- -
LTM:	9/30/2017	9/30/2054

Site Narrative: FTL-34 an indoor wash rack located at 316 McPherson Avenue was known as the USDB Car Wash. The building is located at the intersection of McPherson Avenue and Bluntville Loop Road. The building is approximately 20- by 60-feet. The wash rack was indoor and discharged into the sanitary sewer. Building 431 was originally constructed as a Post Exchange Service Station in 1927. The building served as a service station until 1955 when Building 350 (FTL-67) replaced it. Building 431 then became a car wash staffed by USDB prisoners. The discharge from this building reportedly went into the storm sewer but it had been the sanitary sewer by 1988. An oil/water separator was installed in 1993. The car washing operation ceased in 2001. The building is currently being used as a storage facility for the Fort Leavenworth Fire Department. The building used detergents to aid the washing process. There is no record of hazardous materials usage at the site. The site was identified in the 1984 RCRA Permit Application as an area of concern. USEPA elected to not upgrade the site to a SWMU at that time. The permit modification signed on May 30, 2008, declared this site a SWMU and placed it on the 2000 Permit. The USEPA required reopening of this site in 2011 because of lack of analytical data. A preliminary investigation conducted in 2011 consisted of soil sampling at two soil boring locations and groundwater sampling at two locations. Additional soil and groundwater sampling was completed in January 2013 and 2015. Arsenic, benzene, cobalt, manganese, diesel range organics, and gasoline range organics were detected in groundwater at concentrations exceeding maximum contaminant levels and/or Kansas screening levels. Arsenic, diesel range organics and gasoline range organics were detected in soil at concentrations exceeding the USEPA regional 2 Protection of Human Health and the Environment, Attainment of Media Cleanup Standards, Control the Sources of Releases, and Compliance with Standards for the Management of Wastes. The USEPA Region VII placed the site on the 2010 RCRA Permit and required additional investigation before the site can be returned to a RC status. The legal driver for restoration activities on Fort Leavenworth is the RCRA permit issued by the USEPA Region VII. Cleanup Exit Strategy - LUCs are required annually, and periodic corrective measures performance evaluations are required on a five-year frequency. An interim land use restriction to prevent construction

on the site are required. Fort Leavenworth's DPW Environmental Division Restoration Program manages the land use restrictions and performs annual/semi-annual inspections. EPA Region VII developed the SOB for this site in FY19 which requires LTM/LTO. The SOB was issued in 2019 therefore the monitoring period ends in 2049. The site is included in the Fort Leavenworth LUC Action Plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. This building was demolished in December of 2023. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1035_FTL-35_WASH RACK (BURGER KING)

Env Site ID: FTL-35

Cleanup Site: WASH RACK (BURGER KING)

Alias: FTL-35

Regulatory Driver: RCRA-D

RIP Date: 12/23/2016

RC Date: 12/23/2016

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Low

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1983	6/30/1983
CS:	- -	- -
RFI/CMS:	5/15/2012	3/15/2016
DES:	- -	- -
IRA:	- -	- -
CMI(C):	12/1/2016	12/23/2016
CMI(O):	- -	- -
LTM:	12/23/2016	9/30/2054

Site Narrative: FTL-35 was located east of the Post Exchange Shoppette in an area now occupied by Burger King. The wash rack was a hand wash covered facility with no grit chamber or oil-water separator and discharged to the storm sewer system. The exact construction date of the facility is unknown but probably was not before 1975 when the Post Exchange Service Station located to the west was constructed. This facility was demolished in 1982 due to high maintenance costs. The 1988 US Army Toxic and Hazardous Materials Agency SWMU study lists the site and expressed a concern that it discharged directly into Corral Creek. The 1989 Draft RCRA USEPA Facilities Assessment indicated that this site had a low hazard potential and did not require investigation. The size of the building is unknown but was probably 40- to 60-feet wide and 20-feet long and used detergents to aid the washing process. There is no record of hazardous materials usage at the site. The wash rack was demolished in 1982 and Burger King was built on the site in 1987. The site was identified in the 1984 RCRA Permit Application as an area of concern. USEPA elected to not upgrade the site to a SWMU at that time. The permit modification signed on May 30, 2008, declared this site a SWMU and placed it on the 2000 Permit. The RCRA RFI was completed and recommended a NFA in the report submitted in November 2016. USEPA approved the Final RCRA RFI Report in December 2016; however, with the addition of required LUCs. Cleanup/Exit Strategy - The USEPA stated in the Dec. 23, 2016, approval letter that interim LUCs should remain in-place for FTL-35 and FTL-43 restricting these SWMUs from residential use. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. In addition to LUCs, this site requires periodic corrective measures performance evaluations on a five-year frequency. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1043_FTL-43_INCINERATOR FORMER BELL HALL RM 90

Env Site ID: FTL-43

Cleanup Site: INCINERATOR FORMER BELL HALL RM 90

Alias: FTL-43

Regulatory Driver: RCRA-C

RIP Date: 2/22/2017

RC Date: 2/22/2017

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Low

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	7/31/2000
CS:	- -	- -
RFI/CMS:	5/15/2012	2/22/2017
DES:	- -	- -
IRA:	- -	- -
CMI(C):	12/1/2016	2/22/2017
CMI(O):	- -	- -
LTM:	2/22/2017	9/30/2054

Site Narrative: FTL-43 the incinerator was in Building 111 Bell Hall in Room 310. The incinerator was a Model 150-1-N and occupied an area about 10 by 10-feet. It was installed in 1959 when the building was constructed and operated until the early 1990s when it was permanently shut down. The incinerator was removed in the 1990s and the building was demolished in 2009. The 1988 study documented this unit still existed. The 1989 draft RCRA USEPA Facilities Assessment indicated this site had a low hazard potential and did not require investigation. A search of the building in 2005 was not able to locate the unit. It was most likely removed in the early 1990s during a renovation of the space. There are no records to document the type or quantity of materials that were incinerated. Experience from other incinerators indicates that the ash probably contained metals in excess of the PRGs. The site was placed on the list of SWMUs in the 2000 permit without notification to or input from Fort Leavenworth. The RCRA RFI was completed and recommended NFA in the report submitted in November 2016; however, with the addition of required LUCs. USEPA approved the Final RCRA RFI Report in December 2016. Cleanup/Exit Strategy - The USEPA stated in the Dec. 23, 2016, approval letter that interim LUCs should remain in-place for FTL-35 and FTL-43 restricting these SWMUs from residential use. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. In addition to LUCs, this site requires periodic corrective measures performance evaluations on a five-year frequency. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1056_FTL-56_USED OIL CONTAMINATED FUEL STORAG

