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**AFSC 3E4X1 WATER AND FUEL SYSTEMS MAINTENANCE
CAREER FIELD EDUCATION AND TRAINING
PLAN**

Compliance with AFI 36-2201, other training policies/documentation, and publication policies is required. CFETP 3E4X1, 1 Oct 2017, is changed as follows:

1. The following changes were made to Part I:

<u>Item</u>	<u>Page</u>	<u>Para</u>	<u>Action</u>
1.	8		Added Task Qualification Training (TQT)
2.	25	C2.2. (Training)	Added TQT certification requirement for 5-skill level
3.	31	A2.2.3.	Added TQT definition

2. The following changes were made to Part II:

<u>Item</u>	<u>Page</u>	<u>Para</u>	<u>Action</u>
1.	37	D3.	Deleted CDC 3E451A/N WFSM Journeyman Edit Code 03
2.	37	D3.	Added CDC 3E451A WFSM Journeyman Edit Code 04
3.	37	D3.	Added CDC 3E451B WFSM Journeyman Edit Code 04
4.	38	D5.	Deleted CDC 3E451A Edit Code 04 WFSM Journeyman 1 Mar 18
5.	38	D5.	Deleted CDC 3E451B Edit Code 04 WFSM Journeyman 1 May 18
6.	42		Added ▲ Symbol to Proficiency Code Key
7.	44	3	Added “3.17. Confined space entries” to column 1, “*” to column 2A and “B” to column 4B(2)
8.	61	19.3.1.4.	Added ▲ to column 2A
9.	62	19.3.2.2.	Added ▲ to column 2A
10.	62	19.3.2.3.	Added ▲ to column 2A
11.	64	A3.4.	Added “3.17. Confined space entries” to the AFQTP Record

3. After necessary actions, file this change in the back of the CFETP.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

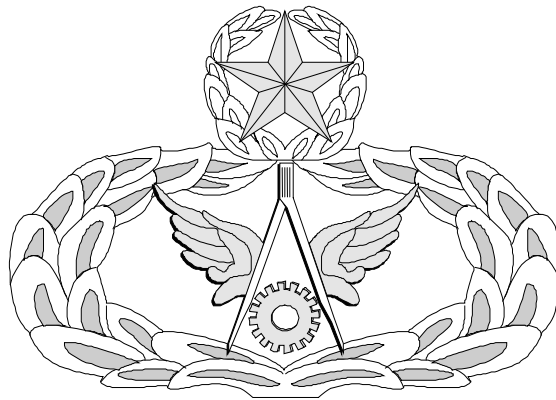
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CFETP 3E4X1
Part I & II
01 Oct 2017
Incorporating Change 1
Dated 1 Sep 2018

Air Force Specialty Code (AFSC) 3E4X1

WATER AND FUEL SYSTEMS MAINTENANCE



MASTER



BASIC



SENIOR

CAREER FIELD EDUCATION AND TRAINING PLAN

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Certified by: CMSgt Randall L. Youngblood

Supersedes: CFETP 3E4X1, 1 Oct 2017

Pages: 67

PREFACE

This Career Field Education and Training Plan (CFETP) is a comprehensive education and training document that identifies life-cycle education/training requirements and training support resources for the Water and Fuel Systems Maintenance specialty. The CFETP will provide our personnel with a clear career path to success and instill rigor in all aspects of our career field training.

Note: Civilian occupying associated positions may use Part II as a guide to support duty position qualification training.

The CFETP consists of two parts used by the supervisor to plan, manage, and control training within the career field.

Part I provides information necessary for overall management of the specialty.

- Section A provides general information about how the CFETP will be used.
- Section B identifies career field progression information, duties and responsibilities, training strategies, and the career field path.
- Section C associates each skill-level with specialty qualifications (knowledge, education, and training).
- Section D indicates resource constraints.
- Section E identifies transition training guide requirements for SSgt through MSgt.

Part II includes the following:

- Section A identifies the Specialty Training Standard (STS) to include duties, tasks, and technical references to support Air Education and Training Command (AETC) conducted training, wartime course, and correspondence course requirements.
- Section B contains the course objective list and training standards supervisors will use to determine if an Airman has satisfied training requirements.
- Section C identifies available support materials.
- Section D identifies a training course index supervisors can use to determine resources available to support training. Included here are both mandatory and optional courses, and exportable courseware.
- Section E identifies MAJCOM-unique training requirements supervisors can use to determine additional training required for the associated qualification needs.
- Section F identifies home station training references and courses material required for this specialty in support of contingency/wartime training.

Note: At unit level, supervisors and trainers must use Part II to identify, plan, and conduct training commensurate with the overall goals of this guide.

Using guidance provided in the CFETP will ensure individuals in this specialty receive effective and efficient training at the appropriate point in their careers. This plan will enable us to train today's work force for tomorrow's jobs. At the unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall goals of this guide.

ABBREVIATIONS/TERMS EXPLAINED

Advanced Distributive Learning (ADL). Anytime, anyplace learning within DoD consisting of instructional modules comprised of sharable content objectives in an Internet/Intranet environment.

Advanced Training (AT). A formal course training toward a technical or supervisor level Air Force Specialty (AFS). Training is for selected career Airmen in the advanced technology level of the AFS. Graduates are not awarded a new AFSC.

Air Force Career Field Manager (AFCFM). An individual on the Air Staff charged with the responsibility for overseeing all training and career field management aspects of an Air Force specialty or group of specialties.

Air Force Enlisted Classification Directory (AFECD). The Official directory for all military enlisted classification descriptions, codes, and identifiers. The specialty descriptions and codes will be used to identify each Air Force job (valid requirements) and describes the minimum mandatory qualifications of personnel to fill these jobs. The updated AFECD is available at AF Personnel Center's web site located at <http://ask.afpc.randolph.af.mil/> under the military classification menu.

Air Force Civil Engineer Center (AFCEC). Formally, Air Force Civil Engineer Support Agency (AFCESA), the focal point for all Civil Engineer training development. All individual AFSC Force Development Managers (FDM) are located at AFCEC.

Air Force Credentialing Opportunities On-Line (AF COOL) Program. AF COOL replaced the CCAF Credentialing and Education Research Tool (CERT). The AF COOL Program can be accessed through the AF Virtual Education Center (AFVEC). The site provides a research tool designed to increase an Airman's awareness of national professional credentialing and CCAF education opportunities available for all Air Force occupational specialties.

Air Force Institute of Technology (AFIT). Provides vital, relevant, and connected education that enables Airmen to be ready engineers and great leaders who know how to build sustainable installations to last while leading the change for the Civil Engineer career field. Course list can be accessed at <http://www.afit.edu/cess/index.cfm>.

Automated Training Record (ATR). Electronic training data base to document training and access is located at the [Civil Engineer Virtual Learning Center \(CE-VLC\)](#).

Air Force Job Qualification Standard/Command Job Qualification Standard (AFJQS/CJQS). A comprehensive task list that describes a particular job type or duty position. Used by supervisors to document task qualifications. The tasks on the AFJQS/CJQS are common to all persons serving in the described duty position.

Air Force Qualification Training Package (AFQTP). A required instructional package designed for use at the unit to qualify, or aid qualification, in a duty position or program, or on a piece of equipment. AFQTPs identify the Air Force's standardized method for performing the task. The AFQTP may be printed (paper-based), computer-based, in other audiovisual media formats, or all

three. If determined by the AFCFM, a paper-based; along with a computer-based product may be needed to satisfy a particular training requirement.

Career Field Education and Training Plan (CFETP). A comprehensive, multipurpose document encapsulating the entire spectrum of education and training for a career field. It outlines a logical growth plan that includes training resources and is designed to make career field training identifiable, to eliminate duplication, and to ensure this training is budget defensible.

Chief, Civil Engineer Force Development (CCEFD). Located at AFCEC, this individual is responsible for all force development education and training associated within the 3E0 to 3E6 AFSCs.

Civil Engineer Virtual Learning Center (CE-VLC). Anytime, anyplace learning within the Civil Engineer Community consisting of instructional modules and skill-level awarding course material specific to the AFSC.

Commercial Off The Shelf (COTS). Commercially-procured training products.

Core Tasks (*). Mandatory tasks which the AFCFM has identified as a minimum qualification requirement within an Air Force specialty or duty position. These tasks exemplify the essence of the career field.

Critical Tasks. Tasks that have been identified by the work center supervisor as having a detrimental effect on mission accomplishment if not performed correctly. Critical tasks may or may not be the same as core tasks but are mandatory if identified as 'critical' to the individual's position by the supervisor or work center.

Diamond Tasks (♦). Diamond tasks are extremely important to the career field. Diamond tasks are the same as core tasks with one exception--equipment shortfalls at most locations have created problems with the actual **hands-on** training/certification of these tasks. In instances where required equipment is not available for instruction, completion of the task's AFQTP is all that is required for upgrade and qualification training. Hands-on certification will be accomplished at the first opportunity when equipment is available.

Distance Learning (DL). Includes Video Tele-seminar (VTS), Video Tele-training (VTT), and WBT. Formal courses that a training wing or a contractor develops for export to a field location (in place of resident training) for trainees to complete without the on-site support of the formal school instructor. For instance, courses are offered by Air Force Institute of Technology, Air University, and Training Detachment.

Duty Position Tasks. The tasks assigned to an individual for the position currently held. These include as a minimum all core tasks, diamond tasks, critical tasks and any other tasks assigned by the supervisor.

Enlisted Professional Military Education (EPME). Enlisted Professional Military Education (EPME) introduces Airmen to appropriate institutional competencies at specific milestones throughout their career and includes two phases, Basic and Resident. Basic EPME requirements are completed via distance learning (DL) courses to establish a foundation for continued development.

Resident EPME requirements include Airman Leadership School (ALS), NCOA, SNCOA and the Chief Leadership Course (CLC). Resident attendance is not duplicative of the basic EPME requirements, but builds upon the competencies obtained to achieve higher proficiency levels.

Expeditionary Combat Support-Training Certification Center (ECS-TCC). Total Force training center managed by the Air Force Reserve Command.

Force Development Manager (FDM). An individual assigned to the Air Force Civil Engineer Center (AFCEC) charged with the responsibility for overseeing all training and career field management aspects of a specific Air Force Civil Engineer specialty.

Initial Skills Training. AFS-specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. Normally, this training is conducted by AETC at one of the technical training wings.

Just-in-Time (JIT) Training. Training required just prior to a selected deployment or tasking that delivers training necessary for mission accomplishment. It is typically predicated on hard-to-obtain contingency skills.

MAJCOM Functional Managers (MFMs). Senior leaders, designated by the appropriate functional authority (FA) who provide day-to-day management and responsibility over specific functional communities at the MAJCOM, FOA, DRU, or ARC level. While they should maintain and institutional focus in regards to resource deployment and distribution, FMs are responsible for ensuring their specialties are equipped, developed, and sustained to meet future needs of the total Air Force mission.

Occupational Analysis Report (OAR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFS. The information collected from this survey is used to make changes to upgrade training and Weighted Airman Promotion Exams.

On-the-Job Training (OJT). Hands-on, over-the-shoulder training conducted to certify personnel in both upgrade (skill-level award) and job qualification (duty position certification) training.

Proficiency Training. Additional training, either in-residence, advanced/supplemental training courses, or on-the-job training provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade.

Qualification Training (QT). Actual hands-on task performance training designed to qualify an individual in a specific duty position. This portion of the dual channel on-the-job training program occurs both during and after the upgrade training process. It is designed to provide the performance skills required to do the job.

Regional Training Site (RTS). Total Force training centers managed by the Air National Guard.

Resource Constraints. Resource deficiencies, such as money, facilities, time, manpower, or equipment that precludes desired training from being delivered.

Specialty Training. A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade airmen in the award of a skill level.

Specialty Training Standard (STS). Describes skills and knowledge that airmen in a particular AFS need on the job. It further serves as a contract between the Air Education and Training Command (AETC) and the user to show the overall training requirements for an AFS taught in the resident and nonresident courses.

Specialty Training Requirements Team (STRT). Subject Matter Experts from each MAJCOM conduct research prior to Utilization and Training Workshop (U&TW), develops training, recommends delivery methods and determines if a full fledge U&TW is required. The team finalizes the CFETP, specialty description and develops a standard for all courses.

Subject Matter Expert (SME). An individual with expertise in a particular subject matter, tasked to represent the subject matter to an individual or group for technical accuracy.

Supplemental Training. A formal course which provides individuals who are qualified in one or more positions of their Air Force Specialty (AFS) with additional skills/knowledge to enhance their expertise in the career field. Training is for selected career airmen at the advanced level of the AFS.

Task Qualification Training (TQT). Mandatory training in which individuals perform wartime mission essential tasks in a simulated wartime environment while wearing chemical, biological, radiological or nuclear (CBRN) individual protective equipment (IPE).

Total Force. All collective Air Force components (Active Duty, Reserve, Guard, and Civilian elements) of the United States Air Force.

Upgrade Training (UGT). Identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 5-, 7-, and 9-skill levels.

Utilization and Training Workshop (U&TW). An executive decision meeting to vote on funding for instructor authorizations, equipment and facilities needed to support any new or revised training coming from the STRT. They will also determine which organizations will furnish resources and establish commitment and delivery dates in writing, document equipment availability dates and any problems and establish training delivery dates.

Vectored Positions. Key Senior Noncommissioned Officer (SNCO) positions in your career field. To learn more about vectored positions go to <https://afvec.jangle.af.mil/myvector>.

Web-Based Training (WBT). A self-paced stand-alone computer product used to deliver interactive subject and task knowledge.

PART I
SECTION A - GENERAL INFORMATION

A1. Purpose: This CFETP provides information necessary for the AFCFMs, MAJCOM functional managers (MFMs), commanders, education and training managers, supervisors/trainers, and certifiers to plan, develop, manage, and conduct an effective career field training program. This plan outlines the training personnel in an AFS require to develop and progress throughout their careers. It identifies initial skills, upgrade, qualification, advanced, and proficiency training.

A1.1. Initial Skills Training is the AFS-specific training an individual receives upon entry into the Air Force or upon retraining into this specialty for award of the 3-skill level. For our career field, this training is provided by AETC at the 366 TRS, Sheppard AFB, TX.

A1.2. Upgrade Training. Identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 5-, 7-, and 9-skill levels.

A1.3. Qualification Training. Hands-on task performance training designed to qualify an Airman in a specific duty position. This training program occurs both during and after the upgrade training process. It is designed to provide the performance skills/knowledge training required to do the job.

A1.4. Advanced Training. A formal course for training personnel towards a technical or supervisory level in an AFS. Training is for selected career Airmen in the advanced technology of the AFSs. Graduates are not awarded a new AFSC.

A1.5. Proficiency Training. Additional training either in-residence, exportable advanced training courses, or on-the-job training, provided to people to increase their skills and knowledge beyond the minimum required for upgrade.

A1.6. The CFETP has several purposes –some are:

A1.6.1. Serves as a management tool to plan, manage, conduct, and evaluate a career field training program. It is used to help supervisors identify training at the appropriate point in an individual's career.

A1.6.2. Identifies task and knowledge training requirements for each skill level in this specialty and recommends education/training throughout each phase of an individual's career.

A1.6.3. Lists training courses available in this specialty and identifies sources of training and the delivery methods.

A1.6.4. Identifies major resource constraints that impact full implementation of the desired career field training process.

A2. Uses. MFMs and supervisors will use the plan at all levels to ensure comprehensive and cohesive training programs are available for each individual in the specialty.

PART I

A2.1. AETC training personnel will develop/revise formal resident, non-resident, field, and exportable training based on requirements established by the users and documented in Part II of the CFETP. They will also work with the AFCFM and Air Force Civil Engineer Center Force Development Division (HQ AFCEC/COF) to develop acquisition strategies for obtaining resources needed to provide the identified training.

