Luke AFB
Environmental Guide for Contractors

October 2024

56th Civil Engineer Squadron
Environmental Management Office
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Part 1 – Obligations

1.1. As a contractor, you are obligated to comply with federal, state, and local environmental regulations, and Luke AFB Environmental Management System (EMS) requirements. Some of the environmental issues to be considered while completing your job at Luke AFB include:

- Hazardous Material usage & management;
- Recovered Materials usage;
- Dust control from activities such as earthmoving, trenching, concrete cutting, etc.;
- Air emissions control from painting or cleaning operations;
- Stormwater Discharges;
- Construction & Demolition Debris recycling/disposal;
- Waste management;
- Protection of native plants;
- Protection of migratory birds;
- Protection of cultural resources;
- Influence on the installations EMS environmental aspects (Appendix C); and
- Asbestos containing material and lead-based paint.

1.2. As the prime contractor, you are also obligated to ensure all subcontractors also adhere to environmental regulations.

Part 2 – Responsibilities

2.1. Contractors, subcontractors, and vendors are responsible for environmental protection while in the process of executing contracts on Luke AFB involving, but not limited to:

- New Construction;
- Renovations and major repairs on existing structures or systems;
- Demolition/removal of old structures or systems; and
- Performance of contract maintenance or services.

2.2. Environmental regulations will be complied with by all contractors, subcontractors, and vendors.

2.3. Pre-work conference: The prime contractor will brief employees and/or subcontractors on environmental regulations and policies as applicable to the project.

2.4. Project sites are subject to inspection by the 56 Civil Engineer Squadron (56 CES) Environmental Office to ensure compliance with environmental regulations and practices.

2.5. Contractors must report spills to the Base Fire Department by dialing 911 when:

- The spill is greater than two feet; or
- The spill is greater than one gallon; or
- The spill is an unknown substance; or
- The spill is on soil or cracked pavement; or
- The spill may create a threat of fire/explosion; or
- The spill may be a risk to personnel.

2.5.1. The Base Fire Department will report these spills to the Luke Environmental Office.

2.6. Contractors **must report small spills** (spill less than two feet in area) to the Luke Environmental Office for directions regarding disposal of spill residues at 623-856-3832.

2.7. Contractors must report all accidents involving Air Force people, property, or equipment damage, and any contractor personnel injured in the performance of the Air Force contract to the Contracting Office.

2.8. Contractors shall take immediate corrective action to comply with environmental regulations if informed of a violation by the Contracting Office.

2.9. If necessary, appropriate actions will be initiated through the Contracting Office to correct substandard environmental practices or conditions.

Part 3 – Summary of Common Environmental Requirements and Contractor Responsibilities:

3. The following, organized by the step/action that occurs in a typical construction project, is a list of common Contractor responsibilities. This table is not all inclusive of all environmental requirements that could be encountered during a construction project (for instance the removal of underground storage tanks, or the installation of dry wells). If further guidance is needed on a specific construction project, please contact the 56 CES Environmental Office: 623-856-3832.

3.1 Before Construction/Performance/Demolition/Repair

Requirement	When required?	What is required?	Required Submission
Complete Environmental Management System (EMS) Awareness Level Training	Always unless deemed not applicable by the installation EMS Coordinator	Complete EMS Awareness Training in Appendix C. This must be accomplished prior to any work being accomplished on the installation.	Submit Employee Training Roster (Attachment 3) to the 56 CES Environmental Office.
Air Quality Dust Control Plan and Permit	When 1/10 of an acre (4356 square feet) or more of soil is disturbed (including all unpaved areas traversed by construction equipment).	Submit Dust Control Plan and permit application to Maricopa County Air Quality Department (MCAQD). Must erect a sign onsite with permit information.	Submit a copy of the permit to Contracting Office. Contracting Office will forward copies of permits to the 56 CES Environmental Office.
Abrasive Blasting	Any abrasive blasting activities	Obtain required permits from Maricopa County Air Quality Department. Follow all applicable MCAQD regulations for abrasive blasting.	Submit for 56 CES Environmental Office approval demonstrating how fugitive blast media will be contained.