Env Site ID: FTL-56

Cleanup Site: USED OIL CONTAMINATED FUEL STORAG

Alias: FTL-56

Regulatory Driver: RCRA-D

RIP Date: 4/27/2019

RC Date: 4/27/2019

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Low

MRSPP: N/A

Phase	Start	End
RFA:	2/28/1987	7/31/2000
CS:	- -	- -
RFI/CMS:	5/15/2012	4/27/2019
DES:	- -	- -
IRA:	- -	- -
CMI(C):	4/9/2018	4/27/2019
CMI(O):	- -	- -
LTM:	5/21/2019	9/30/2054

Site Narrative: FTL-56, known as the Waste Oil & Off-Spec Fuel Storage, Sherman Airfield, is a generally flat unpaved area at the Sherman Army Airfield where aviation fuel and used oil were stored in drums on a concrete pad. FTL-56 encompasses approximately 625 square feet and is located in a relatively unpopulated area. Several commercial buildings are located in the general vicinity to the west. Groundwater was encountered at 7 feet bgs during investigative activities. The use of FTL-56 and the surrounding area is commercial/industrial and is not expected to change in the foreseeable future. Groundwater at FTL-56 is not used for any known purpose. Previous studies state that FTL-56 was likely used to store drummed waste oil and off specification aviation fuel from the 1980s to the mid-1990s, though no documentation was found to confirm those dates. No documentation was found to confirm the quantity of waste material present according to the 2019 USEPA report. No initial response actions have been documented for FTL-56. The site investigations determined no contaminants of concern were present at concentrations exceeding MCLs or regional screening levels (RSL) except for arsenic, manganese, and indeno (1 ,2,3-cd)pyrene. However, arsenic and manganese are naturally occurring at FTL-56 and the single detection of indeno (1 ,2,3-cd)pyrene was within the USEPA's acceptable risk range. The contaminants present in soil and groundwater at FTL-56 do not pose an unacceptable risk to human health or ecological receptors under the current site conditions and usage. The CMS Report for this site was completed in April 2018. USEPA approved the report on April 9, 2018; however, the SOB requires LUCs and FYRs. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. USEPA finalized the SOB for this site on May 21, 2019, and requires LUCs. In addition to LUCs, this site requires periodic corrective measures performance evaluations on a five-year frequency. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1057_FTL-57_SKEET RANGE (INACTIVE)

Env Site ID: FTL-57

Cleanup Site: SKEET RANGE (INACTIVE)

Alias: FTL-57

Regulatory Driver: RCRA-C

RIP Date: 10/31/2008

RC Date: 10/31/2008

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	7/31/1990	7/31/1990
CS:	7/31/1993	8/31/1996
RFI/CMS:	9/30/1996	7/31/2007
DES:	3/31/2002	9/30/2007
IRA:	- -	- -
CMI(C):	10/31/2007	10/31/2008
CMI(O):	- -	- -
LTM:	10/31/2008	9/30/2054

Site Narrative: This site of approximately 800- by 560-feet is located inside the levee. It is bounded by Chief Joseph Loop Road on the west, an open field and the levee on the north and a runway to the east. The site is now a grass field. The site was not reported in the 1988 USAEHA study but was identified in 1992 as eligible for the Installation Restoration Program (IRP) and then added to the action plan. The range opened in 1942 and closed in August 1988 when the skeet club moved to their new facility. Operations and Maintenance Army (OMA) funds were programmed and received for the 1993 site investigation work. The final contamination evaluation report was submitted in 1996. The investigation found lead and PAHs in the soil at concentrations significantly greater than the Kansas action levels and risk-based screening levels. The final EE/CA report was issued in March 2002. Both KDHE and USEPA conditionally approved the EE/CA report in their comment letter dated April 23, 2002. The EE/CA identified six alternative remedial technologies 1) soil cover 2) compacted cap 3) excavation and off-site disposal 4) waste minimization and off-site disposal 5) waste minimization and on-site disposal and 6) no action. The chosen remedy in the EE/CA is waste minimization and off-site disposal. An evaluation of the site was conducted in July 2007. Through the CMS process the selected remedy chosen was excavation stabilization and off-site disposal of surface soils above industrial PRGs for lead that was treated in place after the application of a stabilizing agent was mixed into the soil. A CMI plan was produced in August 2007 and completed soil removal in October 2008. The SOB (i.e., DD) was finalized in March 2008. A final construction completion and closure report was submitted in November 2008. Cleanup/Exit Strategy - Institutional controls (ICs) have been in place at FTL-57 since March 2008. ICs at FTL-57 include notations in the Base Master Plan restrictions on land use and zoning. No specific engineering controls (ECs) are in place at the site, but the site is located within the Sherman Army Airfield fenced boundary which serves to restrict unauthorized access to the site. The airfield also has a restriction on residential development. In addition to ICs, this site requires periodic corrective measures performance evaluations on a five-year frequency. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. Because hazardous substances, pollutants, or contaminants will remain at

the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1063_FTL-63_DRMO SCRAP YARD

Env Site ID: FTL-63

Cleanup Site: DRMO SCRAP YARD

Alias: FTL-63

Regulatory Driver: RCRA-D

RIP Date: 12/23/2021

RC Date: 12/23/2021

RC Reason: Other

SC Date: 9/30/2049

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: High

MRSPP: N/A

Phase	Start	End
RFA:	9/30/1993	9/30/1993
CS:	1/31/2000	2/29/2000
RFI/CMS:	3/31/2000	9/30/2018
DES:	10/1/2018	3/1/2019
IRA:	- -	- -
CMI(C):	8/30/2019	12/23/2021
CMI(O):	- -	- -
LTM:	12/23/2021	9/30/2049

Site Narrative: The site was created in 1907 when a number of storage buildings were constructed. The Site eventually became the Defense Reutilization and Marketing Office (DRMO) Scrap Yard until 1998 when DRMO left Fort Leavenworth. FTL-63 is the former location of the DRMO scrap yard which is located at the north end of West Warehouse Road. The scrap yard is in the fenced area on the north side of Building 280 and is approximately 0.6 acres in size. The year the area started receiving scrap is unknown, but official operations ceased in 1998. Site FTL-63 is currently used for temporary storage of metal barriers and trailers. Future use of the site is expected to remain commercial or industrial. The ground surface of the scrap yard is covered with approximately one-half to seven feet of fill consisting primarily of gravel and crushed limestone with small quantities of demolition debris (brick and concrete) and coal cinders. Surface drainage at the site flows primarily to the north and east, toward an intermittent stream and surface water impoundment. Water from the impoundment continues northward in the intermittent stream towards Quarry Creek. A CMS was completed in FY19. It was recommended that approximately 460 cubic yards of contaminated PAH sediment be removed, and the culvert be replaced. The recommendations of the CMI(C) were completed in FY22. The USEPA Region VII placed Site FTL-63 on the 2010 RCRA Permit and required additional investigation before the site can be returned to a response complete status. During the Nov. 29, 2011, Restoration Program Review Meeting, USEPA, KDHE, Fort Leavenworth and the USACE began reviewing strategies to move this site towards response complete. The USACE included Site FTL-63 in a multi-site performance work statement. The performance work statement was developed to address all environmental, safety, scheduling, and regulatory issues; and, assuming contractual liability and responsibility for the achievement of the performance objectives for Site FTL-63. An interim land use restriction to prevent construction on the site is required. Fort Leavenworth DPW Environmental Division Restoration Program manages the land use restrictions and performs annual/semi-annual inspections. Cleanup/Exit Strategy – US Army Environmental Command (USAEC) awarded a contract to implement the CMS recommendation for this site. In FY22 the contractor completed the recommendations of the CMS by