A2.2. MFMs will ensure their training programs complement the CFETP mandatory initial, upgrade, qualification, and proficiency training requirements and identify requirements that can be satisfied by OJT, resident training, contract training, or exportable courses. MAJCOM-developed training to support this AFS must be identified for inclusion into the plan.

A2.3. Unit Education and Training managers and supervisors must ensure each individual completes the mandatory training requirements (including MAJCOM supplemental requirements) for the upgrade training specified in this plan.

A2.4. Each individual will complete mandatory training requirements specified in this plan. The list of courses in Part II of this CFETP will be used as a reference to support training.

A3. Coordination and Approval. The AFCFM is the approval authority for the CFETP. MAJCOM representatives and AETC personnel will identify and coordinate on the career field training requirements. The AETC training manager for this specialty will initiate an annual review of this document by AETC and MFMs to ensure currency and accuracy. Using the list of courses in Part II, they will eliminate duplicate training.

PART I**SECTION B - CAREER FIELD PROGRESSION AND INFORMATION**

B1. Specialty Descriptions. Water and Fuel Systems Maintenance Apprentice, Journeyman, Craftsman and Superintendent.

B1.1. Specialty Summary. Apprentice (3E431), Journeyman (3E451), and Craftsman (3E471). Installs, inspects, maintains, troubleshoots, modifies, repairs, and manages plumbing, water distribution, wastewater collection systems, water and wastewater treatment systems, fire suppression, backflow prevention systems, natural gas distribution systems, liquid fuel storage, distribution, and dispensing systems. Complies with environmental and safety regulations. Related DoD Occupational Subgroups: 172000.

B1.1.1. Duties and Responsibilities for Apprentice (3E431), Journeyman (3E451), and Craftsman (3E471).

B1.1.2. Installs, and operates natural gas, plumbing, water and wastewater treatment systems, fire suppression, backflow prevention systems, aircraft hydrant refueling, bulk storage, and ground product dispensing systems. Monitors systems operation to ensure efficiency and compliance with local state, federal and DoD regulations for safety and environmental regulations for hazardous materials. Installs and operates field potable water treatment equipment.

B1.1.3. Maintains, inspects, and repairs natural gas, swimming pools, plumbing, water and wastewater treatment systems, fire suppression, and backflow prevention assembly and program. Performs inspection, recurring maintenance, winterize, and overhaul systems. Operationally inspects and diagnoses malfunctions in mechanical and electrical system controls and components using technical orders, manufactures' handbooks, local procedures, code and directives. Inspects condition and operation of electrical components such as motors, disconnect switches, contacts, solenoids, relays, alarms, cathodic protection systems and programmable logic controls. Conducts fuel system components, and performs pressure testing and maintenance on fuel system piping. Performs confined space entries to accomplish system maintenance. Solves complex maintenance problems by studying layout drawings, wiring diagrams, and schematics to analyze, isolate and troubleshoot system malfunctions. Removes, repairs, and replaces defective components. Installs, modifies, repairs, and maintains a variety of new and existing utility, supply, and disposal systems and equipment such as sewage, water, oil, and gas distribution systems, and water closets, tubs, backflow prevention devices/assemblies, fire sprinkler systems, and showers. Locates and taps main lines, sets up system routes, places and cuts route openings, places hangers for proper level and slope, and determines and installs valves, traps, and unions as needed for proper operation of a variety of systems and equipment. Develops and establishes operation and maintenance procedures to ensure maximum efficiency.

B1.1.4. Locates and determines quality and quantity of water sources. Coordinates locations of field latrines and pits with engineering and medical staff. Analyzes water for chemical and physical characteristics to determine water purification treatment methods. Installs and operates field potable water treatment equipment.

PART I

B1.1.5. Performs planning activities, quality assurance to include service contracts, and facility surveys. Surveys proposed work to determine resource requirements. Initiates fuel facility Sustainment, Restoration, and Modernization and Military Construction Projects to include project review, monitoring, and acceptance through DESC. Prepares cost estimates and supply procurement for in-service work. Applies engineered performance standards to plan and estimate jobs. Ensures all planning activities comply with environmental and safety regulations to include hazardous materials.

B1.2. Duties and Responsibilities for Superintendents (3E490).

B1.2.1. Plans and organizes installation, maintenance, and repair of all career field systems and components to include both in-garrison and specialized training requirements. Investigates proposed work sites to determine resource requirements. Prepares cost estimates for in-service work requirements. Applies engineered performance standards in planning and estimating jobs. Coordinates measured and direct schedule work order requirements during approval, processing, and completion stages. Recommends method of accomplishment based on existing capabilities. Develops, monitors, and maintains work order priority program. Monitors work costs to ensure compliance with legal limits or support agreements and recapitalization process. Coordinates Work Order Review Board processes and provides agenda as required.

B1.2.2. Directs all daily activities and supervisory functions in utilities, liquid fuels maintenance, pest management, and heating, ventilation, air-conditioning, and refrigeration (HVAC/R) elements. Directs installation, maintenance and repair activities to include distribution, collection, plumbing, natural gas, liquid fuel, heating and cooling, and pest management activities and applications. Identifies and controls supply requisitioning of infrastructure systems, parts, fuels systems components, lubricants, refrigerants, bench stock, and technical publications. Analyzes productivity and work quality. Ensures compliance with environmental and safety regulations and practices.

B1.2.3. Advises on problems installing and repairing utilities and HVAC/R equipment and systems. Solves maintenance problems by studying layout drawings, wiring and schematic drawings, and analyzing construction and operating characteristics. Develops and establishes operation and maintenance procedures to ensure maximum efficiency.

B1.2.4. Performs planning activities and conducts facility surveys. Surveys proposed work to determine resource requirements. Obtains certifications, special tools, and equipment for assigned personnel. Ensures compliance with all safety and environmental regulations to include confined space programs.

B1.2.5. Coordinates, monitors, and executes contingency and Prime BEEF training requirements and associated deployment preparation programs and duties. Ensures personnel are in a constant ready state to meet deployment commitments.

B1.2.6. Coordinates, monitors, and executes contract quality assurance functions as required.

PART I

B2. Skill and Career Progression. Adequate training and timely progression from the apprentice to the superintendent level play an important role in the Air Force's ability to accomplish its mission. It is essential that everyone involved in training must do his or her part to plan, manage, and conduct an effective training program. The guidance provided in this part of the CFETP will ensure each individual receives viable training at appropriate points in their career.

B2.1. Apprentice (AFSC 3E431 – AB, AMN, A1C).

B2.1.1. Upon completion of initial skills training, a trainee will work with a trainer to enhance their knowledge and skills to progress to the 5-level.

B2.1.2. Utilize the CDC, Air Force Qualification Training Packages (AFQTP) and web-based courses for subject and task fundamentals in the career field.

B2.1.3. Once trained and task certified, a trainee may perform the task unsupervised.

B2.1.4. After all upgrade training requirements are completed, supervisors and Unit Training Managers (UTMs) coordinate upgrade procedures.

B2.2. Journeyman (AFSC 3E451 – SrA, SSgt).

B2.2.1. Journeyman may be assigned job positions such as team leader, shift supervisor, and task trainer.

B2.2.2. Complete mandatory Civil Engineer (CE) 3-Level Core Concepts Course Distance Learning (DL) product located on the [CE-VLC](#) prior to ordering their Career Development Courses (CDCs).

B2.2.3. Completion of 5-level CDC's, 100% 5-level core and diamond tasks are basic prerequisites for five skill level award.

B2.2.4. Must complete, as a **minimum**, twelve months OJT before award of the 5-level (nine months for re-trainees that were awarded a five level in a previous AFSC).

B2.2.5. Must complete the appropriate Basic Enlisted Professional Military Education (EPME) and Resident EPME as outlined in Air Force Instruction 36-2301, *Developmental Education*.

B2.2.6. Enter into continuation training to broaden technical experience base.

B2.2.7. Use CDCs and other references material to prepare for Weighted Airman Performance System (WAPS) testing.

B2.2.8. Continue pursuing a Community College of the Air Force (CCAF) degree.

B2.2.9. After all upgrade training requirements are completed, supervisors and UTM's coordinate upgrade procedures.

PART I**B2.3. Craftsman (AFSC 3E471 – SSgt, TSgt, and MSgt).**

B2.3.1. A craftsman can expect to fill various supervisory and management positions such as shift leader, team chief, supervisor, or task certifier.

B2.3.2. Completion of CE 7-Level Core Concepts Course located on the [CE-VLC](#) and 100% core/diamond tasks are basic prerequisites for seven skill level award.

B2.3.3. Must complete, as a **minimum**, twelve months OJT before award of the 7-level (six months for re-trainees that were awarded a seven level in a previous AFSC).

B2.3.4. Must complete the appropriate Basic Enlisted Professional Military Education (EPME) and Resident EPME as outlined in Air Force Instruction 36-2301, *Developmental Education*.

B2.3.5. Should take continuation training courses to broaden technical knowledge or management of resources and personnel.

B2.3.6. Use CDCs and other reference material to prepare for Weighted Airman Performance System (WAPS) testing.

B2.3.7. Continue academic education through CCAF and higher degree programs is encouraged.

B2.3.8. After all upgrade training requirements are completed, supervisors and UTMs coordinate upgrade procedures.

B2.4. Superintendent. (AFSC 3E490 - SMSgt)

B2.4.1. Superintendent can be expected to fill positions such as Flight Chief, Section Chief, Superintendent, and various staff positions.

B2.4.2. Completion of Civil Engineer Superintendent Course (AFIT WMGT 570) is mandatory for Active Duty and Air Force Reserve SMSgt's. This course is highly encouraged for Air National Guard SMSgts and mandatory to be promoted to CMSgt.

Note: This is not a skill level-awarding course.

B2.4.3. Must complete the appropriate Basic Enlisted Professional Military Education (EPME) and Resident EPME as outlined in Air Force Instruction 36-2301, *Developmental Education*.

B2.4.4. Should take continuation training course to increase knowledge of budget, manpower, resources, and personnel management.

B2.4.5. Continue academic development through higher education is recommended.

B2.4.6. Must be a SMSgt for award of the 9-skill level.

B2.5. Chief Enlisted Manager (CEM) (3E000 - CMSgt).

PART I

B2.5.1. CEMs work in a variety of similar jobs and functional areas where general managerial and supervisory abilities can be most effectively used and challenged.

B2.5.2. Must be selected for CMSgt and possess qualifications in a feeder specialty (3E090, 3E290, 3E490, 3E591, or 3E691).

B2.5.3. Must complete the appropriate Basic Enlisted Professional Military Education (EPME) and Resident EPME as outlined in Air Force Instruction 36-2301, *Developmental Education*.

B3. Training Decisions. The CFETP uses a building block approach (simple to complex) to encompass the entire spectrum of training requirements for the Water and Fuel Systems Maintenance career field. The spectrum includes a strategy for when, where, and how to meet the training requirements. The strategy must be apparent and affordable to reduce duplication of training and eliminate a disjointed approach to training. The following decisions were made by a career field Specialty Training Requirements Team (STRT) held at Sheppard AFB, TX from 6 through 10 May 2013.

B3.1. Initials Skills Training. The initial skill course was reviewed for content. Additions, deletions, and modifications were made to the course. Wartime training tasks were identified and validated.

B3.2. Five Level Upgrade Training Requirements. Existing CDCs were reviewed and updated to ensure only current material remained and new technology information was added. Specialty Task Standards were reviewed and validated. Additions and deletions of core tasks as well as modifications to proficiency codes were made.

B3.3. Seven Level Upgrade Training Requirements. Seven-level training requirements were reviewed and validated.

B3.4. Proficiency Training. Any additional knowledge and skill requirements that were not taught through initial skills or upgrade training are assigned as continuation training. Purpose of continuation training is to provide training exceeding minimum upgrade training requirements with emphasis on present and future duty positions. MAJCOMs must develop a continuation-training program that ensures personnel in the Water and Fuel Systems Maintenance career field receive the necessary training at the appropriate point in their careers. The training program will identify both mandatory and optional training requirements.

B3.5. Supplemental Training. Subject Matter Experts (SMEs) and the Training Committee reviewed supplemental training courses for technical accuracy and identified training that was no longer required. They revalidated the remaining courses as necessary to fully support career progression in the AFS.

B4. Community College of the Air Force (CCAF) Academic Programs. Airmen are automatically enrolled in CCAF upon completion of basic military training. CCAF is one of several federally chartered degree-granting institutions; however, it's the only 2-year institution exclusively serving military enlisted personnel. The college is regionally accredited through Air

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University by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award Associate of Applied Science (AAS) degrees designed for specific Air Force occupational specialties and is the largest multi-campus community college in the world. Upon completion of basic military training and assignment to an AF career field, all enlisted personnel are registered in a CCAF degree program and are afforded the opportunity to obtain an AAS degree. In order to be awarded, degree requirements must be successfully completed before the Airman separates/retires from the Air Force or is commissioned as an officer. See the CCAF website: <http://www.au.af.mil/au/barnes/ccaf/> for details regarding the AAS degree programs: In addition to its Associates degree program, CCAF offers the following programs. Complete details can be found at <http://www.au.af.mil/au/barnes/ccaf/certifications.asp>. In addition to its degree program, CCAF offers the following:

B4.1. CCAF Instructor Certification (CIC) Program. The CIC is a professional credential that recognizes the instructor's extensive faculty development training, education and qualification required to teach a CCAF course, and formally acknowledges the instructor's practical teaching experience. Qualified officer, enlisted, civilian and other service instructors are eligible for this certification. Complete details for the instructor certification program can be found at <http://www.au.af.mil/au/barnes/ccaf/certifications.asp>.

B4.2. The Professional Manager Certification (PMC). This professional credential is awarded by CCAF and formally recognizes an individual's advanced level of education and experience in leadership and management, as well as professional accomplishments. The PMC is primarily designed for Air Force SNCO's. However, any enlisted Airmen who meet all program requirements may be nominated and awarded the PMC. Once an individual retires, separates or is commissioned, they are no longer eligible for the PMC. Complete details can be found at <http://www.au.af.mil/au/barnes/ccaf/certifications.asp>.

B4.3. CCAF offers the Instructional Systems Development (ISD) Certification. The ISD Certification is a professional credential that recognizes the writer's or manager's extensive training, education, qualifications and experience required to develop and manage CCAF courses. The certification also recognizes the individual's ISD qualifications and experience in planning, developing, implementing and managing instructional systems. The program is designed to broaden faculty and professional development. Complete details can be found at <http://www.au.af.mil/au/barnes/ccaf/certifications.asp>.

B4.4. Air Force Credentialing Opportunities On-Line (AF COOL) Program. AF COOL replaced the CCAF Credentialing and Education Research Tool (CERT). The AF COOL Program can be accessed at <https://afvec.langley.af.mil/afvec/Public/COOL/Default.aspx>. The site provides a research tool designed to increase an Airman's awareness of national professional credentialing and CCAF education opportunities available for all Air Force occupational specialties. The AF COOL Program also provides information on specific occupational specialties, civilian occupational equivalencies, CCAF degree programs, and AFSC-related national professional credentials available to enlisted members through credentialing agencies and professional organizations. The AF COOL Program contains a variety of information about credentialing and licensing and can be used to:

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B4.4.1. Get background information about civilian licensure and certification in general and specific information on individual credentials including eligibility requirements and resources to prepare for an examination.

B4.4.2. Identify licenses and certifications relevant to an AFSC.

B4.4.3. Learn how to fill gaps between Air Force training and experience and civilian credentialing requirements.

B4.4.4. Get information on Tuition Assistance and GI Bill eligible funding opportunities to pay for credentialing examinations and associated fees.

B4.4.5. Learn about resources available to you that can help gain civilian job credentials.

B4.5. **Trade Skill Certification.** When a CCAF student separates or retires, a trade skill certification is awarded for the primary occupational specialty. The College uses a competency-based assessment process for trade skill certification at one of three proficiency levels: Apprentice, Journeyman, Craftsman/Supervisor. All are transcribed on the CCAF transcript.

