

FORT HOOD, TEXAS



ENVIRONMENTAL QUALITY

INTRODUCTION

Fort Hood is the home of III Corps Headquarters, 1st Cavalry Division, 1st Army Division West, 13th Sustainment Command (Expeditionary) and several separate brigades, along with a host of brigade and battalion-sized tenant units and organizations. The installation supports a population of 379,232 individuals that include retirees, survivors, family members, on post population and off post family members. Its annual economic impact in the state of Texas totals \$35.4 billion. The installation's distinct range and training areas encompass 196,797 acres and provide state-of-the-art training opportunities for mechanized maneuvers, small training exercises, combined arms training and live-fire training, supporting 353 Strykers, 423 Bradleys, 261 Abrams Tanks and 179 aircraft. Fort Hood's Soldier population is 36,046, with an additional 22,000 Reserve Component Soldiers training at the installation each year. As one of two active Primary Mobilization Force Generation Installations in the Army, Fort Hood provides continuous Active and Reserve Component power projection, combat preparation, post-mobilization training, sustainment capabilities and pre-mobilization training support.

BACKGROUND

Leading the way in environmental quality, Fort Hood stands out as a champion in reducing waste, ensuring environmental compliance, implementing the Environmental Management System, promoting community relations within the Greater Fort Hood Area and streamlining environmental analyses. The installation's environmental quality program is a collaborative effort between garrison directorates, military units and tenants, Cen-Tex Sustainable Communities Partnership, Keep Texas Beautiful affiliates, the Central Texas Council of Government and community stakeholders. Serving as a model program for others to emulate, Fort Hood has created a variety of policies, programs and projects that balance mission readiness and environmental stewardship across the installation. With support from military and civilian leaders, Fort Hood is implementing best practices in support of the Net Zero philosophy, building a framework to facilitate change and improving relationships with stakeholders.



**Program
Management**



**Orientation
to Mission**



**Impact &
Outcomes**



**Technical
Merit**



**Stakeholder
Interaction**



Transferability

ACCOMPLISHMENTS

Pollution Prevention and Waste Reduction

Fort Hood Recycle: Fort Hood’s recycle program is rated among the best in the DoD and handles more than 10 million pounds of recyclable materials collected from the installation. The program is designed and built to process all targeted recyclable materials to support its goal of Net Zero Waste by the year 2020, to generate funds through the sale of materials and support environmental stewardship in the region. In FY16, Fort Hood Recycle completed renovations to upgrade its recycle center to provide single-stream service, increasing the center’s processing capacity from 1.4 million to 3 million pounds a month. Before the change to single-stream recycling took effect, it would take 2 days to process 8,000 pounds of recyclables. The new system cuts processing time to less than 2 hours. Fort Hood continually surpasses its goals while generating funds to pay for program costs, capital improvements, pollution prevention projects and community events. Recycling accomplishments included the following:

- Enhanced recycling efforts by selling 10.701 million pounds of recyclable materials, generating a gross revenue of \$1.043 million in FY16 and 16.516 million pounds of recyclables, generating a gross revenue of \$1.699 million in FY17.
- Invested \$189,000 of recycle proceeds back into the installation in FY16-17 to sponsor 32 Family and Soldier events.
- Partnered with the Child Youth and School Services’ Adopt-A-School program in FY16 to launch a Recycle Bowl competition within the Greater Fort Hood Area that encompasses nine school districts in the Central Texas region. The Recycle Bowl competition kicked off with a Texas Recycles! Poster contest and 135 posters, designed by children, were collected and 25 posters were featured in a calendar highlighting recycle facts and local environmental tips. Schools participated in the Recycle Bowl competition, collecting 3,499 pounds of recyclables. The competition continued in FY17 and was extended to begin on America Recycles Day and end on Earth Day. The competition collected 14,750 pounds of recyclables and the top school was awarded \$200.