removing and disposing of approximately 547 tons of contaminated sediment, abandoning the existing culverts, and installing a new drainage basin. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. LUCs and periodic corrective measures performance evaluations on a five-year frequency are required for this site. LTM is being performed in accordance with the SOB and the RCRA permit. Based off the corrective actions performed, there will be a request for NFA at this site. Meanwhile, the SOB was issued in 2019 therefore the monitoring period ends in 2049 in accordance with the Defense Army Restoration Program's 30-year LTM/LTO guidance.

20395.1066_FTL-67_UNDERGROUND TANKS OLD PX SERVICE

Env Site ID: FTL-67

Cleanup Site: UNDERGROUND TANKS OLD PX SERVICE

Alias: FTL-67

Regulatory Driver: RCRA-I

RIP Date: 4/27/2019

RC Date: 4/27/2019

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Low

MRSPP: N/A

Phase	Start	End
ISC:	1/31/1970	12/31/1970
INV:	- -	- -
CAP:	5/15/2012	4/27/2019
DES:	- -	- -
IRA:	- -	- -
IMP(C):	6/30/1985	4/27/2019
IMP(O):	- -	- -
LTM:	4/28/2019	9/30/2054

Site Narrative: FTL-67 location was associated with the USTs at the old PX Service Station. The area is now a parking lot. The service station was built in 1955, ceased operations in 1975, and was demolished in March 1986. There were two steel USTs at the site. The tanks were 8,000- and 12,000-gallon capacity. They were removed in approximately 1985 and went to the DRMO for disposal. Environmental investigations were conducted at FTL-67 from 2011 to 2015. Soil contaminants were related to petroleum products consisting of benzene, ethylbenzene, naphthalene, and 1,2,4-trimethylbenzene. Soil contaminants were found predominantly within 6 to 10 feet below the ground surface. Groundwater contaminants detected at the SWMU were also related to petroleum products. The USEPA Region VII placed the site on the 2010 RCRA Permit and required additional investigation before the site could be returned to a response complete status. Cleanup/Exit Strategy - The legal driver for restoration activities on Fort Leavenworth is RCRA permit No. KS4213720499, issued by the USEPA Region VII. An interim land use restriction to prevent construction on the site is required. Fort Leavenworth DPW Environmental Division Restoration Program manages the land use restrictions and performs annual inspections. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. USEPA Region VII developed the SOB for this site in FY19 which requires long term maintenance. In addition to LUCs, this site requires periodic corrective measures performance evaluations on a five-year frequency. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1068_FTL-69_DIESEL FUEL SPILL AREA

Env Site ID: FTL-69

Cleanup Site: DIESEL FUEL SPILL AREA

Alias: FTL-69

Regulatory Driver: RCRA-I

RIP Date: 7/31/2008

RC Date: 7/31/2008

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
ISC:	11/30/1998	12/31/1998
INV:	1/31/1999	10/31/2001
CAP:	11/30/2001	6/30/2008
DES:	- -	- -
IRA:	- -	- -
IMP(C):	6/30/2008	7/31/2008
IMP(O):	- -	- -
LTM:	7/31/2008	9/30/2054

Site Narrative: Site FTL-69 is to the south and under former Building 139. Building 139 was located on elevated ground on the northeast corner of the levee. The entire site is approximately four acres. The area of concern was approximately 60 square-meters. Building 139 was constructed in the late-1950s to house diesel generators which supplied backup power to Building 138, a radio transmitter facility. A 30000-gallon underground diesel storage tank was installed when the facility was built. The area was used until the early 1970s when the tank was abandoned in place. In 1982 the generators were removed, and the building converted to a computer development center. The tank was removed in July 1991 as part of a UST removal contract and a clean closure of the tank site was obtained. The facility served as an Army reserve center until 1998 and the building was demolished in February 1999. During the demolition the contractor found soil that demonstrated a diesel fuel odor. Subsequent testing confirmed that selected soils had a detectable total petroleum hydrocarbon content. In October 2001 a final facilities investigation report was performed as part of the FTL-10 investigation. They found PAHs in deep soils beneath the area of the former Building 139 floor slab. Groundwater samples were collected in the immediate area of either the floor slab or the former UST location to the south of it in 2005. A supplemental sampling of the soil and groundwater was conducted in August 2006 and issued a final RFI addendum report of the site in October 2007. Through the corrective measures evaluation performed in February 2008 the selected remedies chosen were LUCs to limit future use of the site to nonresidential restrict activities which would disturb the soil and prevent domestic use of the groundwater in the area. The USEPA Region VII placed the site on the 2010 RCRA Permit and required additional investigation before the site could be returned to a response complete status. The legal driver for restoration activities on Fort Leavenworth is RCRA permit No. KS4213720499, issued by the USEPA Region VII. The SOB (i.e., DD) was finalized in March 2008. CLEANUP/EXIT STRATEGY – ICs have been in place at FTL-69 since March 2008 which include dig permits notations in the Base Master Plan restrictions on groundwater withdrawal and restrictions on land use. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. In addition to LUCs, this site requires

periodic corrective measures performance evaluations on a five-year frequency. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1069_FTL-70_FUEL OIL LEAK SITE AT OLD USDB

Env Site ID: FTL-70

Cleanup Site: FUEL OIL LEAK SITE AT OLD USDB

Alias: FTL-70

Regulatory Driver: RCRA-I

RIP Date: 7/31/2008

RC Date: 7/31/2008

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
ISC:	10/31/1999	2/29/2000
INV:	- -	- -
CAP:	10/31/2001	6/30/2008
DES:	- -	- -
IRA:	- -	- -
IMP(C):	6/30/2008	7/31/2008
IMP(O):	- -	- -
LTM:	7/31/2008	9/30/2054