Requirement	When required?	What is required?	Required Submission
Asbestos Determination	Prior to renovation or demolition activities	For projects already designed: Contact the 56 CES Environmental Office regarding any previous asbestos surveys and abatement requirements. NOTE: If an asbestos survey has never been accomplished or is more than five (5) years old a new survey will be required. For projects in design phase: Contractor responsible for the asbestos determination as follows: • Asbestos data may be available for some buildings. Contact the Asbestos/LBP Program Manager at 856-4569 to determine if data already exists for the specific building or work area. • If data does not exist or is inadequate testing for asbestos is required. A copy of the new survey will be provided to the Asbestos/LBP Program Manager. If it is determined that asbestos is present above the action level AND will be disturbed, the Contractor will ensure the necessary abatement and protection procedures are incorporated into work plans and contract documents.	Submit a copy of the Asbestos Survey Report to the Contracting Office. Contracting office will forward a copy of all surveys to the 56 CES Environmental Office. **NOTE: A NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS NOTIFICATION OF DEMOLITION must be submitted to the Maricopa County Air Quality Department for ALL demolitions – even if no asbestos is present.** Demolition = removing a load bearing wall. Also submit info copy of NESHAP notification to Contracting Officer. CONS will forward a copy to 56 CES/CEIE.

Requirement	When required?	What is required?	Required Submission
Asbestos Abatement	Prior to renovation or demolition activities	If asbestos is present, the Contractor must: • Submit a copy of the Asbestos Abatement Plan. o The 56 CES Environmental Asbestos/LBP Program Manager will review the plan to ensure protection of the environment and base personnel that may be affected in the project area. • File a National Emission Standards for Hazardous Air Pollutants (NESHAP) notification and Renovation and Demolition Permit application with the Maricopa County Air Quality Department. Provide copies to the base. • Submit copies of the waste shipment records for asbestos-containing waste to the 56 CES Environmental Asbestos/LBP Program Manager.	Submit Abatement plan and activity permits to the Contracting Office. Contracting Office will forward copies of all documents to the 56 CES Environmental Office.
Notice of Intent (NOI) to Drill	When drilling, deepening, modifying, capping, or abandoning a monitoring well, drinking water well, drywell, piezometer, or environmental well.	Submit a NOI to Arizona Department of Water Resources (ADWR). Obtain drilling card from ADWR. The drilling card must be kept in the possession of the driller at the well site during drilling. Drilling may not begin until the drilling card has been received. If the driller changes, the new driller cannot begin drilling until he receives a new drilling card from ADWR.	Submit a copy of the NOI and the drill card to the Contracting Office. Contracting Office will forward a copy of the NOI to the 56 CES Environmental Office.

Requirement	When required?	What is required?	Required Submission
Hazardous Materials Management	Always	Drums and pails of hazardous materials stored outside must be within secondary containment and covered. Above Ground Storage Tanks for equipment fuel or oil must be within secondary containment with a fire extinguisher nearby.	None.
Hazardous Materials Review	Initially	In accordance with FAR Clause 52.223-3, if the project involves using hazardous materials complete the ***Contractor Hazardous Material Questionnaire***. **Refer to Appendix A for guidance.**	Submit the ***Contractor Hazardous Material Questionnaire*** **and SDS's** to the 56 CES Hazardous Materials Management Office.