B4.6. **Air University Associate to Baccalaureate Cooperative (AU-ABC).** AU-ABC directs Airmen with associate in applied science degrees from the CCAF to a collection of accredited “military friendly” colleges and universities to consider when completing a four-year degree. The program maximizes the application of military career education and training, and provides a multitude of online academic and support services for the enlisted member.

B5. CCAF Degree Completion Requirements (64 Semester Hours). The Mechanical and Electrical Technology Associates Degree (4VGA) applies to the 3E4X1 AFSC. Prior to completing a CCAF degree, the individual must be awarded a 5-level and the following requirements must be met:

<u>Course</u>	<u>Semester Hours</u>
Technical Education	24
Leadership, Management, and Military Studies	6
Physical Education	4
General Education	15
Program Elective	15
Technical Education; Leadership, Management, and Military Studies or General Education	
Total	64

B5.1. Technical Education. (24 semester hours) A minimum of 12 semester hours of technical core subjects or courses must be applied and the remaining semester hours applied from technical core or technical elective subjects or courses. Requests to substitute comparable courses or to exceed specified semester hour values in any subject or course must be approved in advance.

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<u>Technical Core Requirements</u>	<u>Semester Hours</u>
CCAF Internship	18
Electrical Power Production	20
Electrical Systems	20
Heating Systems	20
Liquid Fuel Systems	20
Refrigeration and Air Conditioning	20
Utilities Systems	20
Waste Management	3

B5.2. Technical Electives.

<u>Technical Electives</u>	<u>Semester Hours</u>
Air Distribution and Filtering Systems	3
Alternate Heating and Cooling	3
Blueprint Reading/Schematic Diagrams	6
Building Codes and Ordinance	3
Computer Science	6
Control Systems/Maintenance	6
Electricity/Electronics	9
Engine Principles	3
Environmental Awareness	3
Environmental Compliance	3
Fire Suppression Systems	6
General Chemistry	8
General Physics	4
Hazardous Materials	6
Industrial Management	3
Industrial Safety	3
Mechanics of Soils	3
Motor, Starter & Control Devices	6
Natural Gas Distribution	6
Quality Assurance	3
Technical Mathematics	3
Technical Physics	4
Technical Writing	3
Welding/Pipefitting	3

B5.3. Leadership, Management, and Military Studies (LMMS) (6 Semester Hours): Professional military education, civilian management courses accepted in transfer and/or by testing credit.

B5.4. Physical Education (4 Semester Hours): This requirement is satisfied by completion of Basic Military Training.

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B5.5. General Education (15 Semester Hours): Applicable courses must meet the criteria for application of courses to the general education requirements and be in agreement with the definitions of applicable general education subjects/courses as provided in the *CCAF General Catalog*.

<u>General Education Subjects/Courses</u>	<u>Semester Hours</u>
Oral Communication	3
Speech	
Written Communication	3
English Composition	
Mathematics	3
Intermediate algebra or a college-level mathematics course satisfying delivering institution's mathematics graduation requirement-if an acceptable mathematics course applies as technical or program elective, you may substitute a natural science course for mathematics.	
Social Science	3
Anthropology, archaeology, economics, geography, government, history, political science, psychology, and sociology.	
Humanities	3
Fine arts (criticism, appreciation, historical significance), foreign language, literature, philosophy, and religion.	

B5.6. Program Elective. (15 semester hours) Courses applying to technical education, LMMS or general education requirements; natural science courses meeting general education requirement application criteria; foreign language credit earned at Defense Language Institute or through Defense Language Proficiency Test; maximum 9 semester hours of CCAF degree-applicable technical course credit otherwise not applicable to program of enrollment.

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B6. Civil Engineer Career Field Path. The following chart depicts the 3E4X1 specialty career path:



PART I**B7. Enlisted Training Path.**

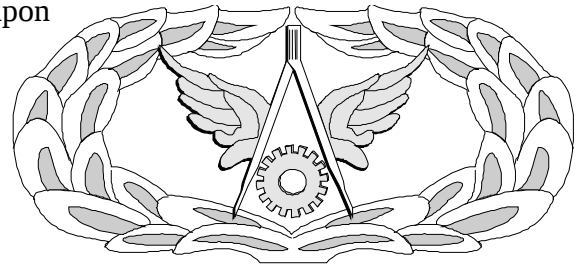
ENLISTED CAREER PATH				
Education and Training Requirements	GRADE REQUIREMENTS			
	Rank	Average Sew-On	Earliest Sew-On	High Year Of Tenure (HYT) (Active Duty Only)
Basic Military Training School				
<u>Apprentice Technical School</u> (3-Skill Level) – Complete Technical School	Amn A1C	6 months 16 months		
<u>Upgrade To Journeyman</u> (5-Skill Level) – Complete 5-level CDC – Complete CE 5-Level Core Concept web-based course – Complete all 5-level core/duty related tasks – Minimum 12 months OJT (9 months for retrainees) – Complete appropriate certification course(s) when available	SrA	3 years	28 months Below-the-Zone (BTZ) (22 months)	8 years
<u>Trainer</u> – Must be qualified and certified to perform task(s) to be trained – Attend AF Training Course – Recommended by the supervisor				
<u>Upgrade To Craftsman</u> (7-Skill Level) – Minimum rank of SSgt – Complete CE 7-Level Core Concept web-based course – Complete all core/duty related tasks – Minimum 12 months OJT (6 months OJT for retrainees) – Complete appropriate certification course(s) when available	SSgt	5 years	3 years	15 years
<u>Certifier</u> – SSgt with 5-skill level or civilian equivalent – Attend AF Training Course – Appointed by commander – Be someone other than the trainer (for core and critical tasks only)				
<u>Upgrade To Superintendent</u> (9-Skill Level) – Minimum rank of SMSgt – CE Superintendents Course (WMGT570) (AD/AFR Only, not skill level awarding)	SMSgt	20 years	11 years	26 years
<u>Chief Enlisted Manager</u> – CE Superintendents Course (WMGTS570) (ANG Only)	CMSgt	22 years	14 years	30 years

B7.1. CE Occupational Badge. The Civil Engineer badge reflects a great history and tradition. By wearing it, you will be recognized by your fellow airmen as having achieved an expected level of competence. The multitude of engineers before you established this expectation through excellent service in both peace and war. Eligibility criteria for award and wear of AF occupational badges can be found in AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*.

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B7.2. CE Badge Heraldry. The gear wheel and compass have historically been used to represent the engineering profession, in both the military and civilian sector. The gear represents the essence of engineering: applying scientific principles and technology to practical ends. To Air Force engineers, the gear symbolizes an element (representing the built environment) that meshes with other environments (weapon systems and trained personnel) to enable the Air Force to perform its mission. The compass is a precision tool historically used by engineers in designing and constructing facilities and equipment. The gear and compass together symbolize all the diverse specialties within Air Force civil engineer. Finally, the wings help to portray the fundamental linkage between the engineering and aviation components; and that the built environment is the foundation supporting Air Force mission and people.

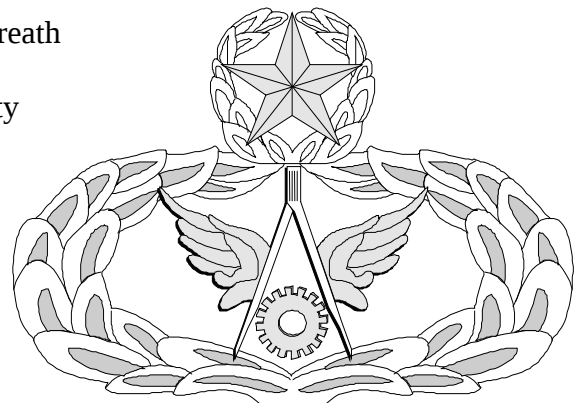
B7.2.1. Basic Badge. The basic badge is awarded upon successful completion of the apprentice course.



B7.2.2. Senior Badge. The senior badge adds a star to the top of the badge. Wear the senior badge after award of the 7-skill level.



B7.2.3. Master Badge. The master badge adds a wreath around the star. The Master Badge is awarded to Master Sergeant or above with 5 years in the specialty from award of the 7-skill level.



PART I**B8. Enlisted Professional Military Education (EPME).**

B8.1. Basic EPME (Distance Learning). Basic EPME requirements are completed via distance learning (DL) courses to establish a foundation for continued development and include the Noncommissioned Officer (NCO) DL and Senior Noncommissioned Officer (SNCO) DL courses. Effective 30 June 2017, NCO DL and SNCO DL courses are prerequisites to attend resident NCO Academy and SNCO Academy, respectively.

B8.2. Resident EPME (In-residence). Resident EPME requirements include Airman Leadership School (ALS), NCOA, SNCOA and the Chief Leadership (CL) course. Resident attendance is not duplicative of the basic EPME requirements, but builds upon the competencies obtained to achieve higher proficiency levels. Resident EPME completion is required for promotion to the grades of SSgt, MSgt and CMSgt.

B8.2.1. Resident EPME Eligibility Chart.

Resident EPME Eligibility Chart		
EPME Course	Course Prerequisites	Selection Process
ALS	N/A	1. SSgts 2. SSgt-selects 3. SrA
NCOA	Complete NCO DL course prior to being scheduled	1. TSgts 2. TSgt-selects 3. Non-selects to TSgt across AFSCs, from highest WAPS score descending until class seats have been filled.
SNCOA	Complete SNCO DL course prior to being scheduled	1. SMSgts 2. SMSgt-selects 3. Non-selects to SMSgt across AFSCs, from highest WAPS score descending until class seats have been filled.
CLC	Complete CLC DL course prior to being scheduled	1. CMSgts selected for promotion during 15E9 cycle or after. 2. CMSgt-selects

B8.2.2. To prevent a delay in resident NCO EPME, Airmen should enroll in NCO DL course as soon as they are selected for promotion to the grade of SSgt or upon completion of ALS. This ensures that when an Airman becomes a TSgt-select they have completed the prerequisite DL course and are eligible for immediate resident NCOA attendance.

B8.2.3. To prevent a delay in resident SNCO EPME, Airmen should enroll in SNCO DL course as soon as they are selected for promotion to the grade of MSgt or upon completion of NCOA. This ensures that when an Airman becomes a SMSgt-select they have completed the prerequisite DL course and are eligible for immediate resident SNCOA attendance.

PART I**SECTION C - SKILL LEVEL TRAINING REQUIREMENTS**

C1. Purpose. The various skill levels in this career field are defined in terms of tasks and knowledge requirements for the AFS career ladder. They are stated in broad, general terms and establish the standards of performance. An all-encompassing core and diamond tasks list has been developed for this specialty because of the diversity of the missions supported and the equipment assigned to meet mission requirements. Core and diamond tasks, knowledge items, and skill requirements are identified in the STS. Completion of the mandatory 3-skill level awarding course, core concept courses, CDCs and AFQTPs comprise Air Force requirements.

C2. Specialty Qualification Requirements.**C2.1. Apprentice (3-Level) Training Requirements. (3E431)**

KNOWLEDGE	Completion of the Water and Fuel Systems Maintenance Apprentice course.
EDUCATION	For entry into this specialty, completion of high school or General Education Development (GED) with courses in mathematics, chemistry, biology, physics, earth sciences, drawing and specification use, and shop mechanics is desirable.
TRAINING	Completion of the Water and Fuel Systems Maintenance Apprentice course is mandatory for award of this skill level.
EXPERIENCE	None required
OTHER	For entry, award and retention of AFSC 3E431, must possess a valid state driver's license to operate government motor vehicles (GMV) IAW with AFI 24-301, <i>Vehicle Operations</i>. Freedom from fear of confined spaces (Claustrophobia). Freedom from fear of heights (acrophobia). Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i>. Must maintain local network access IAW AFMANs 33-152, <i>User Responsibilities and Guidance for Information Systems</i> and 33-282, <i>Computer Security</i>.
IMPLEMENTATION	The 3-skill level is awarded upon graduating the apprentice course and submission by the Unit Training Manager at the member's unit of assignment.

*Refer to [Air Force Enlisted Classification Directory \(AFECD\)](#) Part I Section II and Attachment 4 for most current requirements.

PART I**C2.2. Journeyman (5-Level) Training Qualifications. (3E451)**

KNOWLEDGE	Must have knowledge of contingency/peacetime operations in hydraulic, electrical, mechanical theories, and principles that apply to all utility and liquid fuel systems. To include types, sizes, and uses of plumbing materials and components; mathematics; reading and interpreting drawings and specifications, military and commercial publications, and environmental regulations; maintenance of water distribution, wastewater collection, and natural gas distribution systems and corrosion prevention. Understand the characteristics, physiological effects, and hazards of liquid fuel products. Additionally, have knowledge of Prime BEEF program and its role in supporting worldwide contingency operations.
TRAINING	Completion of 5-level CDCs. Completion of all the paper-based AFQTPs and their associated web-based courses on the CE VLC for all core (*) and diamond (◆) tasks with a minimum passing score of 80%. Completion of the CE 5-Level Common Core Concept web-based course located on the CE-VLC is mandatory for award of this skill level. Certification of all 5-skill level core tasks identified with an asterisk (*) in the 5-skill level column of the STS. Certification of all 5-skill level diamond tasks identified with a diamond (◆) in the 5-skill level core task column of the STS if the equipment is available. Certification of all CBRNE Defense Functional Area TQT requirements identified with a triangle (▲) in the 5-level core task column of the STS is mandatory. Minimum requirement is the signing off tasks on the AFQTP Documentation Record.
EXPERIENCE	Qualification in and possession of AFSC 3E431. Experience in functions such as installation, operation, maintenance, and repair of liquid fuel systems, natural gas distribution systems, plumbing, water distribution and wastewater collection systems. Minimum 12 months OJT (9 months for retrainees) before award of 5-skill level.
OTHER	For award and retention of AFSC 3E451, must possess a valid state driver's license to operate government motor vehicles (GMV) IAW AFI 24-301, <i>Vehicle Operations</i>. Freedom from fear of confined spaces (Claustrophobia). Freedom from fear of heights (acrophobia). Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i>.

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	Must maintain local network access IAW AFMANs 33-152, User Responsibilities and Guidance for Information Systems and 33-282, Computer Security.
IMPLEMENTATION	Entry into 5-level upgrade training is initiated after the individual has completed all 3-level requirements. Qualification training is initiated any time individuals are assigned duties they are not certified to perform. Use OJT, CDCs, AFJQS, and AFQTPs concurrently to obtain the necessary qualifications.

*Refer to [Air Force Enlisted Classification Directory \(AFECD\)](#) Part I Section II and Attachment 4 for most current requirements.

C2.3. Craftsman (7-Level) Training Requirements. (3E471)

KNOWLEDGE	All 3- and 5-level knowledge requirements apply to 7-level
TRAINING	Completion of all the paper-based AFQTPs and their associated web-based courses on the CE VLC for all 5- and 7- skill level core (*) and diamond (◆) tasks with a minimum passing score of 80%. Completion of the CE 7-Level Common Core Concept web-based course located on the CE-VLC is mandatory for award of this skill level. Certification of all 5-and 7- skill level core tasks identified with an asterisk (*) in the 5-skill level column of the STS. Certification of all 5-skill level diamond tasks identified with a diamond (◆) in the 5-skill level core task column of the STS if the equipment is available. Minimum requirement is the signing off tasks on the AFQTP Documentation Record. Certification of duty position requirements identified by the supervisor. Completion of any/all of the following advanced courses is highly desirable: Liquid Fuel Storage Tank Entry Supervision course. Fuel Systems Maintenance Technician course. Fire Suppression Systems Maintenance course. Backflow Prevention Devices Testing course (OCONUS).
EXPERIENCE	Qualification in and possession of AFSC 3E451. Completion of duty position requirements identified by the supervisor. Must be SSgt with minimum 12 months OJT (6 months for retrainees).
OTHER	For award and retention of AFSC 3E471, must possess a valid state driver's license to operate government motor vehicles (GMV) IAW AFI 24-301, <i>Vehicle Operations</i>. Freedom from fear of confined spaces (Claustrophobia). Freedom from fear of heights (acrophobia).