Site Narrative: This site of approximately 1.4 acres is located north of the old USDB boiler plant. The boiler plant is located on the northwest corner of the facility. The north end of this site which is north of the confinement wall was the outdoor recreation area for the prisoners. The area immediately around the boiler plant building is a paved driveway. The area of this site north of the wall was used for fuel oil storage until the late-1980s. Numerous tanks have been sited at this location including a wooden staved oil tank (removed in the 1930s) six 20000-gallon aboveground storage tanks (removed by 1970) and a 168000-gallon aboveground oil tank (its operation was stopped in the late-1980s, and it was removed in 1999). All tanks stored No. 6 fuel oil that was the backup fuel for the boiler plant. During removal of the 168000-gallon tank contamination was found under the slab supporting the tank. The piping between the tanks and boiler plant was replaced in 1979. Due to the number of tanks on the site and the problems with the broken piping there is the potential for fuel oil contamination at this site. The USTs ceased operations in the late-1980s and were removed about 1995. A final work plan was submitted in August 2004 and conducted investigations in January 2005 for site characterization to support the development of an RFI for the site to determine the extent of fuel contamination. An RFI was performed and completed in January 2005. A draft RFI report was prepared for this site dated Sept. 19, 2005. Based upon the results the determination was made that two additional temporary groundwater monitoring wells would be installed located near existing soil boring No. 19 as referenced in the draft RFI report. Results from this sampling effort were captured in the final RFI report issued March 28, 2007. Through the corrective measures' evaluation performed in February 2008 the selected remedies chosen were LUCs to prevent residential use of the site prevention of groundwater use and restriction of activities on the site which could disturb the soil. The USEPA Region VII placed the site on the 2010 RCRA Permit and required additional investigation before the site could be returned to a RC status. The legal driver for restoration activities on Fort Leavenworth is RCRA permit No. KS4213720499, issued by the USEPA Region VII. The SOB (i.e., DD) was finalized in March 2008. CLEANUP/EXIT STRATEGY - ICs have been in place at FTL-70 since March 2008 and include dig permits notations in the Base Master Plan restrictions

on groundwater withdrawal and restrictions on land use. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. In addition to LUCs, this site requires periodic corrective measures performance evaluations on a five-year frequency. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1070_FTL-71_MCCLELLAN AVENUE MAINTENANCE SITE

Env Site ID: FTL-71

Cleanup Site: MCCLELLAN AVENUE MAINTENANCE SITE

Alias: FTL-71

Regulatory Driver: RCRA-C

RIP Date: 7/31/2008

RC Date: 7/31/2008

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
RFA:	1/31/1998	12/31/1999
CS:	10/31/2001	12/31/2004
RFI/CMS:	1/31/2002	6/30/2008
DES:	- -	- -
IRA:	- -	- -
CMI(C):	6/30/2008	7/31/2008
CMI(O):	- -	- -
LTM:	7/31/2008	9/30/2054

Site Narrative: This site is comprised of the hill and valleys on either side of McClellan Avenue on the north end of the installation. The site centers around Building 89, a former typewriter repair shop. The site was placed into the program after carbon tetrachloride was found at the west edge of FTL-15 which is just east of the site. Since the carbon tetrachloride had not been found in any other samples from FTL-15 this material was assumed to have come from a different source. The source is expected to be found somewhere along McClellan Avenue which is hydraulically upgradient from the location where the carbon tetrachloride was detected. Past activities in this area include a maintenance shop, a vehicle maintenance facility and a veterinary clinic. Building 85 which is currently the main administrative building for the Directorate of Installation Support, is reported to have been a vehicle maintenance shop at one time. Building 86 which was a riding arena, is currently a vehicle maintenance facility. Building 88 has been a veterinarian clinic since it was built in the early 1900s. Fire Station No. 1 is located at the south end of this area. Carbon tetrachloride was used in early chemical fire extinguishers. In 2004 a work plan was prepared, and Fort Leavenworth conducted a phase I SI to determine the potential source(s) and extent of carbon tetrachloride in the vicinity of McClellan Avenue. That work started in October 2004 and ran through December 2004. A phase II SI work plan was submitted in November 2005 and a Phase I remedial field investigation was performed and completed in December 2004. An additional work plan was produced to address groundwater impacts in the vicinity of well 15MW15. The initial investigation showed that groundwater impacts appeared to be limited to the area. Two additional temporary well points were installed and sampled. The results were captured in the final RFI report issued June 1, 2007. Through the corrective measures' evaluation performed in February 2008 the selected remedy chosen was LUCs to limit current and future uses of the site to nonresidential. The remedy also prohibits the use of groundwater at the site for domestic purposes and requires vapor intrusion mitigation measures in any new construction over the groundwater plume. The SOB (i.e., DD) was finalized in March 2008. Current ongoing site activities at FTL-71 included LUCs and groundwater monitoring. In accordance with the Site-Wide Post-Closure Groundwater Monitoring Plan two

monitoring wells FTL71MW001 and FTL71MW002 were sampled during June 30, 2012, and Aug. 10, 2012, respectively. These wells were analyzed for VOCs. Groundwater data was evaluated to ensure that the selected remedial alternative MNA continues to be effective. None of the concentrations of contaminants of concern exceeded their respective MCLs. Levels of VOCs within groundwater have been below the MCL for the previous four sampling events. The last exceedance occurred during 2006 in monitoring well FTL15W15 (the source location). Furthermore, the concentrations of VOCs within the remaining wells have been below the MCLs since 2006. Consistent with the SOB it was recommended that groundwater sampling for VOCs cease at wells FTL71MW001 and FTL71MW002. USEPA concurred with the recommendation in their Nov. 16, 2012, correspondence. CLEANUP/EXIT STRATEGY - FTL-71 is currently remedy-in-place (RIP) with controls. The five-year warranty period for this site ended in April 2012. USEPA approved cessation of groundwater monitoring of these wells on March 16, 2011. The monitoring well, FTL15MW-15, will continue to be monitored under the FTL-71 post-closure care program with LUCs. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. In addition to LUCs, this site requires periodic corrective measures performance evaluations on a five-year frequency. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1073_FTL-72_QUARRY CREEK DRUM SITE

Env Site ID: FTL-72

Cleanup Site: QUARRY CREEK DRUM SITE

Alias: FTL-72

Regulatory Driver: RCRA-D

RIP Date: 5/31/2014

RC Date: 5/31/2014

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: High

MRSPP: N/A

Phase	Start	End
RFA:	2/28/2007	3/31/2007
CS:	- -	- -
RFI/CMS:	8/31/2008	10/31/2012
DES:	5/31/2012	10/31/2012
IRA:	3/31/2010	8/31/2010
CMI(C):	11/30/2012	5/31/2014
CMI(O):	- -	- -
LTM:	3/31/2017	9/30/2054