Requirement	When required?	What is required?	Required Submission
Lead-Based Paint (LBP) Determination	Testing for LBP is necessary prior to renovation, repair, demolition, sanding, sandblasting, or maintenance activities that will involve or disturb painted surfaces.	For projects already designed: Contact the 56 CES Environmental Office for information regarding any previous LBP surveys and abatement requirements. For projects in the design phase: Contractor is responsible for the LBP determination as follows: • Contact the Asbestos/LBP Program Manager (856-4569) regarding available LBP data for the work area. • If data does not exist or is inadequate, Contractor is required to test for LBP. • If it is determined that LBP is present above the action level AND will be disturbed, the Contractor will ensure activities are performed in conformance with OSHA 29 CFR 1926.62. Necessary abatement and protection procedures shall be incorporated into work plans and contract documents. **THE USE OF PAINT WITH A LEAD CONTENT OF 0.06% OR GREATER IS PROHIBITED.**	Submit a copy of the LBP Survey Report to the Contracting Office. If LBP is present, submit a copy of the LBP Removal/ Demolition Activity to the Contracting Officer. Contracting office will forward copies of all documents to the 56 CES Environmental Office.
Lead-Based Paint (LBP) Abatement	Prior to renovation or demolition activities.	If LBP is present, the Contractor must submit a copy of the LBP Abatement Plan to the base. The Environmental Asbestos/LBP Program Manager will review the plan to ensure protection of the environment and base personnel that may be affected in the project area. Submit copies of the waste shipment records for LBP waste to the 56 CES Environmental Asbestos/LBP Manager.	Submit abatement plans to Contracting Office. Contracting Office will forward copies to the 56 CES Environmental Office.

Requirement	When required?	What is required?	Required Submission
Protection of Native Plants and Urban Forest Management	Ground disturbance or area clearing of any size.	Saguaro Cactus must be relocated on the project site or to another location on base. Contact the 56 Environmental Office prior to the relocation of Saguaro Cactus. If mature native trees, such as Palo Verde and Mesquite, must be cleared from the project area they are to be replaced in kind in the final project landscaping.	None.
Protection of migratory birds. (Compliance with Migratory Bird Treaty Act.)	Any removal of vegetation, including landscape tree/cactus maintenance, clearing or grubbing, during migratory bird nesting season (roughly March 1 – Sept 1). Any alteration of power poles, light poles, or other high structures likely to house nesting birds.	Contact 56 CES Environmental Office, (623) 856-8488 three (3) working days prior to vegetation work to request biologist review of project area to determine if any active bird nests are present. All active nests will be avoided by the activity until any hatchlings are fledged. Nest surveys are valid for 10 days if no active nests are located.	Provide 56 CES Environmental Office with project location maps and details of activity at least 3 days in advance of work.

Requirement	When required?	What is required?	Required Submission
Permission to Use Equipment Containing Radioactive Material and/or Permission to Use Radiation Producing Equipment	Always required if: • The equipment contains radioactive material, and/or • The radiation producing equipment meets any of the following criteria: o Equipment generating radiofrequency in excess of 7 Watts and/or 1000 MHz; o Lasers that are class 3b or 4; o Ionizing radiation such as x-ray equipment for imaging; o Ultraviolet radiation for industrial use such as welding processes.	Submit a letter to the 56 Bioenvironmental Engineering Flight detailing the work to be done, the equipment to be used, the timeframe for the work, and POCs (including telephone numbers). A copy of the Radioactive Material License (with NRC Form 241 if it is a state license) and the contract must be attached to the letter. The Bioenvironmental Engineering Flight will provide an approval letter regarding the use of radioactive material on Luke AFB. The radioactive material or radiation producing equipment may not be brought on-base until the contractor receives an approval letter from Bioenvironmental Engineering. Surveys may be performed to ensure that general public exposure is within limits.	Submit request for the use of radioactive material and/or radiation producing equipment to Bioenvironmental Engineering.
Storm Water Pollution Prevention Plan (SWPPP) and AZPDES General Permit for Discharges from Construction Activities	When 1 acre or more of soil disturbance (if less than an acre, a Construction Activity General Permit (CGP) and SWPPP are not required, but measures must be used to prevent storm water pollution from the project from entering Luke's Storm Water System).	The AZPDES General Permit for Discharges from Construction Activities requires the preparation of a SWPPP and the submittal of a Notice of Intent (NOI) with ADEQ. When the project is complete submit a Notice of Termination (NOT) to ADEQ.	Submit a copy of the SWPPP and NOI to the 56 CES Environmental Office. The SWPPP must be reviewed and approved by Luke's Storm Water Manager.