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	Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i>. Must maintain local network access IAW AFMANs 33-152, User Responsibilities and Guidance for Information Systems and 33-282, Computer Security. Water and Fuel Systems Maintenance craftsmen should pursue any additional knowledge and skill requirements that were not taught through initial skills or upgrade training. The purpose of ongoing training is to exceed minimum upgrade requirements with emphasis on personnel achieving the necessary training and experience at the appropriate point in their career to be more effective in present and future duty positions.
IMPLEMENTATION	Entry into 7-level training is initiated when an individual is selected for SSgt and is fully qualified in the AFSC 5-skill level. Qualification training is initiated any time individuals are assigned duties they are not qualified to perform. Use OJT, CDCs, AFJQS, and AFQTPs concurrently to obtain the necessary qualifications.

*Refer to [Air Force Enlisted Classification Directory \(AFECD\)](#) Part I Section II and Attachment 4 for most current requirements.

C2.4. Superintendent (9-Level) Training Requirements. (3E490)

KNOWLEDGE	Principles of water distribution and wastewater collection systems, water and wastewater treatment systems, plumbing systems, natural gas distribution systems, liquid fuels distribution systems, pest management activities, controls, and components, combustion systems, air and water balancing, non-electric kitchen equipment, industrial air compressors, and backflow prevention devices. Interprets drawings and schematics, industrial wastewater treatment, and usage of maintenance materials such as pipes, valves, fittings, packing and gaskets, electrical and electronic controls that apply to these systems, wiring schematics and diagrams, military and commercial publications, environmental regulations for fuels, pesticides, refrigerants, and hazardous materials.
EDUCATION	Completion of the grade appropriate EPME is mandatory. The following education is desirable and strongly encouraged: CCAF Mechanical & Electrical Technology Associates Degree (4VGA) Higher education through a civilian institution
TRAINING	Completion of Civil Engineer Superintendent Course (AFIT WMGT 570) conducted at Air Force Institute of Technology, Wright-Patterson AFB, OH is mandatory for Active Duty and Air Force Reserve SMSgt's. This course is highly encouraged for Air National Guard SMSgts and mandatory to be promoted to CMSgt. Note: This is not a skill level awarding course.
EXPERIENCE	For award of AFSC 3E490, qualification in and possession of AFSC 3E171, 3E471 or 3E473 is mandatory. Must be a SMSgt. Experience managing functions such as operations, facilities system maintenance, and repair of distribution, and collection systems, natural gas distribution systems, cooling

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	towers, chillers, boilers, liquid fuels distribution systems, pest management activities, and HVAC/R systems.
OTHER	For award and retention of AFSC 3E490, must possess a valid state driver's license to operate government motor vehicles (GMV) IAW AFI 24-301, <i>Vehicle Operations</i>. Normal color vision as defined in AFI 48-123, <i>Medical Examinations and Standards</i>. Must maintain local network access IAW AFMANs 33-152, User Responsibilities and Guidance for Information Systems and 33-282, Computer Security. Infrastructure Systems Superintendents should pursue any additional knowledge and skill requirements that were not taught through initial skills or upgrade training. The purpose of ongoing training is to exceed minimum upgrade requirements with emphasis on personnel achieving the necessary training and experience at the appropriate point in their career to be more effective in present and future duty positions. Recommended areas of study include but are not limited to: AFIT Training courses such as Project Management courses and Contract Management courses.
IMPLEMENTATION	Entry into 9-level training is initiated when an individual is selected for SMSgt and is a fully qualified 7-Level. Qualification training is initiated any time an individual is assigned duties they are not certified to perform.

*Refer to [Air Force Enlisted Classification Directory \(AFECD\)](#) Part I Section II and Attachment 4 for most current requirements.

C2.5. Chief Enlisted Manager. (3E000)

KNOWLEDGE	Knowledge is mandatory of Air Force training programs. CE policies, practices, and procedures of base maintenance and operations, crafts, facilities, equipment, and systems. Interpretations and applications of maintenance and work force management. General construction, and repair methods and procedures, including use and capacity of construction equipment.
TRAINING	Reserve Component Chief Orientation Course (AFRC only).
EXPERIENCE	Possess qualifications in feeder specialty (3E490) prior to award of Civil Enlisted Manager code 3E000. Managerial ability to plan, direct, coordinate, implement, and control a wide range of work activity.
OTHER	NA
IMPLEMENTATION	Entry into Civil Enlisted Manager Code 3E000 is initiated when an individual is selected for CMSgt and possess qualifications in a feeder specialty (3E090, 3E290, 3E490, 3E591, and 3E691).

*Refer to [Air Force Enlisted Classification Directory \(AFECD\)](#) Part I Section II and Attachment 4 for most current requirements.

PART I**SECTION D - RESOURCE CONSTRAINTS**

D1. Purpose. This section identifies known resource constraints, which preclude optimal and desired training from being developed or conducted, including information such as cost and manpower. Narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training are included. Also included in this section are actions required, office of primary responsibility, and target completion dates. Resource constraints will be, as a minimum, reviewed and updated annually.

D1.1. Constraints: None

D1.1.2. Equipment Constraints: None

D1.1.3. Time/Manpower/Student Man-years Constraints: None.

D2. Apprentice (3-Level) Training: None

D2.1. Constraints.

D2.1.1. Impact.

D2.1.2. Resources Required.

D2.1.3. Action Required.

D2.2. OPR/Target Completion Date.

D3. Journeyman (5-Level) Training: None

D3.1. Constraints.

D3.1.1. Impact.

D3.1.2. Resources Required.

D3.1.3. Action Required.

D3.2. OPR/Target Completion Date.

D4. Craftsman (7-Level) Training. None.

D5. Superintendent (9-Level) Training. None.

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SECTION E - TRANSITIONAL TRAINING GUIDE

“There are no transition training requirements for the Water and Fuel Systems Maintenance specialty. This section is reserved.”

PART II

SECTION A - SPECIALTY TRAINING STANDARD

A1. Implementation. This STS will be used for technical training provided by AETC for the 3-level J8AQR3E431 01AB, Water and Fuel Systems Maintenance Apprentice (Qual I); J8AQR3E431 02AB, Water and Fuel Systems Maintenance Apprentice (Qual II); J3ABR3E431 03AB, Water and Fuel Systems Maintenance Apprentice courses with classes beginning 04 October 2017 and graduating on or after 25 January 2018.

A2. Purpose. As prescribed in AFI 36-2201, Air Force Training Program, and in collaboration with the Air Force Civil Engineer Career Field Manager (AFCFM), it is mandatory for all civil engineers regardless of duty assignment, to use an automated training record. The automated training record currently being utilized to document upgrade and qualification training is the Air Force Training Record (AFTR) and the application is located on the on the CE-VLC.

A2.1. Column 1 (*Tasks, Knowledge, and Technical Reference*). Lists the most common tasks, knowledge, and supporting technical references (TRs) necessary for Airmen to perform duties in the 3-, 5-, and 7-skill level.

A2.2. Column 2 (*Core Tasks*). Identifies core tasks (specialty-wide training requirements) by an asterisk (*) in the appropriate skill level sub-column. **As a minimum, trainees must complete all core, critical, and diamond tasks for skill level upgrade.**

A2.2.1. Wartime tasks. All tasks in the 3-level course column are considered wartime tasks. In response to a wartime scenario, these tasks will be taught in the 3-level course in a streamlined training environment.

A2.2.2. Diamond tasks. Tasks identified by a diamond (◆) are considered contingency/war tasks and are critical to the career field. Equipment shortfalls at most locations have created problems with the actual hands-on certification of these tasks. In instances where required equipment is not available for instruction, completion of the corresponding task AFQTP is all that is required for upgrade/qualification training.

A2.2.3. Task qualification training. Tasks identified by a pyramid (▲) have been selected by the AFCFM to be CBRNE Defense Functional Area Task Qualification Training (TQT) requirements. Individual supervisors and trainers will train and evaluate individual demonstration-performance objectives identified in the STS. TQT provides personnel the ability to demonstrate proficiency in performing mission-critical tasks in a CBRNE environment. TQT must be accomplished after CBRNE Defense Awareness and Survival Skills.

A2.3. Column 3 (*Certification for OJT*). Used to record completion of tasks and knowledge training requirements. Use the automated training record application to document individual qualifications. **Task certification of core, critical, and diamond tasks** require a training completion date and initials of the trainee, trainer, and certifier. All non-core tasks require training completion date and initials of the trainee and trainer only.

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A2.4. **Column 4 (Proficiency Codes Used To Indicate Training/Information Provided).**

Indicates formal training and correspondence course requirements. It shows the proficiency to be demonstrated on the job by the graduate as a result of training on the task, knowledge, and the career knowledge provided by formal courses, CDC, distance learning (DL) web-based training (WBT), and AFQTPs. See CADRE/AFSC/CDC listing maintained by the unit education and training manager for current CDC listings.

A2.5. **Qualitative Requirements.** Contains the proficiency code key used to indicate the level of training and knowledge provided by WBT, resident training, and career development courses.

A2.6. **Job Qualification Standard (JQS).** The STS becomes a JQS for OJT when placed in the automated training application and used according to AFI 36-2201. For OJT, the tasks in Column 1 are trained and qualified to the go/no go level. “Go” means the individual can perform the task without assistance and meets local requirements for accuracy, timeliness, and correct use of procedures. AFQTPs, when available, shall be used to identify Air Force standardized procedures. When used as a JQS, the following requirements applies:

A2.6.1. **Documentation.** Document and certify completion of training:

A2.6.1.1. **Duty position.** Duty position requirements will be developed and identified by the workcenter supervisor and loaded into the automated training management application. Completion of core, critical, and diamond tasks are mandatory for all duty positions. Ensure the correct duty position title is listed under Profile 1 section of the trainees’ automated training record.

A2.6.1.2. **AFQTP Training and Documentation.** AFQTP or AFQTP assessments have been created for all core (*) and diamond (♦) tasks and completion are mandatory to fulfill task knowledge requirements for upgrade/qualification training. Each AFQTP provides the step-by-step procedures for the trainee, trainer, and certifier in completing each core or diamond task and instructions how to document the training in the individual automatic training record.

A2.6.1.2.1. **Training.** Document the start and completion of the AFQTP in the *QTP section* located in the automated training record. This is required for all core and diamond tasks. The automated training record will not let you sign off any tasks in the JQS until the completion date has been entered. Diamond tasks require the completion of the web-based course (with the review and post-test located in the program) or completion of the AFQTP assessment located on the [CE-VLC](#) to determine if the trainee has attained the knowledge level required. A minimum passing score of 80% is required. Once the trainee has completed the web-based course or AFQTP assessment, the course completion certificate must be provided to the trainer/supervisor for documentation of the completion in the automated training record and completion of hands-on training, if the equipment is available.

A2.6.1.2.2. **Hands-On Training.** *DO NOT sign off the tasks in the JQS until the trainee has completed hands-on/certification training.* For diamond tasks, if the equipment is not available at home station, the completion of the AFQTP or AFQTP assessment is the **ONLY** requirement for upgrade. When the equipment becomes available either at home station or at a TDY location, the trainee can be signed off on the JQS tab in the automated training record.

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A2.6.2. Transcribing from previous versions to new CFETP. Most items should transcribe automatically during the update of the new CFETP. The UTM and supervisor must conduct a review of the new STS to identify any new core, diamond, or non-core tasks and add those tasks to the duty positions.

A2.6.2.1. Previous training certification not listed. If previous training certification is not listed in the individual record, select the parent task to be transcribed, check the task title(s) block, and click on the transcribe button. Enter the date of the original certification and sign off the task(s). The trainee will then sign off the task(s) to finalize the transcription of previous training certification. The automated application will place an entry into the trainee 623a form and must be acknowledged by the transcriber and trainee.

A2.6.2.2. Transcribing external training certification. If a trainee attended a formal training course and received appropriate accreditation, select the 623 III section of the users automated training record and locate the course title in the master task list, then enter the completion date. If the course title is not listed, contact the UTM to have it loaded from the master catalog. If it is not listed in the master catalog contact the Force Development Manager at AFCEC to have it loaded in the master catalog.

A2.6.3. Documenting Career Knowledge. When a CDC is not available, the supervisor identifies STS training references that the trainee requires for career knowledge IAW AFI 36-2201, *Air Force Training Program* and ensures, as a minimum, that trainees cover all mandatory items specified in AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted)*. For two-time CDC exam failures, the unit commander will take appropriate action IAW AFI 36-2201.

Note: Career knowledge must be documented prior to submitting a CDC waiver.

A2.6.4. Decertification. When an Airman is found to be unqualified on a task, the supervisor shall identify the task in the JQS and check the box next to the task title. The supervisor shall select the Decertify button on the screen menu and enter a 623a comment explaining why the task was decertified, and then enter the Airman into qualification training. The individual is recertified using the normal certification process.

A2.6.5. Recertification. When an Airman is required to be recertified on a previous task due to annual or bi-annual requirements. The supervisor shall identify the task in the JQS and check the box next to the task title and select the Recertify button on the screen and entry the dates the recertification was completed.

A2.6.6. Training Standard. Tasks are trained and certified to the “go” level. Go means the individual can perform the task without assistance and meets the local requirements for accuracy, timeliness, and correct use of procedures. This equates to a 3c in the proficiency code key. AFQTPs, when available, shall be used to identify Air Force standardized procedures.

A2.7. Specialty Training Standard. The STS is a guide for development of promotion tests used in the Weighted Airman Promotion System (WAPS). Specialty Knowledge Tests are developed at the USAF Airman Advancement Division by senior NCOs with extensive practical experience in

PART II

their career fields. The tests sample knowledge of STS subject matter areas judged by test development team members as most appropriate for promotion to higher grades. Questions are based upon study references listed in the Enlisted Promotions References and Requirements Catalog. Individual responsibilities are in AFI 36-2605, *AF Military Testing System*. WAPS is not applicable to the Air National Guard or Air Reserve Forces.

A3. Recommendations. Comments and recommendations are invited concerning quality of training AETC graduates receive. Reference this STS and address your correspondence regarding changes to 782 TRG/TGE, 917 Missile Road, Rm 1A300, Sheppard AFB TX 76311-2368 or E-mail 782csil@us.af.mil. A Customer Service Information Line (CSIL) has been installed for the supervisor's convenience to identify graduates who may have received over or under training on tasks/knowledge items listed in this STS. For a quick response to problems, call the CSIL at DSN 736-2574 any time day or night.

PART II
SECTION B - COURSE OBJECTIVE LIST (COL)

B1. Measurement. Measurement of each objective is indicated as follows:

B1.1. Written Test (W) indicates task or subject knowledge that is measured using a written test.

B1.2. Performance Test (P) indicates required task performance that is measured with a performance progress check.

B1.3. Progress Check (PC) indicates separate measurement of both knowledge and performance elements using a written test and a performance progress check.

B2. Standard. The standard is 70% on written examinations. Standards for performance measurement are indicated in the objectives and delineated on the individual progress checklist. Instructor assistance is provided as needed during the progress check or performance test, and students may be required to repeat all or parts of the behavior until satisfactory performance is attained.

B3. Proficiency Level. Most task performance is taught to the “2b” proficiency level, which means the student can do most parts of the task, but does need assistance on the hardest parts of the task (partially proficient). The student can also determine step-by-step procedures for doing the task.

B4. Course Objective List. These objectives are listed in the sequence taught by Blocks of Instruction. Per AETCI 36-2641, *Technical and Basic Military Training Development*, detailed listing of the initial skills course objectives may be obtained by written request through the requesting organization’s MAJCOM to HQ AETC/A3T.

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SECTION C - SUPPORT MATERIAL

C1. Air Force Qualification Training Packages.

C1.1. The *mandatory* AFQTP's for each skill level are identified on the 3E4X1 AFQTP Documentation Record.