Site Narrative: Site FTL-72 is a SWMU comprised primarily of historical waste disposal that covers approximately three acres. It is located north of McPherson Avenue, east of Sylvan Trail and west of an unnamed gravel road in the wooded uplands adjacent to Quarry Creek. Little is known of the dumping area, though the presence of historical artifacts indicates dumping activity occurred from 1890 to 1920. In March 2007, over a dozen steel drums were found in a ravine in the woods at this Site. All of the drums were empty, and the soil appeared stained. The discolored soil was sampled and found to be contaminated with PCBs. A Toxicity Characteristic Leaching Procedure result found lead at 87 milligrams per liter (mg/l), which exceeds the regulatory limit of 5 mg/l for hazardous waste. Interim corrective measures were completed, and the landfill was capped in 2014. CLEANUP/EXIT STRATEGY – The legal driver for restoration activities on Fort Leavenworth is a RCRA permit (No. KS4213720499) issued by the USEPA Region VII. The site has been investigated and the Final SOB, signed February 2, 2017, requires inspection/maintenance of the soil cap, groundwater monitoring once every three years, and the continuation of land use controls. Section III.L.6 of the RCRA Permit requires a periodic review every five years. USEPA Region VII used the Kansas Statutes Annotated, Article 29-Solid Waste, 65-3406(a)(18) regulations, which requires long-term care of the site for 30 years after the closing of the site as the basis for post-closure requirements. USEPA Region VII signed the final SOB for this Site on Feb. 2, 2017, along with the modified RCRA Permit. The thirty-year monitoring requirement ends on Feb. 2, 2047. USEPA requires groundwater monitoring of one downgradient groundwater monitoring well once every 3 years and landfill inspection/maintenance of the soil cap. A land use restriction to prevent construction on the site is required. Fort Leavenworth DPW Environmental Division Restoration Program manages the land use restrictions and performs annual inspections. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. In addition to LUCs, this site requires periodic corrective measures performance evaluations on a five-year frequency. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1077_CC FTL-75_IOWA AVE SANITARY LANDFILL

Env Site ID: CC FTL-75

Cleanup Site: IOWA AVE SANITARY LANDFILL

Alias: FTL-75

Regulatory Driver: RCRA-D

RIP Date: 12/31/2012

RC Date: 12/31/2012

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: High

MRSPP: N/A

Phase	Start	End
RFA:	8/31/2010	11/30/2010
CS:	8/31/2010	11/30/2010
RFI/CMS:	2/28/2011	12/31/2011
DES:	- -	- -
IRA:	3/31/2012	12/31/2012
CMI(C):	12/1/2012	12/31/2012
CMI(O):	- -	- -
LTM:	1/1/2016	9/30/2054

Site Narrative: FTL-75 is referred to as the Iowa Avenue Sanitary Landfill. FTL-75 encompasses an area of approximately 1.5 acres and is located on the southwestern portion of Fort Leavenworth in the former horseshoe-shaped bend of 5th Artillery Road. Iowa Avenue bisects FTL-75 and runs northwest-southeast. Groundwater at FTL-75 is present at depths of 14 to 18 feet bgs in the surficial loess deposits of the upland areas of Fort Leavenworth. Groundwater flows to the southeast. Current land use is designated as commercial/industrial. Groundwater is not used for any purpose. FTL-75 was used as a landfill from the late 1940s to the early 1970s. Waste reportedly placed at FTL-75 included sanitary waste, glass bottles, metal, concrete, and plastics. Buried wastes were initially discovered at FTL-75 during the installation of a sewer line for Housing Area 22B. The legal driver for restoration activities on Fort Leavenworth is a RCRA permit (No. KS4213720499) issued by the USEPA Region VII. In 2014, an interim corrective measure was completed and consisted of excavation and off-site disposal of 7,531 tons of waste buried at FTL-75. The excavation was completed to risk-based standards of Kansas or USEPA RSLs for residential soils and background metal concentrations. The excavation trench was backfilled with clean soil. Buried waste, located adjacent to a buried, near a natural gas pipeline, was left in place. Hexavalent chromium was detected in groundwater in exceedance of the USEPA RSL for tap water. The USEPA proposed interim LUCs remain in place to restrict groundwater use for human consumption. Arsenic was also detected in groundwater below the MCL for federal drinking water standards. However, it was determined that the cumulative carcinogenic risk of arsenic and hexavalent chromium in groundwater would pose an unacceptable human health risk if consumed. The USEPA determined that arsenic was naturally occurring and not from the former activities at FTL-75. Buried waste remains in place. CLEANUP/EXIT STRATEGY - The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. In addition to ICs, this site requires periodic corrective measures performance evaluations on a five-year frequency. USEPA Region VII used the Kansas Statutes Annotated, Article 29-Solid Waste, 65-3406(a)(18) regulations, which requires long-term care of the site for 30 years after the closing of the site as the basis for post-closure requirements. USEPA

Region VII signed the final SOB for this site in November 2016 along with the modified RCRA Permit. The thirty-year monitoring requirement ends in November 2046. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1084_FTL-76_SAAF-PFAS

Env Site ID: FTL-76

Cleanup Site: SAAF-PFAS

Alias: FTL-76

Regulatory Driver: CERCLA

RIP Date: 12/14/2026

RC Date: 12/14/2026

RC Reason: Not assigned

SC Date: 12/15/2026

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	9/30/2017	2/19/2018
SI:	2/20/2018	10/31/2019
RI/FS:	8/14/2020	12/14/2026
RD:	- -	- -
IRA:	- -	- -
RA(C):	- -	- -
RA(O):	- -	- -
LTM:	- -	- -

Site Narrative: Per direction from Deputy Chief of Staff Installations (DCS G-9) this site was created to account for all PFAS costs at the Installation. Currently a PA/SI has been completed to identify all releases of PFAS to the environment. An RI/feasibility study (FS) is currently underway. The USACE Baltimore District was contracted to conduct PAs and SIs for US Army Environmental Command on the current or potential historical use of PFAS with a focus on perfluoro octane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) at select Active Army installations nationwide. The PA/SI was conducted following the processes established by the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA). A combination of document reviews, internet keyword searches and an Installation site visit (comprised of interviews with Installation personnel and site reconnaissance) were used to identify specific areas of suspected PFAS releases. Four areas of potential interest (AOPI) have been identified in the PA/SI report at Fort Leavenworth. The PFAS source types identified include the following- two former firefighter training areas (FTL-10 and FTL-11) a former fire station (FTL-FFS) where truck nozzle testing and tank flushing was conducted and a historical landfill (FTL-09). All four AOPIs were identified as potentially impacting groundwater that could be used as a source of drinking water. PFAS have been detected in the drinking water supply wells downgradient of the AOPIs at concentrations greater than the USEPA's Health Advisory Level of 70 nanograms per liter (ng/L). Sampling data is available for the drinking water wells from 2016 to 2022; the maximum PFOS and PFOA concentrations observed in the drinking water wells from any sampling event were observed in January 2019 at well PWW-08 (combined PFOS and PFOA concentration of 1,790 ng/L). Prior to SI sampling a preliminary conceptual site model was developed for each AOPI. The groundwater exposure pathways for on-post receptors are considered potentially complete based on the potential for exposure to the affected groundwater through the five existing potable water wells located in the Weston Bend alluvial floodplain at Fort Leavenworth. The installation discontinued use of the drinking water wells, and potable was supplied from the City of Leavenworth (Leavenworth Waterworks). In May of 2022 a GAC filter was completed on the fort's drinking water plant and resumed operations. The groundwater exposure pathways for off-post