- Provided a unique Styrofoam recycling service that collected 7,103 pounds in FY16 and 6,784 pounds in FY17 eliminating these pounds from the landfill.
- Collected 35,600 pounds of recyclables during the spring and fall cleanup events in FY16 and 40,190 pounds in FY17.
- Partnered with Killeen Independent School District and collected 141,040 pounds of recyclables in FY16 and 78,620 pounds in FY17 from nine on-post schools.
- Continued a successful single stream recycling program in Fort Hood Family Housing and collected 2.091 million pounds of recyclables, averaging 34 pounds per month per household in FY16, and collected 2.051 million pounds of recyclables, averaging 33 pounds per month per household in FY17.
- Recycled 15,100 pounds of scrap metal from the movie set of the National Geographic miniseries, “The Long Road Home,” in FY17.



Fort Hood Recycle employees navigate through the war-torn street and haul away set props that added to the 15,100 pounds of scrap metal collected from the miniseries set.

Surge Event: In FY17, a surge event was hosted for units to clear out their CONEX containers of serviceable and unserviceable items. The strategic partnership of the Sierra Army Depot, Defense Logistics Agency-Disposition Services, Fort Hood Recycle and 13th Expeditionary Sustainment Command streamlined services and collected more than 1 million pounds of excess equipment which included 557,000 pounds of scrap metal that generated \$22,583 in recycle revenue. Units freed their motor pools of over 750,000 pounds of scrap

metal, electronic waste and antiquated communications gear. Additionally, 250,000 pounds of serviceable secondary items, such as repair parts valued at over \$30 million, were collected for return to national level accountability. The leaner processes eliminated a paperwork requirement for approximately 90 percent of a unit's excess, resulting in readiness gains at the tactical, operational and strategic levels of the Army, saving units 12,225 man-hours. Fort Hood Recycle is working with other military installations to replicate the installation's successful Surge Event.



Soldiers from the 62nd ESB, 11th TTSB, recycle unserviceable military equipment, which will generate revenues for the installation's recycle program.

Greening the Operating Room & Partner for Change: In April 2017, the Carl R. Darnall Army Medical Center (CRDAMC) was recognized as the recipient of the Practice Greenhealth Environmental Excellence awards and gained recognition by the U.S. Army Medical Command as winners for the categories of Greening the Operating Room (OR) and Partner for Change. In FY16, while providing treatment for 1,075,924 outpatient visits and 7,293 operating room procedures, CRDAMC implemented a significant number of environmental programs, improved and expanded these programs to become more sustainable and made substantial progress in reducing the environmental impact of the surgical environment.

- Recycled clinical and medical plastics in the OR that included irrigation bottles, skin prep solution bottles, trays, rigid inserts, basins and urinals/bedpans.

- Reused and reprocessed 9,001 pounds of single-use medical devices that avoided \$227,357 in waste disposal costs.
- Utilized LED surgical lighting and HVAC setback in 10 ORs; and utilized 800 reusable hard cases for sterilization of surgical instrumentation and reduction of disposable sterile wrap.
- Reused processed chiller water from the Central Utility Plant's 20,000 gallon tank for landscape irrigation purposes.

Classification Unit: The Classification Unit (CU), a multi-functional operation, coordinates the management of used products to include hazardous waste, non-hazardous waste, universal waste and refrigerants. One of the CU's programs allows DoD personnel and their family members to drop off household hazardous waste for re-use, recycling or disposal.

- FY16: Collected 8,715 pounds of household hazardous waste, of which 1,947 pounds were recycled and 1,743 pounds were reissued for individual use; and recycled 151,400 pounds of plastics and metals.
- FY17: Collected 5,080 pounds of household hazardous waste, of which 1,445 pounds was recycled and 1,400 pounds were reused; and recycled 105,430 pounds of plastics and metals

Environmental Corner: Successful pollution prevention initiatives are collocated in an area of the installation referred to as the Environmental Corner, which includes a mobile kitchen trailer (MKT) /containerized kitchen (CK) wash bay, tanker purge facility and Jet Propellant JP-8/oil/antifreeze used product recycle center. Centralizing these facilities helps monitor pollution prevention and waste reduction.

- The MKT/CK wash bay facilitated easier cleaning of tactical kitchen trailers in a closed loop pretreatment system with no water entering the sanitary sewer or storm water systems. In FY16, the wash bay was used 111 times and 85 times in FY17 preventing approximately 1.470 million gallons of polluted water from entering the sanitary sewer.
- The tanker purge facility recycles and reuses all the water in a closed loop system before flushing and filtering. In FY16, the facility was used 88 times and 115 times in FY17, collectively saving 1,015

- Soldier hours and 2,334 million gallons of contaminated water from being discharged.
- In FY16, the used product recycle center collected and recycled 121,233 gallons of used oil, 36,200 gallons of JP 8 and 13,410 gallons of antifreeze. In FY17, 165,596 gallons of used oil, 71,811 gallons of JP-8 and 24,044 gallons of antifreeze was recycled.