C1.1.1. For a complete list of up-to-date AFQTPs applicable to the 3E4X1 AFSC, go to the [CE-VLC](#) Resources Library.

C1.2. The UTM or supervisor can download paper-based AFQTP's. Paper-based AFQTP's can be found on the [CE-VLC](#) under the Library link and then by selecting Resources.

C1.2.1. In addition to the paper-based AFQTPs there are web-based courses or assessments developed for certain tasks that are available on the [CE-VLC](#) under the Course List link and specialty topic area.

C2. Career Development Course (CDC) Assessment for Civil Engineer CDCs.

C2.1. FDMs have developed CDC assessments for their career field and they are located on the [CE-VLC](#) under the topic header Civil Engineer Career Development Courses (CDCs).

C2.2. The CDC assessments are for the sole purpose of providing the Unit Commander, Unit Training Manager (UTM) and the supervisor, a predictive indicator of whether the trainee has studied sufficiently to successfully pass their CDC end of course (EOC) exam.

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SECTION D – EDUCATION AND TRAINING COURSE INDEX

D1. Purpose. This section of the CFETP identifies training courses available for the Water and Fuel Systems Maintenance specialty. Refer to Education and Training Course Announcements (ETCA) web site for information on the Air Force in-residence courses. The web site address is <https://etca.randolph.af.mil/>.

D2. Air Force In-Residence Courses/Mobile Training Team (MTT) Courses.

<u>Course Number</u>	<u>Title</u>	<u>Location</u>
J8AQR3E431 01AB	Water and Fuel Systems Maintenance Apprentice (Qual I)	366 TRS
J8AQR3E431 02AB	Water and Fuel Systems Maintenance Apprentice (Qual II)	366 TRS
J3ABR3E431 03AB	Water and Fuel Systems Maintenance Apprentice	366 TRS
J3AZR3E451 01FB	Fire Suppression System Maintenance	366 TRS
J3AZR3E451 04AB	Fuel Systems Maintenance Technician	366 TRS
J3AZR3E451 05TA	Liquid Fuel Storage Tank Entry (Supervisor)	366 TRS
J7AZT3E451 03BB	Backflow Prevention Devices Testing (MTT)	366 TRS

D3. Air Force Career Development Academy (AFCDA).

<u>Course Number</u>	<u>Title</u>	<u>Edit Code (EC)</u>
CDC 3E451B/O	WFSM Journeyman	03
CDC 3E451A	WFSM Journeyman	04
CDC 3E451B	WFSM Journeyman	04

D4. Exportable/Web-based Courses/Information.

<u>Course Number</u>	<u>Title</u>	<u>Developer</u>
Web-based	1500 GPH-Reverse Osmosis Water Purification Unit Course	AFCEC/COF
Web-based	600 GPH - Reverse Osmosis Water Purification Unit Course	AFCEC/COF
Web-based	Arc Flash Safety Awareness QTP	AFCEC/COF
Web-based	Backhoe Operations: Excavate, Load, and	AFCEC/COF

PART II**Backfill Material**

Web-based	Basic Expeditionary Airfield Resources (BEAR) Water System Course	AFCEC/COF
Web-based	Civil Engineer 5-Level Core Concepts Course (previously titled 3-Level Core Concepts Course)	AFCEC/COF
Web-based	Civil Engineer 7-Level Core Concepts Course	AFCEC/COF
Web-based	Confined Space General Worker: Entrant, Attendant, and Supervisors Course	AFCEC/COF
Web-based	Electrical Safety Standards QTP	AFCEC/COF
Web-based	Expandable Bicon Shelter (EBS) Hygiene System	AFCEC/COF
Web-based	Fall Protection Awareness Course	AFCEC/COF
Web-based	Field Deployable Latrine Course	AFCEC/COF
Web-based	Fuel Hydrant System Valves	AFCEC/COF
Web-based	Fuel Hydrant Systems Operational Inspections Course	AFCEC/COF
Web-based	Mueller Fire Hydrant Maintenance and Tapping-Drilling Machine Operations Videos	AFCEC/COF
Web-based	Natural Gas Systems Course	AFCEC/COF
Web-based	Repair of Water and Wastewater Piping Systems	AFCEC/COF
Web-based	Shower and Shave Unit	AFCEC/COF
Web-based	Troubleshooting Fuel Hydrant Systems	AFCEC/COF
Web-based	Water Testing Course	AFCEC/COF
Web-based	Water and Wastewater Systems Operation (previously titled Advanced Utilities Management)	AFCEC/COF

D5. Courses/CDCs Under Development/Revision

<u>Course Number</u>	<u>Title</u>	<u>Date Due</u>
None		

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SECTION E – MAJCOM UNIQUE REQUIREMENTS

“There are currently no MAJCOM unique requirements. This area is reserved.”

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SECTION F - HOME STATION TRAINING

F1. Purpose. The purpose of this section is to identify the tasks, training references, and training sources available in support of contingency/wartime training. Civil Engineer forces will train to meet the full range of tasks expected in the contingency environment. Training ranges from knowledge-type training conducted in a classroom, to task-oriented hands-on training conducted in the field. These training requirements, frequencies, and sources are listed in AFI 10-209, *RED HORSE Program* and AFI 10-210, *Prime Base Emergency Engineer Force (BEEF) Program*.

F2. Home Station Training (HST). HST is knowledge-based and hands-on training that is conducted at the individual's home station for contingency operations. The CE Commander ensures training is provided and documented and arranges for subject matter experts to conduct training as required. AFI 10-209, Attachments 2-6 and AFI 10-210, Attachments 2-6, identifies the personnel to be trained by specialty and frequencies.

F3. Combat Skills Training (CST). CST must be institutionalized as an integral part of any HST program. Lessons learned from operations such as IRAQI FREEDOM have taught us the importance of maintaining a higher level of combat readiness. Although the inclusion of combat skills-focused training into HST does not fully prepare CE personnel to work in a high threat combat environment, the steps taken to enhance training will help elevate units to a readiness level capable of supporting safe and effective operations in low to medium risk combat environments.

F4. Mission Essential Equipment Training (MEET). Wartime or contingency environments often involve the use of specialized and unique mission-essential equipment that civil engineers do not use in their day-to-day operations. Due to the cost and complexity, mission essential contingency equipment and trainer expertise are not commonly found at CONUS installations. Personnel must be hands-on certified and the certification documented in their CFETP. AFI 10-210, Attachment 4, identifies minimum number of personnel to be trained, positions by specialty, frequencies and Chapter 2 identifies the locations of training sites. Inadequate training on these key equipment items can negatively impact Air Force contingency operations.

F5. AF Expeditionary (ES) Training Requirement. AETC, as lead MAJCOM for AF ES training, revamped ancillary home-station and advanced (mission specific) expeditionary skills training plans to standardize and synchronize training across the force. Detailed requirements for AF ES training is available in AFI 36-2201, *Air Force Training Program*, Chapter 8.

F6. Training References.

F6.1. AFI 10-209, *RED HORSE Program*, Chapter 3 and Attachments 2-6 identify the RED HORSE recurring training requirements.

F6.2. AFI 10-210, *Prime Base Engineer Emergency Force (BEEF) Program*, Chapter 4 and Attachments 2-6 identify the Prime BEEF recurring training requirements.

F6.3. AFI 36-2201, *Air Force Training Program*, Chapter 8 identify ES training requirements.

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F6.4. Web-based Products. Web-based products are available on the CE Virtual Learning Center (VLC) website at <https://afcec.adls.af.mil>. Personnel completing these courses can receive credit for HST. WBT products can be used in a classroom setting to train as many personnel as possible. Attendance must be documented on a sign-in roster. The sign-in roster must be maintained IAW AFI 10-210.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

JOHN B. COOPER, Lieutenant General, USAF
DCS/Logistics, Installation and Mission Support

3 Attachments

1. Qualitative Requirements (Proficiency Code Key)
2. 3E4X1 Specialty Training Standard (STS)
3. 3E4X1 AFQTP & DL Documentation Record

Attachment 1

Qualitative Requirements (Proficiency Code Key)

<i>This Block Is For Identification Purposes Only.</i>		
Name Of Trainee		
Printed Name (Last, First, Middle Initial)	Initials (Written)	SSAN (Last four)
Printed Name Of Trainer, Certifying Official And Written Initials		
N/I	N/I	
N/I	N/I	
N/I	N/I	

Note: Place a continuation sheet behind the CFETP when additional space is required.

Proficiency Code Key		
	Scale Value	Definition: The individual
Task Performance Levels	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (Extremely Limited)
	2	Can do most parts of the task. Needs only help on hardest parts. (Partially Proficient)
	3	Can do all parts of the task. Needs only a spot check of completed work. (Competent)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (Highly Proficient)
*Task Knowledge Levels	a	Can name parts, tools, and simple facts about the task. (Nomenclature)
	b	Can determine step by step procedures for doing the task. (Procedures)
	c	Can identify why and when the task must be done and why each step is needed. (Operating Principles)
	d	Can predict, isolate, and resolve problems about the task. (Advanced Theory)
**Subject Knowledge Levels	A	Can identify basic facts and terms about the subject. (Facts)
	B	Can identify relationship of basic facts and state general principles about the subject. (Principles)
	C	Can analyze facts and principles and draw conclusions about the subject. (Analysis)
	D	Can evaluate conditions and make proper decisions about the subject. (Evaluation)
Explanations * A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Example: b and 1b) ** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks. - This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or CDC. X This mark is used alone in the course columns to show that training is required but not given due to limitations in resources. ♦ This symbol indicates the task is a diamond task due to equipment constraint at some units. ▲ This symbol indicates the task is a task qualification training requirement to performed in CBRN IPE. (I) Column 4.A(a) indicates an apprentice training standard accepted by Air Force, Navy, and Army; trained in course J8AQR3E431 01AB. (i) Column 4.A(a) indicates an apprentice training standard accepted by Air Force and Navy; trained in course J8AQR3E431 02AB. Note 1 (N1): The ROWPU setup, operation, and maintenance proficiency code level is determined by the City of Wichita Falls (Texas) Drought Management Stage (DMS). The course will train to proficiency code "1a" when in DMS 1, 2, 3, or no DMS. The course will train to proficiency code "a" when in DMS 4 or 5. The 3E4X1 Training Manager will monitor the City of Wichita Falls website (www.wichitafallstx.gov) for the most current Drought Management Stage. The Training Manager will notify the 3E4X1 Force Development Manager and Instructor Supervisor of the appropriate proficiency code for the current drought stage. (19.3.2.2; 19.3.2.3; 19.3.2.4). Note 2: All tasks and knowledge items shown with a proficiency code are trained during wartime.		

Attachment 2
3E4X1 Specialty Training Standard (STS)

A2. Specialty Training Standard

A2.1. Identification. In the automated training record User Profile section the UTM will assign individuals to the correct workcenter upon in processing into the unit.

A2.1.1. For new trainee the UTM will assist them in creating a training record on the CE-VLC and placing them in the correct workcenter and specialty within their unit. Additional information will need to be entered into the following areas:

A2.1.1.1. User Administrators:

A2.1.1.1.1. Individual UTM

A2.1.1.1.2. Workcenter Supervisor

A2.1.1.1.3. Immediate Supervisor

A2.1.1.2. User Training Information.

A2.1.1.2.1 Duty Position

A2.1.1.2.2. Date Entered Duty Positions

A2.1.1.2.3. Training Status Code

A2.1.1.2.4. Date Entered Upgrade Training (UGT)

A2.1.2. For all other the UTM will need to place the individual into the correct workcenter and specialty. If the individual record is not available contact the losing unit to have the record transferred. If this fails contact the [AFCEC-VLC](#) Support Desk for assisting. Additional information will need to be entered into the following areas:

A2.1.2.1. User Administrators:

A2.1.2.1.1. Individual UTM

A2.1.2.1.2. Workcenter Supervisor

A2.1.2.1.3. Immediate Supervisor

A2.1.2.2. User Training Information.

A2.1.2.2.1. Duty Position

A2.1.2.2.2. Date Entered Duty Positions

A2.1.2.2.3. Training Status Code

Attachment 2

3E4X1 Specialty Training Standard (STS)

A2.2. Specialty Tasks. The following are tasks the workcenter supervisor will use to create the duty task list for each duty position created for their workcenter.

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
1. CIVIL ENGINEER (CE) CORE CONCEPTS COURSES TR: CE Virtual Learning Center (CE-VLC)													
1.1. Accomplish CE 5-Level Core Concepts Course	*							-	-	-	B	-	-
1.2. Accomplish CE 7-Level Core Concepts Course		*						-	-	-	-	-	B
1.3. CE Core Concepts Overview								A	-	-	-	-	-
2. PUBLICATIONS													
2.1. Technical orders (TO) TR: TO 00-5-1													
2.1.1. Organization/Format								A	-	B	-	-	-
2.1.2. Use technical orders								2b	-	-	-	-	-
2.2. Military								-	-	-	-	-	-
2.3. Commercial								-	-	-	-	-	-
3. AFS SPECIFIC HEALTH and													
3.1. Hazards of AFSC								A (I)	-	B	-	-	-
3.2. Safety Standards for AFSC								A (I)	-	B	-	-	-
3.3. Individual responsibilities								A (I)	-	B	-	-	-
3.4. Respiratory Protection Program								A	-	B	-	-	-
3.5. Lockout Tagout Program								A	-	B	-	-	-
3.6. Mechanical equipment								A	-	B	-	-	-
3.7. Flammables								A (I)	-	B	-	-	-
3.8. Chemicals and chemical solutions								A	-	B	-	-	-
3.9. Remove victim from energized circuit								a	-	b	-	-	-
3.10. Apply first aid procedures for electrical shock								a	-	b	-	-	-
3.11. Manual lifting awareness								A (I)	-	-	-	-	-
3.12. Condition tags								A (I)	-	B	-	-	-
3.13. Initial Federal Hazard Communication Training Program (FHCTP)								A	-	-	-	-	-
3.14. Toxic and explosive gases								A	-	B	-	-	-
3.15. Fuel Hazards								A	-	B	-	-	-
3.16. Arc Flash Safety	*							A	-	B	B	-	-
3.17. Confined space entries	*							-	-	-	B	-	-

Attachment 2
3E4X1 Specialty Training Standard (STS)

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
4. TOOLS AND EQUIPMENT													
4.1. Maintain hand/power tools								b (I)	-	-	-	-	-
4.2. Use common hand/power tools								2b (I)	-	-	-	-	-
4.3. Use specialized hand/power tools								2b	-	-	-	-	-
4.4. Shop equipment													
4.4.1. Characteristics/Safety													
4.4.1.1. Ladders								A (I)	-	B	-	-	-
4.4.1.2. Shoring								A (I)	-	B	-	-	-
4.4.1.3. Scaffolding								A (I)	-	-	-	-	-
4.4.1.4. Laboratory								A (I)	-	B	-	-	-
4.4.1.5. Fall protection								A	-	B	-	-	-
4.4.2. Use Shop equipment													
4.4.2.1. Ladders								a (I)	-	b	-	-	-
4.4.2.2. Shoring								a (I)	-	b	-	-	-
4.4.2.3. Scaffolding								a (I)	-	b	-	-	-
4.4.2.4. Laboratory								1a (i)	-	b	-	-	-
4.4.2.5. Fall protection								a	-	b	-	-	-
4.4.3. Care Shop equipment								-	-	-	-	-	-
4.5. Portable Air Compressor													
4.5.1. Characteristics								A	-	B	-	-	-
4.5.2. Inspect								2b	-	b	-	-	-
4.5.3. Operate								2b	-	b	-	-	-
4.6. Vapor/oxygen/toxicity indicator	*							2b	-	b	-	-	-
5. PROJECT PLANNING													
5.1. Use building construction plans to identifv													
5.1.1. Installation procedures		*						-	-	b	-	-	-
5.1.2. Materials needed								-	-	b	-	-	-
5.1.3. Types of systems		*						-	-	b	-	-	-
5.2. Prepare working sketches		*						1a (I)	-	b	-	-	-
5.3. Prepare AF Form 103, Work Clearance								1a (I)	-	b	-	-	-
5.4. Prepare bill of materials request	*							1a (I)	-	b	-	-	-
5.5. Preventive Maintenance (PM)								-	-	B	-	-	-
6. AFS FUNDAMENTALS													
6.1. Mathematics								A (I)	-	B	-	-	-
6.2. Metric system								-	-	A	-	-	-
6.3. Biology								A (I)	-	B	-	-	-
6.4. Chemistry								A (I)	-	B	-	-	-
6.5. Water treatment								A (i)	-	B	-	-	-