receptors were considered potentially complete prior to the SI with the lack of off-post PFAS analytical data. Surface waterbodies on post are small intermittent streams or small creeks which are not currently utilized and are not likely to be used in the future for potable water supply at Fort Leavenworth. Therefore, the surface water exposure pathways for on-post receptors are incomplete. Results from the PA indicated sampling was warranted at Fort Leavenworth as a phased SI approach. Under direction from USAEC SI sampling was completed at all four of the AOPIs and in areas peripheral to the AOPI source areas to determine presence or absence of PFAS. During Phase I of the SI the presence of PFAS (including PFOS and PFOA) was identified in groundwater and soil at source areas FTL-10 FTL-11 and FTL-FFS. Maximum combined PFOS and PFOA concentrations observed were 155,100 ng/L in groundwater from a sample collected at the groundwater table at FTL-FFS and 1,000 nanograms per gram (ng/g) in soil from a sample collected at two feet bgs at FTL-11. The presence of PFAS was also identified in surface water and sediment down-gradient of FTL-09 and in surface water down-gradient of the main cantonment area along Quarry Creek. The maximum combined PFOS and PFOA concentrations in surface water and sediment were 40 ng/L in a surface water sample collected from Quarry Creek and 9.6 ng/g in a sediment sample collected from FTL-09. During Phase II of the SI PFAS transport pathways were identified between both source areas FTL-FFS and FTL-11 and the drinking water supply wells. However limited borehole sampling locations did not intersect the primary migration pathways of the contaminants between the AOPIs and drinking water wells. This remains a data gap. Based on the SI sampling results the drinking water conceptual site models for the AOPIs remain mostly unchanged with the following update. Groundwater exposure pathways for off-post receptors are incomplete based on the non-detect sample results from US Geological Survey (USGS) monitoring wells USGS-4 and -7 located across the Missouri River from the Weston Bend and the AOPIs. An RI/FS has been underway since FY22. CLEANUP/EXIT STRATEGY - An RI/FS is underway to determine what remedial objectives are required, if any, and a pathway to site closure.

20395.1071_FTL-001-R-01_5TH ARTILLERY ROAD FIRING RANGE

Env Site ID: FTL-001-R-01

Cleanup Site: 5TH ARTILLERY ROAD FIRING RANGE

Alias: FTL-66

Regulatory Driver: RCRA-C

RIP Date: 4/26/2022

RC Date: 4/26/2022

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 10

Phase	Start	End
RFA:	3/10/2003	10/3/2003
CS:	2/28/2006	5/31/2007
RFI/CMS:	6/30/2007	7/29/2011
DES:	- -	- -
IRA:	3/15/2010	8/15/2010
CMI(C):	7/30/2011	4/26/2022
CMI(O):	- -	- -
LTM:	4/26/2022	9/30/2054

Site Narrative: This parcel is a former firearms practice range known as FTL-66 that was established in 1880 and used through 1960 for training. The site extends to the south from 5th Artillery Road to just above Hunt Road and is now residential multi-family housing and undeveloped land. No munition and explosives of concern (MEC) are known to have been found during construction of the family housing. The direction of fire on the rifle range was from south to north. The historical range fan overlaps portions of the current operational ranges. Only the portion of the rifle range that falls outside operational ranges is included in the munitions response site (MRS). The 2000 RCRA permit identifies a portion of the MRS as FTL-001-R-01 (FTL-66). The FTL-66 parcel is included in the areas leased to the RCI for housing areas. When it was identified in the Army's Phase III range inventory in 2003 FTL-001-R-01 consisted of four noncontiguous parcels of land totaling 375 acres. However as of the end of the SI in 2007 only the most southern of the four parcels remains as part of the MRS and the site's acreage has been reduced to 201 acres. This site was initially identified in 1997 when the Army requested information on all the old firing ranges on each installation. The site was included in the 1998 IAP. However, it was rejected by the USAEC as an IRP site since no chemical contamination had been identified. The site was placed into the OMA program for FY02. The contractor completed a records search in 2003 to aid in identifying the location of historical firing ranges. In November 2008 an environmental consulting firm performed and reported a final RFI at the site. Results of the RFI field activities conducted at the firing positions area indicated that munitions constituents (MC) lead, and other metal constituents (antimony arsenic copper mercury nickel and zinc) were not found at levels exceeding PRGs or at levels exceeding 95% upper tolerance levels across the majority of the site with exception to grids found in the northwest corner of the firing positions area. Results of metal detection surveys did not indicate the presence of any significant quantities of lead slugs and fragments or empty brass cartridges. Additionally, no unexpended ordnance was discovered during the surveying activities. Additional results in the November 2008 final RFI conducted at the target berm/trench area indicated that MC (lead) is present at concentrations exceeding the PRG in a number of samples. Other MCs (antimony, arsenic, copper, mercury, nickel, and

zinc) were detected occasionally at levels above the 95% upper tolerance levels. As a whole metal concentrations exceeding the PRG for lead or above the 95% upper tolerance levels for the other metals are considered to be anthropogenic occurrences in the target berm/trench area. Results of the metal detector surveying indicated the greatest number of bullets recovered during the investigation were located on the northern half of the study area on the existing hillside; however only one exceedance of the lead PRG was observed in this area. Although there appears to be a significant quantity of lead bullets in the shallow soil on the northern hillside of the target berm/trench area the lead concentrations in the soil appear to be typical of lead deposited by the slowing or stopping of the bullets. Given the evidence from the rest of the site there is no evidence of lead leaching into the soil from the bullets that have been lying at the site. The Area 22B Railroad Cut (RR Cut) soils area within FTL-001-R-01 was a ravine-like topographic feature in which small arms firing range impacted soil has been deposited and provided an engineered cover consisting of a geotextile clay cap and topsoil. The firing range soil was relocated to the RR Cut because of a military housing project being sited on the former small arms firing range (FTL-001-R-01). Placement of the soil in the FTL-001-R-01 RR Cut area occurred during FY06. Within the boundary of FTL-66 sixty-six units of existing housing on-post were demolished (beginning 2007) and new housing was constructed as part of Fort Leavenworth's on-going Residential Communities Initiative program. Since that time a decision was made that part of FTL-66 RR cut area would become part of the future site for a new Fort Leavenworth school. An RFI conducted at the source area of the Area 22B soils firing range reported that MC lead and other metals (antimony, arsenic, copper, mercury, nickel, and zinc) were not found at concentrations exceeding PRG or at concentrations exceeding 95% upper tolerance levels across the majority of the firing range. The soil from the RR Cut area was removed in FY12. The Final Interim Action Report for Area 22-B Railroad Cut Soils at FTL-66 was approved by USEPA on Dec. 13, 2012. The new McArthur Elementary School was built in 2015 and opened in the fall of 2016. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. A final SOB was issued by USEPA on April 26, 2022. CLEANUP/EXIT STRATEGY - LUCs and periodic corrective measures performance evaluations on a five-year frequency are required for this site. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved. Excavation of Grid 56 is required per the 2022 SOB for lead contamination at depth. Following redevelopment soil characterization is required for termiticide and lead.