Net Zero Waste: Fort Hood stakeholders are working together for a greener and sustainable future to meet its Net Zero Waste goal — eliminating landfill waste by 2020. The installation’s slogan “2020: Perfect Mission, Perfect Vision,” emphasizes that reaching Net Zero Waste will take a community effort to enhance material management by recycling and repurposing more and wasting less. The positive outcomes of this initiative have resulted in the following:

- Encouraged units and activities to participate in the Zero Boot Print Challenge and meet a checklist of strategies in the areas of reduce, repurpose and recycle. Recognize activities and housing villages with the Net Zero Waste Award for Best Composting Program, Best Unit Recycling Program and Best Housing Recycling Program presented quarterly at the Environmental Quality Control Committee (EQCC) meeting.



Maj. Gen. John Uberti, III Corps deputy commanding general at the time, presents the Blackjack/Ironhorse Dining Facility a Net Zero Waste Award for having the Best Food Waste Composting Program for the first quarter of FY17.

- Worked together with 10 dining facilities and composted 1.330 million pounds in FY16 and 1.358 million pounds in FY17.

- Collaborated with pig farmers to compost 122,000 pounds of produce and baked goods from the commissaries in FY16 and composted 124,000 pounds in FY17.
- Donated 150,000 pounds of food in FY16 and 242,000 pounds of food in FY17 to the Texas Food Bank, which distributed the donations to local charities.

Compliance Assessment and Management

Environmental Compliance Assessment Team: The technical expertise of the Environmental Compliance Assessment Team has helped to ensure environmental success and continuing improvement. As environmental professionals, the three-person team helps translate regulations into a perspective that makes it easier for Soldiers, Civilians and contractors to understand how the installation’s environmental policies and regulations apply to them. The team assesses every organization’s environmental program across the installation.

- FY16: Conducted 1,205 environmental assistance visits, 225 formal assessments, 263 courtesy assessments and trained 3,982 individuals.
- FY17: Conducted 1,125 environmental assistance visits, 200 formal assessments, 169 courtesy assessments and trained 4,728 individuals.
- FY16-17: Recognized 32 civilian individuals, civilian activities, military individuals and military units with the Environmental Stewardship Award. The award is based on performance by individuals and organizations that exhibit the highest level of commitment to the installation’s environmental program and is presented by senior leaders at the quarterly Hood Hero Ceremony.

Formal assessments of 176 military, garrison, contractor and tenant activities occurs either semiannually or annually. Scoring on a 0-100 percent scale results in a red, amber or green status. Activities scoring green three consecutive times receive annual assessments and compete for the quarterly Environmental Stewardship Award. The team also conducts an average of seven initial and subsequent command inspections with the Inspector General’s office.

Environmental Training: Fort Hood trains Soldiers, Civilians and contractors as Environmental Compliance Officers (ECOs), who serve as the backbone for their organization’s environmental

program, overseeing compliance in their areas of operation and providing training to all personnel. During a 40-hour course, individuals are trained to recognize compliance requirements, as well as the intent and reasoning behind the requirements for all of Fort Hood's environmental programs. In FY,16 the Environmental Trainer trained 240 individuals as ECOs, and trained an additional 1,832 individuals at various environmental training events and courses like the ECO Assistant, ECO Refresher, post-wide quarterly training, unit training, civilian leadership development program and commander/first sergeant course. In FY17, 205 ECOs and 1,300 individuals were trained.

Air Quality: The Air Quality Team monitored more than 1,200 permitted air emission sources to ensure compliance with 26 registered air permits and performed 250 air quality assessments and 97 visible emissions observations in FY16. In FY17, the team conducted 173 air quality assessments and 86 visible emissions observations. The Air Quality Team works closely with partners under the Lone Star Clean Fuels Alliance Coalition and Central Texas Air Information and Research Organization to reduce petroleum use in transportation and promote alternative fuel opportunities.