Attachment 2
3E4X1 Specialty Training Standard (STS)

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
6.6. Pipe Fitting													
6.6.1. Measure	*							2b (I)	-	b	-	-	-
6.6.2. Cut	*							2b (I)	-	b	-	-	-
6.6.3. Ream	*							2b (I)	-	b	-	-	-
6.6.4. Thread	*							2b (I)	-	b	-	-	-
6.6.5. Solder/sweat	*							2b (I)	-	b	-	-	-
6.6.6. Solvent weld	*							2b (I)	-	b	-	-	-
6.7. Tubing													
6.7.1. Types								A (I)	-	B	-	-	-
6.7.2. Fittings								A (I)	-	B	-	-	-
6.7.3. Fabricate tubing systems								2b (I)	-	b	-	-	-
6.8. Locate components using:													
6.8.1. Utility maps	*							a (I)	-	b	-	-	-
6.8.2. Electronic equipment								a (I)	-	-	-	-	-
6.9. Cathodic Protection Systems								A	-	B	-	-	-
6.10. Inspect for corrosion								a (I)	-	b	-	-	-
6.11. Physical Characteristics													
6.11.1. Hydraulics								A	-	B	-	-	-
6.11.2. Fuel								A	-	B	-	-	-
6.11.3. Water								A (I)	-	B	-	-	-
6.11.4. Mechanics								A	-	B	-	-	-
7. WATER SYSTEMS TR: UFC 3-230-02; UPC; Ken Kerri, Water Distribution System Operation and Maintenance; AFI32-1067; IPC; AWWAs M11, M14, M17, M23													
7.1. Fundamentals of Water Distribution								A (i)	-	B	-	-	-
7.2. Operation of water systems													
7.2.1. Wells								A (i)	-	B	-	-	-
7.2.2. Booster stations								A (i)	-	B	-	-	-
7.2.3. Storage tanks								A (i)	-	B	-	-	-
7.2.4. Chemical feeders								A (i)	-	B	-	-	-
7.2.5. Metering equipment								A (i)	-	B	-	-	-
7.3. Install interior water system piping and components													
7.3.1. Steel								2b (I)	-	b	-	-	-
7.3.2. Plastic								2b (I)	-	b	-	-	-

Attachment 2
3E4X1 Specialty Training Standard (STS)

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
7.3.3. Copper								2b (I)	-	b	-	-	-
7.3.4. PEX								2b (I)	-	b	-	-	-
7.3.5. Pipe hangers/supports								2b (I)	-	b	-	-	-
7.3.6. Structural openings								2b (I)	-	b	-	-	-
7.4. Inspect interior water system													
7.4.1. Perform pressure test								2b (I)	-	b	-	-	-
7.4.2. Troubleshoot pressure loss								2b (I)	-	b	-	-	-
7.4.3. Locate leaks								2b (I)	-	b	-	-	-
7.5. Interior water system maintenance													
7.5.1. Thaw frozen water pipes using:													
7.5.1.1. Heaters								a (I)	-	b	-	-	-
7.5.1.2. Torches								a (I)	-	b	-	-	-
7.5.1.3. Electrical thawers								a (I)	-	b	-	-	-
7.5.2. Winterize piping system								1a (I)	-	b	-	-	-
7.5.3. Repair interior water system piping													
7.5.3.1. Steel								2b (I)	-	b	-	-	-
7.5.3.2. Plastic								2b (I)	-	b	-	-	-
7.5.3.3. Copper								2b (I)	-	b	-	-	-
7.5.3.4. PEX								2b (I)	-	b	-	-	-
7.6. Backflow Prevention Devices													
7.6.1. Characteristics													
7.6.1.1. Air gap								A (I)	-	B	-	-	-
7.6.1.2. Atmospheric vacuum breaker								A (I)	-	B	-	-	-
7.6.1.3. Pressure type vacuum breaker								A (I)	-	B	-	-	-
7.6.1.4. Double check valve								A (I)	-	B	-	-	-
7.6.1.5. Reduced pressure principle devices								A (I)	-	B	-	-	-
7.6.2. Install													
7.6.2.1. Air gap								a (I)	-	b	-	-	-
7.6.2.2. Atmospheric vacuum breaker								a (I)	-	b	-	-	-
7.6.2.3. Pressure type vacuum breaker								a (I)	-	b	-	-	-
7.6.2.4. Double check valve								a (I)	-	b	-	-	-
7.6.2.5. Reduced pressure principle device								a (I)	-	b	-	-	-
7.6.3. Inspect													
7.6.3.1. Air gap								a (I)	-	b	-	-	-
7.6.3.2. Atmospheric vacuum breaker								a (I)	-	b	-	-	-
7.6.3.3. Pressure type vacuum breaker								a (I)	-	b	-	-	-

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1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
7.6.3.4. Double check valve								a (I)	-	b	-	-	-
7.6.3.5. Reduced pressure principle device								a (I)	-	b	-	-	-
7.6.4. Repair													
7.6.4.1. Air gap								a (I)	-	b	-	-	-
7.6.4.2. Atmospheric vacuum breaker								a (I)	-	b	-	-	-
7.6.4.3. Pressure type vacuum breaker								a (I)	-	b	-	-	-
7.6.4.4. Double check valve								a (I)	-	b	-	-	-
7.6.4.5. Reduced pressure principle device								a (I)	-	b	-	-	-
7.7. Fire hydrants													
7.7.1. Characteristics								A (I)	-	B	-	-	-
7.7.2. Install								b (I)	-	b	-	-	-
7.7.3. Inspect		*						1a (I)	-	b	-	-	-
7.7.4. Repair	*							b (I)	-	b	-	-	-
7.7.5. Area flow test													
7.7.5.1. Conduct static pressure test		*						1a (I)	-	b	-	-	-
7.7.5.2. Conduct residual and velocity tests		*						a (I)	-	b	-	-	-
7.7.5.3. Calculate test data		*						a (I)	-	b	-	-	-
7.8. Install exterior water system piping and components													
7.8.1. Plastic								2b (I)	-	b	-	-	-
7.8.2. Steel								2b (I)	-	b	-	-	-
7.8.3. Tap water main								b (I)	-	b	-	-	-
7.8.4. Disinfect using chlorine								2b (I)	-	b	-	-	b
7.9. Repair exterior water system piping													
7.9.1. Plastic								2b (I)	-	b	-	-	-
7.9.2. Steel								2b (I)	-	b	-	-	-
7.9.3. Compression couplings								2b (I)	-	b	-	-	-
7.9.4. Clamps								2b (I)	-	b	-	-	-
8. WASTEWATER SYSTEMS TR: UPC; Ken Kerri, Operation and Maintenance of Wastewater Collection Systems; UFCs 3-240-01, 3-240-02, 3-240-03N; ETL 13-2													
8.1. Fundamentals of collection													
8.1.1. Sanitary sewer								A (I)	-	B	-	-	-
8.1.2. Industrial waste (grease traps, oil water separators)								A (I)	-	B	-	-	-
8.1.3. Storm Drains								-	-	-	-	-	-

Attachment 2
3E4X1 Specialty Training Standard (STS)

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
8.1.4.Sewage lift stations														
8.1.4.1. Dry well								A (I)	-	B	-	-	B	
8.1.4.2. Wet well								A (I)	-	B	-	-	B	
8.2. Collection system piping														
8.2.1. Install cast iron pipe								-	-	b	-	-	-	
8.2.2. Install plastic pipe	*							2b (I)	-	b	-	-	-	
8.2.3. Establish trench grade	*							2b (I)	-	b	-	-	-	
8.2.4. Establish pipeline slope	*							2b (I)	-	b	-	-	-	
8.2.5. Backfill trenches	*							a (I)	-	b	-	-	-	
8.2.6. Drain excavations	*							a (I)	-	b	-	-	-	
8.3. Repair wastewater system piping														
8.3.1. Interior								2b (I)	-	b	-	-	-	
8.3.2. Exterior								2b (I)	-	b	-	-	-	
8.4. Inspect exterior collection systems														
8.4.1. Manholes								b (I)	-	b	-	-	-	
8.4.2. Leaks								a (I)	-	b	-	-	-	
8.4.3. Infiltration/inflow								a (I)	-	b	-	-	-	
8.4.4. Grease traps								a (I)	-	b	-	-	c	
8.4.5. Oil/water separator								a (I)	-	b	-	-	-	
8.5. Use														
8.5.1. Plunger								2b (I)	-	b	-	-	-	
8.5.2. Hand/closet auger								2b (I)	-	b	-	-	-	
8.5.3. Power auger	*							2b (I)	-	b	-	-	-	
8.5.4. Chemicals								a (I)	-	b	-	-	-	
8.5.5. Sewer augers								-	-	-	-	-	-	
8.5.6. Commercial sewer jet								a (I)	-	b	-	-	-	
8.6. Wastewater treatment														
8.6.1. Primary								A (I)	-	B	-	-	B	
8.6.2. Secondary								A (I)	-	B	-	-	B	
9. SWIMMING POOLS TR: UFC 3-230-02; AFI 48-114														
9.1. Operate								a (i)	-	b	-	-	-	
9.2. Maintain								a (i)	-	b	-	-	-	
9.3. Repair								a (i)	-	b	-	-	-	
10. NATURAL GAS SYSTEMS TR: AFI 32-1067; Guidance Manual for Operators of Small Natural Gas Systems; 49 CFR Part 192														

Attachment 2
3E4X1 Specialty Training Standard (STS)

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
10.1. Characteristics								A	-	B	-	-	-
10.2. Federal and state regulations								-	-	B	-	-	-
10.3. Inspect gas system components and piping								a	-	b	-	-	-
10.4. Maintain gas system components and piping								a	-	b	-	-	-
10.5. Repair gas system components and piping								a	-	b	-	-	-
10.6. Locate and isolate leaks								a	-	b	-	-	-
11. FIRE SUPPRESSION TR: National Fire Protection Association Pamphlets; UFCs 3-600-01,3-601-02													
11.1. Characteristics													
11.1.1. Wet pipe systems								A	-	B	-	-	-
11.1.2. Dry pipe systems								A	-	B	-	-	-
11.1.3. Deluge systems								A	-	B	-	-	-
11.1.4. Foam systems								A	-	B	-	-	-
11.1.5. Specialized systems								A	-	B	-	-	-
11.2. Test													
11.2.1. Wet pipe systems								a	-	b	-	-	-
11.2.2. Dry pipe systems								a	-	b	-	-	-
11.2.3. Deluge systems								a	-	b	-	-	-
11.2.4. Foam systems								a	-	b	-	-	-
11.2.5. Specialized systems								a	-	b	-	-	-
11.3. Repair													
11.3.1. Wet pipe systems								a	-	b	-	-	-
11.3.2. Dry pipe systems								a	-	b	-	-	-
11.3.3. Deluge systems								a	-	b	-	-	-
11.3.4. Foam systems								a	-	b	-	-	-
11.3.5. Specialized systems								a	-	b	-	-	-
12. ELECTRICAL SYSTEMS TR: AFI 32-1064; UFC 3-560-01													
12.1. Electrical fundamentals													
12.1.1. Electron Theory								A	-	B	-	-	-
12.1.2. Programmable logic controller (PLC)								A	-	B	-	-	-
12.1.3. Use electrical schematics	*							1a	-	b	-	-	-
12.1.4. Motors								A	-	B	-	-	-

Attachment 2
3E4X1 Specialty Training Standard (STS)

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
12.1.5. Inspect electrical components/circuits	*							1a	-	b	-	-	-
12.1.6. Troubleshoot electrical systems								1a	-	b	-	-	-
12.1.7. Replace electrical components	*							1a	-	b	-	-	-
12.1.8. Connect and disconnect motors	*							1a	-	b	-	-	-
12.2. Use test equipment to measure													
12.2.1. Voltage	*							2b	-	b	-	-	-
12.2.2. Resistance	*							2b	-	b	-	-	-
12.2.3. Current	*							2b	-	b	-	-	-
13. FIXTURES AND PLUMBING COMPONENTS TR: UPC; IPC; Manufacturer Specifications													
13.1. Characteristics													
13.1.1. Lavatories								A (I)	-	B	-	-	-
13.1.2. Faucets								A (I)	-	B	-	-	-
13.1.3. Water closets													
13.1.3.1. Floor mount								A (I)	-	B	-	-	-
13.1.3.2. Wall hung								A (I)	-	B	-	-	-
13.1.4. Urinals													
13.1.4.1. Wall hung								A (I)	-	B	-	-	-
13.1.4.2. Pedestal								A (I)	-	B	-	-	-
13.1.5. Showers													
13.1.5.1. Individual								A (I)	-	B	-	-	-
13.1.5.2. Gang								A (I)	-	B	-	-	-
13.1.5.3. Tub/shower								A (I)	-	B	-	-	-
13.1.6. Industrial sinks													
13.1.6.1. Scullery								A (I)	-	B	-	-	-
13.1.6.2. Kitchen								A (I)	-	B	-	-	-
13.1.6.3. Utility								A (I)	-	B	-	-	-
13.1.7. Traps													
13.1.7.1. Common seal								A (I)	-	B	-	-	-
13.1.7.2. Deep seal								A (I)	-	B	-	-	-
13.1.8. Mixing valves													
13.1.8.1. Manual								A (I)	-	B	-	-	-
13.1.8.2. Pressure balancing								A (I)	-	B	-	-	-
13.1.8.3. Thermostatic								A (I)	-	B	-	-	-

Attachment 2
3E4X1 Specialty Training Standard (STS)

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
13.1.9. Flushometers														
13.1.9.1. Diaphragm								A (I)	-	B	-	-	-	
13.1.9.2. Piston								A (I)	-	B	-	-	-	
13.1.10. Drinking fountains														
13.1.10.1. Wall hung								A (I)	-	B	-	-	-	
13.1.10.2. Pedestal								A (I)	-	B	-	-	-	
13.1.10.3. Electrically cooled								A (I)	-	B	-	-	-	
13.1.11. Water Heaters														
13.1.11.1. Electric								A (I)	-	B	-	-	-	
13.1.11.2. Gas								A (I)	-	B	-	-	-	
13.1.11.3. Tankless								A (I)	-	B	-	-	-	
13.1.12. Food grinder														
13.1.12.1 Industrial								A (I)	-	A	-	-	-	
13.1.12.2. Domestic								A (I)	-	A	-	-	-	
13.1.13. Emergency eyewash/shower								A (I)	-	B	-	-	-	
13.2. Install														
13.2.1. Lavatories								2b (I)	-	b	-	-	-	
13.2.2. Faucets								2b (I)	-	b	-	-	-	
13.2.3 Water Closets														
13.2.3.1. Floor mount								2b (I)	-	b	-	-	-	
13.2.3.2. Wall hung								2b (I)	-	b	-	-	-	
13.2.4. Urinals														
13.2.4.1. Wall hung								2b (I)	-	b	-	-	-	
13.2.4.2. Pedestal								-	-	b	-	-	-	
13.2.5. Showers														
13.2.5.1. Individual								2b (I)	-	b	-	-	-	
13.2.5.2. Gang								a (I)	-	b	-	-	-	
13.2.5.3. Tub/shower								a (I)	-	b	-	-	-	
13.2.6. Industrial sinks														
13.2.6.1. Scullery								a (I)	-	b	-	-	-	
13.2.6.2. Kitchen								a (I)	-	b	-	-	-	
13.2.6.3. Utility								a (I)	-	b	-	-	-	
13.2.7. Traps														
13.2.7.1. Common seal								2b (I)	-	b	-	-	-	
13.2.7.2. Deep seal								a (I)	-	b	-	-	-	
13.2.8. Mixing valves														