20395.1075_FTL-003-R-01_KINDER GRENADE RANGE

Env Site ID: FTL-003-R-01

Cleanup Site: KINDER GRENADE RANGE

Alias: FTL-74

Regulatory Driver: OTHER

RIP Date: 3/15/2015

RC Date: 3/15/2015

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP: 10

Phase	Start	End
PA:	8/31/2008	12/31/2008
SI:	- -	- -
RI/FS:	6/30/2010	3/15/2013
RD:	- -	- -
IRA:	8/31/2010	3/31/2012
RA(C):	3/31/2012	3/15/2015
RA(O):	- -	- -
LTM:	3/15/2016	9/30/2054

Site Narrative: The Kinder Range area covered approximately 20 acres on heavily rolling forested terrain. A study of maps and historical records has determined that the range area probably was used for grenade training from about 1945 to 1970. The records indicate that rifle-propelled grenades and 20-millimeter grenades were fired on the range. A number of the rounds did not explode which creates a hazard to people in the area. The plan to perform a locate-and-remove in one step was completed in FY13. An SI and a MEC site characterization are required by the USEPA. Additional metals contamination was discovered, and the contract was modified in FY14 to determine the extent of contamination. A RCRA RFI was completed in April 2015 and no evidence of MEC was discovered during the IRA or the RFI. A total of 20 munitions debris (MD) items were recovered predominantly training munitions typical of small tactical unit training activities. An RFI addendum concluded that based on the risk assessments the site is not considered to pose a hazard to human health or ecological receptors and a NFA was recommended. CLEANUP/EXIT STRATEGY - An IC and an EC are in place at FTL-003-R-01. The IC at FTL-003-R-01 includes interim restrictions on land use. The EC in place requires signage. The EC will remain in place until NFA has been approved or until potential future remediation site activities allow for unrestricted use of the site. USEPA finalized the SOB for this site in March 2018 and requires implementing LUCs that prohibit residential development within the five-acre drainage area located east and north of Kinder Range. In addition, USEPA and KDHE jointly determined that this area will have surface soil samples collected once every three-years to monitor for the potential increase in contaminant levels due to surface runoff from Kinder Range. The latest sampling event was conducted in 2022. Soil sampling, LUCs, and periodic corrective measures performance evaluations on a five-year frequency are required for this site. LTM is being performed in accordance with the SOB and the RCRA permit. The site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. The SOB was issued in 2016 therefore the monitoring period ends in 2046; however, hazardous substances, pollutants, or contaminants will remain at the site at

concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

20395.1078_CC FTL-09_CLOSED SANITARY Landfill

Env Site ID: CC FTL-09

Cleanup Site: CLOSED SANITARY Landfill

Alias: FTL-09

Regulatory Driver: RCRA-D

RIP Date: 12/31/1993

RC Date: 12/31/1993

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2054

Program: Compliance-related Cleanup

Subprogram: CC

NPL Status: No

Hazardous Ranking Score: 0

RRSE: N/A

MRSPP:

Phase	Start	End
RFA:	1/31/1990	2/29/1992
CS:	3/31/1992	4/30/1992
RFI/CMS:	5/31/1992	6/30/1992
DES:	7/31/1992	2/28/1993
IRA:	- -	- -
CMI(C):	3/31/1993	12/31/1993
CMI(O):	- -	- -
LTM:	1/31/1994	9/30/2054

Site Narrative: The landfill is regulated under the Fort Leavenworth RCRA permit. The landfill received a cover in 1993 and placed in the permit by the USEPA in the year 2000 over concerns about possible pesticide and herbicide contamination. There are two areas that require funding- 1. Long-term maintenance of this site. Funds pay for the repair of any areas of cover maintenance e.g., repair damage mowing and weed control; and 2. Long-term monitoring to ensure contaminants are not leaving the site. The monitoring program will test water from two monitoring wells and from the runoff basin which is located at the lower end of the landfill. The testing for pesticides and herbicides in FY07 did not find any contaminants above screening levels. It was expected that in FY10 the site would be RIP per the RCRA permit. FTL-09 is an 11-acre closed sanitary landfill located on the northern portion of Fort Leavenworth on North Warehouse Road. FTL-09 is referred to as the North Warehouse Road Landfill or the Sherman Landfill. The main entrance to FTL-09 can be accessed by Sheridan Drive. The landfill is approximately 3,000 feet north of the cantonment area and about 1,500 feet west of the Sherman Army Airfield runway. Groundwater flows in an approximate east-northeast direction toward the Missouri River. The landfill is located directly upland of the levee that defines the Missouri River floodplain. The closed landfill is capped and fenced, restricting residential use. Groundwater is not used for any purpose at or near the landfill. The landfill was in operation from 1977 to September 1993. FTL-09 operated under the Kansas State Solid Waste Disposal Permit (No. 362), with KDHE overseeing operations since 1980. During the time of operation, materials disposed of at the landfill included general refuse, incinerator ash, and construction debris. In closing the site USEPA noted that the testing requirement per the consent agreement between Fort Leavenworth and KDHE remains in effect and that future testing is still required. CLEANUP/EXIT STRATEGY - It should be noted that USEPA determined that groundwater monitoring could be discontinued based on the lack of elevated contaminants detected in monitoring samples in the RCRA permit issued in 2010. LTM includes periodic reviews, landfill maintenance, and LUCs. This site is included in the Fort Leavenworth LUC action plan dated Aug. 1, 2005, updated on Oct. 3, 2017, and in May 2023. Future use of this site is limited to activities that do not disturb the materials