Environmental Management System

- ☂ The EQCC, which is chaired by Fort Hood's Senior Commander, ensures resources essential to establish, implement, maintain and improve the Environmental Management System (EMS) are available. The EQCC provides a forum for military and civilian leaders to meet quarterly and work together to plan and execute decisions related to environmental protection, installation sustainability, military land stewardship, natural resource conservation, energy efficiency and significant aspects identified by the EMS. The EQCC meetings include tours of environmental facilities, motor pools and other potential contamination sources to increase awareness of environmental programs and services available, educate new commanders and share lessons learned and best practices.
- ✂ In support of the Net Zero philosophy, the primary objective of the installation's EMS is to significantly reduce the amount of waste going into the landfill and reduce energy and water consumption. To achieve these goals, Fort Hood has committed to:

- Continually improving its environmental stewardship. ☂
- Evaluating opportunities for pollution prevention.
- Involving leadership to monitor activities impacting the environment.
- Complying with all legal requirements as the minimum standard.
- Reminding all personnel of their inherent responsibility to protect and preserve the environment.



Glenn Collier, ECAT Lead Assessor, provides a presentation for civilian and military leaders, during the EQCC and highlights environmental aspects within the motor pool footprint.

Achievement of these goals resulted in the following benefits in waste, energy and water management:

- Increased diversion rate from 39 percent, in 2011, to 55 percent since the implementation of the Net Zero Waste program. Reduced the amount of solid waste disposed from 46.8 million pounds in FY10 to 36.3 million pounds in FY17. ☂
- Enhanced recycling efforts by selling 10.701 million pounds of recyclable materials, generating a gross revenue of \$1.043 million in FY16 and 16.516 million pounds of recyclables, generating a gross revenue of \$1.699 million in FY17. ☂
- Exceeded EO 13693 water intensity goal with a 55.53 percent reduction in FY17. The average annual use of 2,063 MGAL in FY07 was reduced to 1,050 MGAL in FY17. ☂
- Implemented successful water conservation efforts including auto flushers with chlorine analyzers, water line looping, Supervisory Control and Data Acquisition (SCADA) System, automated flow control valves and elevated storage tank mixing which will have a lifetime water cost savings of \$5.197 million with a payback in 4.07 years. ☂
- Exceeded the FY25 goal of EO 13693 of 25 percent with an energy intensity of 15.10 percent in FY17. ☂

- Completed installation of a 15 megawatt (MW) solar photovoltaic (PV) array and a 50 MW off-site wind power generation in FY17. The solar array consists of 63,000 panels covering 132 acres on Fort Hood and 21 wind turbines in West Texas. It is the Army's largest and first hybrid renewable energy project. The 30-year power purchase agreement will ensure a minimum annual requirement of 230 gigawatt hours of renewable electric energy, providing more than 40 percent of the installation's annual energy usage.



Lt. Gen. Paul Funk II, III Corps and Fort Hood commanding general, speaks during the Fort Hood renewable energy project ribbon cutting ceremony at the Phantom Solar farm in June 2017.

- Reduced fossil fuel dependence with the Net Zero Energy facility, which provided 76 percent of the operational load in FY16 and 99.8 percent in FY17. The facility is a 2,100 square foot administrative office that includes a 32 kilowatt solar PV roof mounted system, a variable refrigerant flow heating, ventilating, and air conditioning system, and other energy efficient technologies.

Community Relations

- Throughout the year, Fort Hood engages and communicates with employees, stakeholders and external communities via social media, electronic newsletters, the installation's newspaper, briefings, and school and community events, which resulted in the following positive outcomes:
 - Reached 139,051 individuals in FY16 and 161,257 individuals in FY17 through events like the Keep Copperas Cove Beautiful Eco-Harvest, City of Killeen Geographic Information Systems Day, National Night Out, Fort Hood Earth Day, City of

Gatesville Earth Day, Earth Day Texas and America Recycles Day.