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	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
13.2.8.1. Manual								2b (I)	-	b	-	-	-	
13.2.8.2. Pressure balancing								2b (I)	-	b	-	-	-	
13.2.8.3. Thermostatic								2b (I)	-	b	-	-	-	
13.2.9. Flush-o-meters														
13.2.9.1. Diaphragm								2b (I)	-	b	-	-	-	
13.2.9.2. Piston								-	-	b	-	-	-	
13.2.10. Drinking fountains														
13.2.10.1 Wall hung								b (I)	-	b	-	-	-	
13.2.10.2. Pedestal								b (I)	-	b	-	-	-	
13.2.10.3. Electrically cooled								b (I)	-	b	-	-	-	
13.2.11. Water Heaters														
13.2.11.1. Electric								-	-	b	-	-	-	
13.2.11.2. Gas								2b (I)	-	b	-	-	-	
13.2.12. Food grinder														
13.2.12.1. Industrial								b (I)	-	b	-	-	-	
13.2.12.2. Domestic								-	-	-	-	-	-	
13.2.13. Emergency eyewash/shower								b (I)	-	b	-	-	-	
13.3. Replace														
13.3.1. Faucets	*							b (I)	-	b	-	-	-	
13.3.2. Lavatories	*							b (I)	-	b	-	-	-	
13.3.3. Water closets														
13.3.3.1. Floor mount	*							b (I)	-	b	-	-	-	
13.3.3.2. Wall hung	*							b (I)	-	b	-	-	-	
13.3.4. Wall hung Urinals	*							b (I)	-	b	-	-	-	
13.3.5. Showers														
13.3.5.1. Individual								-	-	b	-	-	-	
13.3.5.2. Gang								-	-	-	-	-	-	
13.3.5.3. Tub/shower								-	-	-	-	-	-	
13.3.6. Industrial sinks														
13.3.6.1. Scullery								b (I)	-	b	-	-	-	
13.3.6.2. Kitchen								b (I)	-	b	-	-	-	
13.3.6.3. Utility								b (I)	-	b	-	-	-	
13.3.7. Traps														
13.3.7.1. Common seal								b (I)	-	b	-	-	-	
13.3.7.2. Deep seal								-	-	-	-	-	-	
13.3.8. Mixing valves														

Attachment 2
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1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
13.3.8.1. Manual								-	-	b	-	-	-	
13.3.8.2. Pressure balancing								b (I)	-	b	-	-	-	
13.3.8.3. Thermostatic								b (I)	-	b	-	-	-	
13.3.9. Flushometers														
13.3.9.1. Diaphragm	*							b (I)	-	b	-	-	-	
13.3.9.2. Piston	*							b (I)	-	b	-	-	-	
13.3.10. Drinking fountains														
13.3.10.1. Wall hung								b (I)	-	b	-	-	-	
13.3.10.2. Pedestal								b (I)	-	b	-	-	-	
13.3.10.3. Electrically cooled								b (I)	-	b	-	-	-	
13.3.11. Water Heaters														
13.3.11.1. Electric								-	-	b	-	-	-	
13.3.11.2. Gas								-	-	b	-	-	-	
13.3.12. Food grinder														
13.3.12.1. Industrial								a (I)	-	b	-	-	-	
13.3.12.2. Domestic								-	-	b	-	-	-	
13.3.13. Emergency eyewash/shower								a (I)	-	b	-	-	-	
13.4. Repair														
13.4.1. Water closet components														
13.4.1.1. Floor mount	*							2b (I)	-	b	-	-	-	
13.4.1.2. Wall hung	*							2b (I)	-	b	-	-	-	
13.4.2. Common Seal Traps								2b (I)	-	b	-	-	-	
13.4.3. Mixing valves														
13.4.3.1. Manual	*							2b (I)	-	b	-	-	-	
13.4.3.2. Pressure balancing	*							-	-	b	-	-	-	
13.4.3.3. Thermostatic								-	-	b	-	-	-	
13.4.4. Flushometers														
13.4.4.1. Diaphragm	*							2b (I)	-	b	-	-	-	
13.4.4.2. Piston								-	-	b	-	-	-	
13.4.5. Drinking fountains														
13.4.5.1. Wall hung								-	-	b	-	-	-	
13.4.5.2. Pedestal								-	-	b	-	-	-	
13.4.5.3. Electrically cooled								-	-	b	-	-	-	
13.4.6. Water Heaters														
13.4.6.1. Electric	*							2b (I)	-	b	-	-	-	
13.4.6.2. Gas								-	-	b	-	-	-	

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1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
13.4.7. Food grinders														
13.4.7.1. Industrial								a (I)	-	b	-	-	-	
13.4.7.2. Domestic								-	-	b	-	-	-	
13.4.8. Emergency eyewash/shower	*							b (I)	-	b	-	-	-	
13.4.9. Faucets								2b (I)	-	b	-	-	-	
14. MANUAL VALVES TR: UFC 3-230-02; UPC; AWWA M44														
14.1. Characteristics														
14.1.1. Check								A (I)	-	B	-	-	-	
14.1.2. Globe								A (I)	-	B	-	-	-	
14.1.3. Gate								A (I)	-	B	-	-	-	
14.1.4. Ball								A (I)	-	B	-	-	-	
14.1.5. Altitude								A (I)	-	B	-	-	-	
14.1.6. Pressure regulating								A (I)	-	B	-	-	-	
14.1.7. Pressure relief								A (I)	-	B	-	-	-	
14.1.8. Quick opening								A (I)	-	B	-	-	-	
14.1.9. Double block and bleed								A	-	B	-	-	-	
14.2. Inspect														
14.2.1. Check								a (I)	-	b	-	-	-	
14.2.2. Globe								a (I)	-	b	-	-	-	
14.2.3. Gate								a (I)	-	b	-	-	-	
14.2.4. Ball								a (I)	-	b	-	-	-	
14.2.5. Altitude								a (I)	-	b	-	-	-	
14.2.6. Pressure regulating								a (I)	-	b	-	-	-	
14.2.7. Pressure relief								a (I)	-	b	-	-	-	
14.2.8. Quick opening								a (I)	-	b	-	-	-	
14.2.9. Double block and bleed								a	-	b	-	-	-	
14.3. Replace														
14.3.1. Check								1a (i)	-	b	-	-	-	
14.3.2. Globe								1a (i)	-	b	-	-	-	
14.3.3. Gate								1a (i)	-	b	-	-	-	
14.3.4. Ball								1a (i)	-	b	-	-	-	
14.3.5. Altitude								a (I)	-	b	-	-	-	
14.3.6. Pressure regulating								1a (i)	-	b	-	-	-	
14.3.7. Pressure relief								a (I)	-	b	-	-	-	
14.3.8. Quick opening								1a (i)	-	b	-	-	-	
14.3.9. Double block and bleed								1a	-	b	-	-	-	

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	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
14.4. Repair														
14.4.1. Check								1a (i)	-	b	-	-	-	
14.4.2. Globe								1a (i)	-	b	-	-	-	
14.4.3. Gate								1a (i)	-	b	-	-	-	
14.4.4. Ball								1a (i)	-	b	-	-	-	
14.4.5. Altitude								a (I)	-	b	-	-	-	
14.4.6. Pressure regulating	*							1a (i)	-	b	-	-	-	
14.4.7. Pressure relief	*							1a (I)	-	b	-	-	-	
14.4.8. Quick opening								1a (i)	-	b	-	-	-	
14.4.9. Plug valve - Non-Lubricated								-	-	b	-	-	-	
14.4.10. Double block and bleed	*							1a	-	b	-	-	-	
14.5. Valve Maintenance														
14.5.1. Lubricate								2b (I)	-	b	-	-	-	
14.5.2. Packing								2b (I)	-	b	-	-	-	
14.5.3. Exercise								a (I)	-	b	-	-	-	
14.6. Valve boxes														
14.6.1. Characteristics								A (I)	-	B	-	-	-	
14.6.2. Install								a (I)	-	b	-	-	-	
14.6.3. Inspect								a (I)	-	b	-	-	-	
14.6.4. Maintain								a (I)	-	b	-	-	-	
15. WATER TESTING TR: UFC 3-230-02; Standard Methods for the Examination of Water and Wastewater; Ken Kerri; ASTMs D1253, D1293														
15.1. Perform water tests														
15.1.1. pH	*							2b (i)	-	b	-	-	-	
15.1.2. Chlorine residual	*							2b (i)	-	b	-	-	-	
15.1.3. Total coliform								-	-	b	-	-	-	
15.2. Collect Samples								-	-	-	-	-	-	
16. FUELS SYSTEMS TR:UFC 3-460-01, UFC 3-460-03; AFI 32-7044														
16.1. Types								A	-	B	-	-	-	
16.2. Standard Designs								A	-	B	-	-	-	
16.3. Modes of Operation								A	-	B	-	-	-	
16.4. Valve Operation								A	-	B	-	-	-	
16.5. Inspect operation of:														
16.5.1. Type I								-	-	a	-	-	-	

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1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
16.5.2. Type II								-	-	a	-	-	-	
16.5.3. Type III								2b		b	-	-	-	
16.5.4. Type IV								-	-	b	-	-	-	
16.6. Pressure/flow transmitters (PIT/DPT-Type III IV)														
16.6.1. Replace								b	-	b	-	-	-	
16.6.2. Calibrate	♦							2b	-	b	-	-	-	
16.7. Troubleshoot														
16.7.1. Type I								-	-	-	-	-	-	
16.7.2. Type II								-	-	-	-	-	-	
16.7.3. Type III	♦							2b	-	b	-	-	-	
16.7.4. Type IV								-	-	b	-	-	-	
16.8. Automatic valves														
16.8.1. Characteristics								A	-	B	-	-	-	
16.8.2. Adjust	*							2b	-	b	-	-	-	
16.8.3. Repair	*							2b	-	b	-	-	-	
16.9. Pumps														
16.9.1. Characteristics														
16.9.1.1. Gear								A	-	B	-	-	-	
16.9.1.2. Rotary-vane								A	-	B	-	-	-	
16.9.1.3. Diaphragm								A	-	B	-	-	-	
16.9.1.4. Double diaphragm								A	-	B	-	-	-	
16.9.1.5. Centrifugal								A	-	B	-	-	-	
16.9.1.6. Deep well								A	-	B	-	-	-	
16.9.1.7. API 610								A	-	B	-	-	-	
16.9.2. Inspect operation of:														
16.9.2.1. Rotary-vane								a	-	b	-	-	-	
16.9.2.2. Diaphragm								a	-	b	-	-	-	
16.9.2.3. Double diaphragm								a	-	b	-	-	-	
16.9.2.4. Centrifugal								a	-	b	-	-	-	
16.9.2.5. Deep well								a	-	b	-	-	-	
16.9.2.6. API 610								1a	-	b	-	-	-	
16.9.3. Rebuild														
16.9.3.1. Rotary-vane								1a	-	b	-	-	-	
16.9.3.2. Diaphragm								1a	-	b	-	-	-	
16.9.3.3. Double diaphragm	*							1a	-	b	-	-	-	
16.9.3.4. Centrifugal								1a	-	b	-	-	-	

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1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
16.9.3.5. Deep well								1a	-	b	-	-	-
16.9.3.6. API 610								1a	-	b	-	-	-
16.9.4. Replace mechanical seals													
16.9.4.1. Rotary-vane								1a	-	b	-	-	-
16.9.4.2. Centrifugal								1a	-	b	-	-	-
16.9.4.3. Deep well								1a	-	b	-	-	-
16.9.4.4. API 610								1a	-	b	-	-	-
16.9.5. Align													
16.9.5.1. Rotary-vane								a	-	b	-	-	-
16.9.5.2. Centrifugal	*							2b	-	b	-	-	-
16.9.5.3. API 610								a	-	b	-	-	-
16.9.6. Lubricate													
16.9.6.1. Rotary-vane								a	-	b	-	-	-
16.9.6.2. Diaphragm								a	-	b	-	-	-
16.9.6.3. Centrifugal								a	-	b	-	-	-
16.9.6.4. API 610								1a	-	b	-	-	-
16.10. Filtration equipment													
16.10.1. Characteristics								A	-	B	-	-	-
16.10.2. Replace filter element cartridge	◆							2b	-	b	-	-	-
16.10.3. Repair filtration equipment								a	-	b	-	-	-
16.10.4. Set safety relief valve	◆							1a	-	b	-	-	-
16.11. Fuel meters													
16.11.1. Characteristics								A	-	B	-	-	-
16.11.2. Calibrate meters	◆							2b	-	b	-	-	-
16.11.3. Use master meter	◆							2b	-	b	-	-	-
16.12. Storage tanks													
16.12.1. Characteristics													
16.12.1.1. Above ground								A	-	B	-	-	-
16.12.1.2. Below ground								A	-	B	-	-	-
16.12.1.3. Cut and cover								A	-	B	-	-	-
16.12.1.4. Organizational (STI)								A	-	B	-	-	-
16.12.2. Components													
16.12.2.1. Repair								a	-	b	-	-	-
16.12.2.2. Inspect								a	-	b	-	-	-
16.12.2.3. Check leak detection systems								a	-	b	-	-	-
16.12.3. Inspect dikes								a	-	b	-	-	-

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1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT					4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
16.13. Issue/receipt equipment													
16.13.1. Characteristics								A	-	B	-	-	-
16.13.2. Set Thermal Relief Valve	*							1a	-	b	-	-	-
16.13.3. Coupler/Single-point nozzle													
16.13.3.1. Characteristics								A	-	B	-	-	-
16.13.3.2. Repair	*							2b	-	b	-	-	-
16.13.3.3. Hoses								A	-	B	-	-	-
16.13.3.4. Perform hydrostatic hose test								a	-	b	-	-	-
16.14. Perform pressure test													
16.14.1. Leak test								a	-	b	-	-	-
16.14.2. Annual								a	-	b	-	-	-
16.14.3. Five year								a	-	b	-	-	-
16.15. Gauges													
16.15.1. Characteristics								A	-	B	-	-	-
16.15.2. Calibrate	*							2b	-	b	-	-	-
16.16. Automatic dispensing system													
16.16.1. Troubleshoot								2b	-	b	-	-	-
16.16.2. Submersible													
16.16.2.1. Characteristics								A	-	B	-	-	-
16.16.2.2. Inspect								a	-	b	-	-	-
16.16.2.3. Repair								a	-	b	-	-	-
16.16.2.4. Replace								a	-	b	-	-	-
16.16.3. Self-Contained													
16.16.3.1. Characteristics								A	-	B	-	-	-
16.16.3.2. Inspect								a	-	b	-	-	-
16.16.3.3. Repair								a	-	b	-	-	-
16.16.3.4. Replace								a	-	b	-	-	-
16.16.4. Calibrate meters	*							2b	-	b	-	-	-
16.17. Hydrant outlets													
16.17.1 Characteristics								A	-	B	-	-	-
16.17.2. Repair								2b	-	b	-	-	-
16.18. Surge Arrestors								A	-	B	-	-	-
17. TANK/CONFINED SPACE ENTRY TR: API Standard 2015 7th Ed (Note 3b); AFI91-203; AFI32-7044													
17.1. Characteristics								A	-	B	-	-	-
17.2. Specialized protective equipment													