contained in the landfill or the cover. The SOB (i.e., DD) was finalized in Sept 2014 but the site closed under a KDHE Consent Order signed in 1997. Kansas regulation requires a 30-year post-closure care period. Therefore, post-closure actions include landfill inspection and maintenance from 1997 to 2027. Long term maintenance will continue until 2044 based on the 2014 EPA SOB. Because hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, the site will remain open indefinitely until UU/UE is achieved.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
20395.1001	FTL-01_INACTIVE SANITARY LANDFILL	1/31/1997
20395.1009	FTL-09_CLOSED ACTIVE SANITARY LANDFILL	9/30/2000
20395.1011	FTL-11_CLOSED FIRE TRAINING AREA	12/31/2006
20395.1012	FTL-12_USED OIL TANK AST NEAR BUILDING 3	6/30/1995
20395.1013	FTL-13_USED OIL TANK UST NEAR BUILDING 6	6/21/2005
20395.1014	FTL-14_USED OIL TANK NEAR BUILDING 86	7/31/2000
20395.1016	FTL-16_USED SOLVENT TANK UST NR BLDG 487	7/31/2000
20395.1017	FTL-17_USED SOLVENT TANK UST NR BLDG 487	7/31/2000
20395.1018	FTL-18_USED SOLVENT TANK UST NR BLDG 487	7/31/2000
20395.1020	FTL-20_SEPTIC TANK NR BLDG 398	9/20/2006
20395.1021	FTL-21_SEPTIC TANK NR BLDG 428	8/1/2013
20395.1022	FTL-22_SEPTIC TANK NR BLDG 425	7/31/2000
20395.1023	FTL-23_MINERAL SETTLING LAGOONS	6/30/1995
20395.1024	FTL-24_PESTICIDE AREA NR BLDG 227	3/11/2008
20395.1025	FTL-25_OLD PESTICIDE BUILDING 234	7/31/2000
20395.1026	FTL-26_OLD PESTICIDE BUILDING 234A	7/31/2000
20395.1027	FTL-27_PAST PESTICIDE BUILDING 237	7/31/2000
20395.1028	FTL-28_CURRENT PESTICIDE BUILDING 93	7/31/2000
20395.1029	FTL-29_PAST PESTICIDE BUILDING 413	9/30/1996
20395.1030	FTL-30_PAST PESTICIDE BUILDING 412	6/21/2005
20395.1031	FTL-31_CURRENT PESTICIDE BUILDING 399	7/31/2000
20395.1032	FTL-32_PESTICIDE BUILDING 84	7/31/2000
20395.1033	FTL-33_WASH RACK BUILDING 262	7/31/2000
20395.1036	FTL-36_WASH RACK BUILDING 132	7/31/2000
20395.1037	FTL-37_WASH RACK BUILDING 86	7/31/2000
20395.1038	FTL-38_WASH RACK BUILDING 305	2/2/2017
20395.1039	FTL-39_WASH RACK BUILDING 496	7/31/2000
20395.1040	FTL-40_WASH RACK BUILDING 237	7/31/2000
20395.1041	FTL-41_INCINERATOR BUILDING 344	7/31/2000
20395.1042	FTL-42_INCINERATOR BUILDING 111	7/31/2000
20395.1044	FTL-44_INCINERATOR BUILDING 632	7/31/2000
20395.1045	FTL-45_INCINERATOR BUILDING 136	7/31/2000
20395.1046	FTL-46_HAZARDOUS WASTE STG AT BLDING 27	7/31/2000
20395.1047	FTL-47_MEDIA SUPPORT AREA BUILDING 77	7/31/2000
20395.1048	FTL-48_SEWAGE TREATMENT SYSTEM BUILDING	2/2/2017
20395.1049	FTL-49_HAZARDOUS WASTE STORAGE BUILDING	6/30/1988
20395.1050	FTL-50_USED SOLVENT TANK NO 5 BUILDING 4	7/31/2000
20395.1051	FTL-51_USED SOLVENT TANK NO 6 BUILDING 4	7/31/2000
20395.1052	FTL-52_USED OIL TANK BUILDING 109	9/30/1991
20395.1053	FTL-53_USED OIL TANK BUILDING 471	10/31/1993
20395.1054	FTL-54_USED OIL STORAGE, BUILDING 132	7/31/2000
20395.1055	FTL-55_USED OIL STORAGE, CITY AIRPORT OP	7/31/2000

CRL ID	Site Name	Site Closeout Date
20395.1058	FTL-58_SKEET RANGE (ACTIVE)	7/31/1993
20395.1059	FTL-59_KINDER RANGE	3/31/1983
20395.1060	FTL-60_USDB GREENHOUSE	12/31/2006
20395.1061	FTL-61_TANK REMOVAL, BLDG 431	3/6/2012
20395.1062	FTL-62_UNDERGROUND PROPANE TANK, USDB FA	7/31/2000
20395.1064	FTL-64_FTL-64: REMOVE UST BLDG 264	7/31/2000
20395.1065	FTL-65_POND IN FAMILY HOUSING	6/21/2005
20395.1067	FTL-68_WEED CONTROL AREA, CITY AIRPORT O	6/21/2005
20395.1072	PBC at Leaven._PBC	1/31/2011
20395.1074	FTL-002-R-01_Golf Course	10/31/2008
20395.1079	CC FTL-12_Used Oil Tank Near Building 30	8/31/2005
20395.1080	CC FTL-13_Used Oil Tank UST Near Buildin	6/30/2005
20395.1081	CC FTL-23_Mineral Settling Lagoons	12/31/2008
20395.1082	CC FTL-63_DRMO Scrap Yard	10/31/2010
20395.1083	CC FTL-68_Weed Control Area, City Airpor	12/31/1990

COMMUNITY INVOLVEMENT

Community Involvement Plan (Date Last Reviewed):	12/9/2019
Technical Review Committee Establishment Date:	N/A
Restoration Advisory Board (RAB) Establishment Date:	N/A
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Reasons for Not Establishing RAB:	No sufficient, sustained community interest in a RAB has been expressed by the community
RAB Date of Solicitation from Community:	08/19/2022
RAB Results of Solicitation:	Not enough public interest.
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A
Administrative Record Location:	Bld. 80 810 McClellan Avenue, Fort Leavenworth KS, Room 103
Information Repository Location:	Bld. 80 810 McClellan Avenue, Fort Leavenworth KS, Room 103

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Completed	FYR	10/20/2021	1/4/2023	Develop new groundwater cleanup goals for 1,4-dioxane and 1,1-dichloroethane based on changes to toxicity factors and risk-based screening values (more stringent) for these constituents and modify the Hazardous Waste Management Facility Part II Permit with new groundwater cleanup goals. Re-evaluate progress of natural attenuation of tetrachloroethene at FTL-15 monitoring well FTL15MW20	Next FYR in FY27	FTL-15_Enhanced Reductive Dechlorination injections stabilized the plume. Ongoing monitored natural attenuation demonstrates contaminants are not detected at downgradient wells and concentrations continue to reduce.
Planned	FYR	10/20/2026	1/4/2028	N/A	N/A	N/A