- Distributed a bimonthly electronic environmental newsletter to 1,004 military and civilian leaders and representatives across the installation.
- Highlighted recycle programs, services and accomplishments in the installation newspaper, the Fort Hood Sentinel, which has a circulation of 27,000 with 375 newspaper stand locations in seven Central Texas communities. The Fort Hood Sentinel gives visibility to the Assistant Secretary of the Army (Installations, Energy and Environment) and units across the Army.
- Declared April as Sustainable Environment Month with a proclamation signed by the Garrison Commander and supported a series of environmental events during the month to include Fort Hood Month of the Military Child and Earth Fest, Fort Hood Earth Day, City of Gatesville Earth Day, Earth Day Texas and Arbor Day.
- Recognized by the U.S. Forest Service as a Tree City USA community for the 12th consecutive year in FY17. Planted 1,267 trees in FY16 and 786 trees in FY17.
- Hosted the installation's largest environmental education event called Fort Hood Earth Day that included 670 students from three communities rotating through 24 environmental presentations in FY16, and 1,041 students from four different communities rotating through 28 environmental presentations in FY17.



Robert Trejo, Zoomagination, describes the life of several animals to 1,041 students during Fort Hood's annual Earth Day event in April 2017.

- Participated in the Cen-Tex Sustainable Communities Partnership, a regional collaboration that includes Fort Hood and seven neighboring

communities working together on educational opportunities and sustainability initiatives. In FY17, established a subcommittee to develop environmental education initiatives for youth in public, private and home schools that includes a waterway cleanup, trash removal event, beautification challenge, plastic film recycling, energy conservation, recycle poster contest and the Greater Fort Hood Area Recycle Bowl. These initiatives that will be held in FY18.

-  • Hosted the installation’s first annual Christmas Bird Count (CBC), in December 2016, that included 25 individuals volunteering 100 hours to count 91 species (2,912 individual birds) in an area that spanned more than 100,000 acres of DoD land, making it a unique CBC circle that encompasses the most DoD land.
-  • Recognized by the U.S. Fish & Wildlife Service as the recipient of the 2017 Military Conservation Partner Award for the installation’s collaborative efforts to balance training requirements while working to conserve and sustain wildlife and plant species and habitat, notably the installation’s ability to improve and manage the largest known populations of two endangered songbirds, the golden-cheeked warbler and the black-capped vireo.
-  • Partnered with CRDAMC’s Environmental Health Section to grow, engage and give back to the community. In FY17, five Soldiers volunteered 122 hours to support Fort Hood Earth Day, Earth Day Texas, Month of the Military Child, the Texas

A&M University Central Texas’ Terrace Garden and the Family Housing community garden.

National Environmental Policy Act

The Fort Hood NEPA program uses an approach that integrates two team members within critical areas of the DPW, to assure all projects and programs have access to NEPA guidance. The NEPA program is assigned two specific areas- sustainable range/master planning and DPW in-house engineering projects. Early involvement of the NEPA team ensures decision makers, along with master planners and project managers, understand the impacts to human health and the environment prior to making final decisions on proposed actions. The team collaborates alongside and attends meetings with the U.S. Army Corps of Engineers, Fort Hood DPW’s Engineering and Master Planning Divisions and Fort Hood Range Operations, acting as a liaison between the Environmental Division and stakeholders. The NEPA team also works with the Cultural Resources Branch and is involved in the consultation process with the State of Texas and the local Native American tribes, and works closely with the Natural Resources Branch, providing oversight of the Integrated Natural Resources Management Plan and Endangered Species Management Plan. Accomplishments include the following:

- FY16 - Processed 435 dig permits; reviewed 3 environmental condition of property (ECP) reports with supporting NEPA documents and processed 78 record for environmental considerations (RECs); processed 16 stationing actions; conducted 213 project reviews; processed 73 site approvals; and attended 50 Installation Project Review Boards and design meetings.
- FY17 - Processed 376 dig permits; reviewed 5 ECP reports with supporting NEPA documents and processed 64 RECs; processed 4 stationing actions; conducted 168 project reviews; processed 62 site approvals; and attended 46 Installation Project Review Boards and design meetings.
- Drafted, staffed and completed 4 Environmental Assessments saving the installation project funds and time by performing these in-house.
- Worked with internal and external stakeholders on projects, from the beginning, ensuring inclusion of environmental considerations for virtually every project.



Capt. Kandice Reyes, chief of CRDAMC’s environmental health section, leads her Soldiers on an extended PT session in the Montague Village community garden.