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	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level	
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
17.2.1. Inspect	*							2b	-	b	-	-	-
17.2.2. Use	*							2b	-	b	-	-	-
17.2.3. Maintain	*							a	-	b	-	-	-
17.2.4. Characteristics								A	-	B	-	-	-
17.3. Perform tank inspection								a	-	b	-	-	-
17.4. Perform tank cleaning								a	-	b	-	-	-
17.5. Return tank to service								a	-	b	-	-	-
18. DEACTIVATE FUEL SYSTEMS TR: UFC 3-460-01													
18.1. Characteristics													
18.1.1. Tanks								-	-	B	-	-	-
18.1.2. Piping								-	-	B	-	-	-
18.1.3. Electrical								-	-	B	-	-	-
18.1.4. Mechanical								-	-	B	-	-	-
19. AFS SPECIFIC CONTINGENCY RESPONSIBILITIES TR: AFH 10-222V1, V2, V11; AFPAM 10-219V5; AFPAM 10-219V7; ETL 13-2; War Mobilization Plan													
19.1. Latrines TR: AFPAM 10-219V7; AFH10-222V1													
19.1.1. Characteristics													
19.1.1.1 Pit								-	-	B	-	-	-
19.1.1.2. Straddle trench								-	-	B	-	-	-
19.1.1.3. VIP								-	-	B	-	-	-
19.1.1.4. Burnout								-	-	B	-	-	-
19.1.1.5. Pail								-	-	B	-	-	-
19.1.1.6. Mound								-	-	B	-	-	-
19.1.2. Install													
19.1.2.1. Pit								-	-	b	-	-	-
19.1.2.2. Straddle trench								-	-	b	-	-	-
19.1.2.3. VIP								-	-	b	-	-	-
19.1.2.4. Burnout								-	-	b	-	-	-
19.1.2.5. Pail								-	-	b	-	-	-
19.1.2.6. Mound								-	-	b	-	-	-
19.1.3. Maintain													
19.1.3.1. Pit								-	-	b	-	-	-
19.1.3.2. Straddle trench								-	-	b	-	-	-

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	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
19.1.3.3. VIP								-	-	b	-	-	-
19.1.3.4. Burnout								-	-	b	-	-	-
19.1.3.5. Pail								-	-	b	-	-	-
19.1.3.6. Mound								-	-	b	-	-	-
19.2. Wastewater Disposal TR: AFI32-1066, 32-1067; ETL 13-2; AFPAM10-219V7													
19.2.1. Characteristics													
19.2.1.1. Urine soakage pit								A	-	B	-	-	-
19.2.1.2. Lagoons								A	-	B	-	-	B
19.2.1.3. Evaporation beds								A	-	B	-	-	B
19.2.1.4. Septic tanks								A	-	B	-	-	B
19.2.1.5. Lift stations								A	-	B	-	-	B
19.2.1.6. Leach fields								A	-	B	-	-	B
19.2.2. Install													
19.2.2.1. Urine soakage pit								a	-	b	-	-	-
19.2.2.2. Lagoons								a	-	b	-	-	-
19.2.2.3. Evaporation beds								a	-	b	-	-	-
19.2.2.4. Septic tanks								a	-	b	-	-	-
19.2.2.5. Lift stations								a	-	b	-	-	-
19.2.2.6. Leach fields								a	-	b	-	-	-
19.2.3. Maintain													
19.2.3.1 Urine soakage pit								a	-	b	-	-	-
19.2.3.2. Lagoons								a	-	b	-	-	-
19.2.3.3. Evaporation beds								a	-	b	-	-	-
19.2.3.4. Septic tanks w/ leach fields								a	-	b	-	-	-
19.2.3.5. Lift stations								a	-	b	-	-	-
19.3. Base Expeditionary Airfield Resources (BEAR) assets													
19.3.1. BEAR Water System TR: AFPAM 10-219V5; 10-222 V11													
19.3.1.1. Characteristics								-	-	B	-	-	B
19.3.1.2. Set up	◆							-	-	b	-	-	-
19.3.1.3. Troubleshoot	◆							-	-	b	-	-	-
19.3.1.4. Repair	◆/▲							-	-	b	-	-	-
19.3.2. Water Production: 1500 ROWPU TR: AFPAM10-219V5; TO40W4-20-1													
19.3.2.1. Characteristics								A	-	B	-	-	-

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	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL
19.3.2.2. Set up	◆/▲							1a/a (N1)	-	b	-	-	-
19.3.2.3. Operate	◆/▲							1a/a (N1)	-	b	-	-	-
19.3.2.4. Maintain	◆							1a/a (N1)	-	b	-	-	-
19.3.3. Self-Help Laundry TR: AFPAM10-219V5; T.O. 50D1-4-11													
19.3.3.1. Characteristics								-	-	B	-	-	-
19.3.3.2. Set up								-	-	b	-	-	-
19.3.3.3. Troubleshoot								-	-	b	-	-	-
19.3.3.4. Repair								-	-	b	-	-	-
19.3.4. Electric Kitchen Equipment Utility Support TR: AFPAM10-219V5													
19.3.4.1. Potable water supply								A	-	B	-	-	-
19.3.4.2. Waste water disposal								A	-	B	-	-	-
19.3.5. Grease trap T.R. AFH10-222V1													
19.3.5.1. Characteristics								A	-	B	-	-	-
19.3.5.2. Install								a	-	b	-	-	-
19.3.5.3. Maintain								a	-	b	-	-	-
19.3.6. Portable Shower Unit & Shave Unit TR: AFPAM10-219V5; T.O. 35E35-4-1													
19.3.6.1. Set up	◆							-	-	b	-	-	-
19.3.6.2. Perform operational tests	◆							-	-	b	-	-	-
19.3.6.3. Service/Periodic maintenance	◆							-	-	b	-	-	-
19.3.6.4. Troubleshoot	◆							-	-	b	-	-	-
19.3.6.5. Repair	◆							-	-	b	-	-	-
19.3.7. Field Deployable Latrine TR: AFPAM10-219V5; T.O. 35E35-5-1													
19.3.7.1. Set up	◆							-	-	b	-	-	-
19.3.7.2. Maintain	◆							-	-	b	-	-	-
19.3.7.3. Disassemble	◆							-	-	b	-	-	-
19.3.8. Medical facilities utility support TR: TO's -5-1 & 35E3 Series; AFPAM 10-219V 3								A	-	B	-	-	-
19.3.9. Expandable Bicon Shelter (EBS) Hygiene System TR: TO 35E4-164-1													
19.3.9.1 Characteristics								-	-	B	-	-	-

Attachment 2
3E4X1 Specialty Training Standard (STS)

1. Tasks, Knowledge And Technical References	2. Core Tasks		3. Certification For OJT						4. Proficiency Codes Used To Indicate Training / Information Provided (See Explanations)					
	A	B	A	B	C	D	E	A 3 Skill Level		B 5 Skill Level		C 7 Skill Level		
	5 Level	7 Level	Tng Start	Tng Comp	Trainee Initials	Trainer Initials	Certifier Initials	(1) Course	(2) DL	(1) CDC	(2) DL	(1) Course	(2) DL	
19.3.9.2. Set up	◆							-	-	b	-	-	-	
19.3.9.3. Maintain	◆							-	-	b	-	-	-	
19.3.9.4. Disassemble	◆							-	-	b	-	-	-	
19.4. Survivability support														
19.4.1. Water Supply TR: AFPAM10-219V5														
19.4.1.1. Alternate water														
19.4.1.1.1. Expansion of water facilities								A	-	B	-	-	-	
19.4.1.1.2. Surface water locations								A	-	B	-	-	-	
19.4.2 Shallow well development (maximum 3 foot)								A	-	B	-	-	-	
19.5. Sewer sucker trailer (SST)								A	-	B	-	-	-	
19.6. Set-up Water bladders								a	-	b	-	-	-	
19.7. Set-up Fuel bladders								a	-	b	-	-	-	
19.8. Rapid Utility Repair Kit (RURK)								-	-	A	-	-	-	

Attachment 3**3E4X1 Air Force Qualification Package (AFQTP) Documentation Record****A3. AFQTP Documentation Record.**

A3.1. To ensure each Water and Fuel Systems Maintenance trainee is trained to the correct standard an AF Qualification Training Package (AFQTP) has been developed for each core and diamond tasks identified in their STS. These AFQTPs **are mandated** to be used by the trainee, trainer, and certifier in their on-the-job-training program for upgrade to the 5- or 7-level.

A3.2. These AFQTPs ensures all aspects of the task is covered sufficiently and provide additional task knowledge in preparation for hands-on training. AFQTPs summarize procedures on a task performance checklist for use by trainers, certifiers, and trainees.

A3.2.1. The UTM or supervisor can download paper-based AFQTP's. Paper-based AFQTP's can be found on the [CE-VLC](#) under the Library link and then by selecting Resources.

A3.2.2. In additional to the paper-based AFQTPs there are web-based courses or assessments developed for certain tasks that are available on the [CE-VLC](#) under the Course List link and specialty topic area.

A3.3. **Documentation.** Before a core or diamond task can be signed off in the JQS section of the individual automated training record the task must be signed off in the QTP section first.

A3.3.1. **Core/Diamond Tasks.** To document the completion the supervisor or trainer opens the individual automated training record, navigates to the QTP section, enter the start and completed date with signatures.

A3.3.2. **Diamond (♦) Tasks.** Supervisors/Trainers **DO NOT** sign off the corresponding JQS task until the trainee has completed hands-on training. If the required equipment is not available at your location, completion of the task's AFQTP web-based course or assessment with a passing score of 80% is all that required for upgrade training. Hands-on certification shall be accomplished at the first opportunity when equipment is available and then can be signed off on the JQS.

A3.4. 3E4X1 Core and Diamond Tasks Requirements.

3E4X1 AFQTP Documentation Record							
Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
1.	CIVIL ENGINEER (CE) COMMON CORE CONCEPTS COURSES						
1.1.	Accomplish CE 5-Level Core Concepts Course	*					
1.2.	Accomplish CE 7-Level Core Concepts Course		*				
3.	AFS SPECIFIC HEALTH and SAFETY						
3.16.	Arc Flash Safety	*					
3.17.	Confined space entries	*					

Attachment 3

3E4X1 Air Force Qualification Package (AFQTP) Documentation Record

Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
4.	TOOLS AND EQUIPMENT						
4.6.	Vapor/oxygen/toxicity indicator	*					
5.	PROJECT PLANNING						
5.1.	Use building construction plans to identify:						
5.1.1.	Installation procedures		*				
5.1.3.	Types of systems		*				
5.2.	Prepare working sketches		*				
5.4.	Prepare bill of materials request	*					
6.	AFS FUNDAMENTALS						
6.6.	Pipe Fitting						
6.6.1.	Measure	*					
6.6.2.	Cut	*					
6.6.3.	Ream	*					
6.6.4.	Thread	*					
6.6.5.	Solder/sweat	*					
6.6.6.	Solvent weld	*					
6.8.	Locate components using:						
6.8.1.	Utility maps	*					
7.	WATER SYSTEMS						
7.7.	Fire hydrants						
7.7.3.	Inspect		*				
7.7.4.	Repair	*					
7.7.5.	Area flow test						
7.7.5.1.	Conduct static pressure test		*				
7.7.5.2.	Conduct residual and velocity tests		*				
7.7.5.3.	Calculate test data		*				
8.	WASTEWATER SYSTEMS						
8.2.	Collection system piping						
8.2.2.	Install plastic pipe	*					
8.2.3.	Establish trench grade	*					
8.2.4.	Establish pipeline slope	*					
8.2.5.	Backfill trenches	*					
8.2.6.	Drain excavations	*					
8.5.	Use						
8.5.3.	Power augers	*					
12.	ELECTRICAL SYSTEMS						
12.1.	Electrical fundamentals						
12.1.3.	Use electrical schematics	*					
12.1.5.	Inspect electrical components/circuits	*					
12.1.7.	Replace electrical components	*					
12.1.8.	Connect and disconnect motors	*					
12.2.	Use test equipment to measure:						
12.2.1.	Voltage	*					
12.2.2.	Resistance	*					
12.2.3.	Current	*					
13.	FIXTURES AND PLUMBING COMPONENTS						

Attachment 3**3E4X1 Air Force Qualification Package (AFQTP) Documentation Record**

Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainee Initials
13.3.	Replace						
13.3.1.	Faucets	*					
13.3.2.	Lavatories	*					
13.3.3.	Water closets						
13.3.3.1.	Floor mount	*					
13.3.3.2.	Wall hung	*					
13.3.4.	Wall hung Urinals	*					
13.3.9.	Flushometers						
13.3.9.1.	Diaphragm	*					
13.3.9.2.	Piston	*					
13.4.	Repair						
13.4.1.	Water closet components						
13.4.1.1.	Floor mount	*					
13.4.1.2.	Wall hung	*					
13.4.3.	Mixing valves						
13.4.3.1.	Manual	*					
13.4.3.2.	Pressure balancing	*					
13.4.4.	Flushometers						
13.4.4.1.	Diaphragm	*					
13.4.6.	Water Heaters						
13.4.6.1.	Electric	*					
13.4.8.	Emergency eyewash/shower	*					
14.	MANUAL VALVES						
14.4.	Repair						
14.4.6.	Pressure regulating	*					
14.4.7.	Pressure relief	*					
14.4.10.	Double block and bleed	*					
15.	WATER TESTING						
15.1.	Perform water tests						
15.1.1.	pH	*					
15.1.2.	Chlorine residual	*					
16.	FUELS SYSTEMS						
16.6.	Pressure/flow transmitters (PIT/DPT-Type III IV)						
16.6.2.	Calibrate	◆					
16.7.	Troubleshoot						
16.7.3.	Type III	◆					
16.8.	Automatic valves						
16.8.2.	Adjust	*					
16.8.3.	Repair	*					
16.9.	Pumps						
16.9.3.	Rebuild						
16.9.3.3.	Double diaphragm	*					
16.9.5.	Align						
16.9.5.2.	Centrifugal	*					
16.10.	Filtration equipment						
16.10.2.	Replace filter element cartridge	◆					
16.10.4.	Set Safety Relief Valve	◆					

Attachment 3
3E4X1 Air Force Qualification Package (AFQTP) Documentation Record

Task Number	Tasks, Knowledge and Technical References	Core/Diamond Tasks		Certification of AFQTPs			
		5 Level	7 Level	Tng Start	Tng Complete	Trainee Initials	Trainer Initials
16.11.	Fuel meters						
16.11.2.	Calibrate meters	♦					
16.11.3.	Use master meter	♦					
16.13.	Issue/receipt equipment						
16.13.2.	Set Thermal Relief Valve	*					
16.13.3.	Coupler/Single-point nozzle						
16.13.3.2.	Repair	*					
16.15.	Gauges						
16.15.2.	Calibrate	*					
16.16.	Automatic dispensing system						
16.16.4.	Calibrate meters	*					
17.	TANK/CONFINED SPACE ENTRY						
17.2.	Specialized protective equipment						
17.2.1.	Inspect	*					
17.2.2.	Use	*					
17.2.3.	Maintain	*					
19.	SPECIFIC CONTINGENCY RESPONSIBILITIES						
19.3.	Base Expeditionary Airfield Resources (BEAR) assets						
19.3.1.	BEAR Water System						
19.3.1.2.	Set up	♦					
19.3.1.3.	Troubleshoot	♦					
19.3.1.4.	Repair	♦					
19.3.2.	Water Production: 1500 ROWPU						
19.3.2.2.	Set-up	♦					
19.3.2.3.	Operate	♦					
19.3.2.4.	Maintain	♦					
19.3.6.	Portable Shower Unit & Shave Unit						
19.3.6.1	Set-up	♦					
19.3.6.2	Perform operational tests	♦					
19.3.6.3	Service/Periodic maintenance	♦					
19.3.6.4	Troubleshoot	♦					
19.3.6.5	Repair	♦					
19.3.7.	Field deployable Latrine						
19.3.7.1.	Set up	♦					
19.3.7.2.	Maintain	♦					
19.3.7.3.	Disassemble	♦					
19.3.9.	Expandable Bicon Shelter (EBS) Hygiene System						
19.3.9.2	Set up	♦					
19.3.9.3	Maintain	♦					
19.3.9.4	Disassemble	♦					