3.2 During Construction/Performance/Demolition/Repair

Requirement	When required?	What is required?	Required Submission
Preservation of Cultural Resources (Compliance with the National Historic Preservation Act.)	When cultural resources are discovered on a work site or during construction. 'Cultural resources' include any artifact or material relic of past human use, historic or prehistoric, of an area. If in doubt at all, it's best to call.	Immediately stop work and contact the 56 CES Environmental Office (623) 856-6890.	None.
Dust Control Plan	Daily	Follow all Dust Control Permit requirements. Must have a MCAQD certified dust supervisor onsite during all earthmoving activities. Report dust control water usage monthly using ***Contractor Environmental Reporting Form***. **NOTE: Maricopa County Air Quality Department frequently performs inspections of contractor sites on Luke AFB to ensure permit compliance**	Submit the ***Contractor Environmental Reporting Form*** to the 56 CES Hazardous Materials Management Office.
Hazardous Material Tracking and Reporting	Monthly	Report hazardous materials usage monthly using ***Contractor Environmental Reporting Form***. Materials listed on the worksheet must match the SDSs provided. **Refer to Appendix A for guidance.**	Submit the ***Contractor Environmental Reporting Form*** to the 56 CES Hazardous Materials Management Office.

Requirement	When required?	What is required?	Required Submission
Reporting of recycling and disposal of construction and demolition (C&D) debris and water usage.	Monthly **NOTE: Luke AFB is committed to exceeding the Air Force Goal of diverting at least 60% of the C&D debris generated on base. C&D should be recycled whenever feasible.**	C&D disposal/reuse and water usage must be tracked and reported monthly on the ***Contractor Environmental Reporting Form*** (Appendix A). C&D debris is defined as material generated during construction, renovation, demolition, or deconstruction of buildings and infrastructure. C&D debris typically includes concrete, wood, metals, gypsum wallboard, asphalt, and roofing material. The 56 CES Environmental Office can provide a scrap metal roll-off for your project.	Submit the ***Contractor Environmental Reporting Form*** monthly to the 56 CES Hazardous Materials Management Office.
Identification and proper management of regulated wastes (RCRA Hazardous Waste, Universal Waste, Industrial Wastes).	If potentially regulated wastes are to be generated.	The Contractor must: • Identify potentially regulated wastes. • Provide copies of analytical reports, SDSs or other documents characterizing wastes as hazardous or non- hazardous to Hazardous Waste Program manager (HWPM). • Coordinate storage locations with the HWPM. • Follow provisions of the Luke Hazardous Waste Management Plan for management (closed, marked containers, no more than 55 gallons stored, etc.) • Use Luke AFB EPA ID for all RCRA and PCB waste shipments and ensure ONLY the HWPM signs the manifest. **See Appendix B for guidance.**	Waste characterization documents. For non-RCRA wastes (such as petroleum contaminated soil, lamps, batteries, etc.), submit a bill of lading showing disposal facility. For RCRA-regulated wastes and PCBs, a uniform hazardous waste manifest must be used, coordinated with the HWPM prior to off-site shipment, and be signed by the HWPM.
SWPPP	Daily	Maintain storm water pollution prevention Best Management Practices in accordance with SWPPP.	None

Requirement	When required?	What is required?	Required Submission
SWPPP	Monthly	Accommodate Luke's Storm Water Manager in performing monthly inspections of the construction site.	None

3.3 After Construction/Performance/Demolition/Repair (Prior to Project Close-out)

Requirement	When required?	What is required?	Required Submission
Dust Permit	At project completion	After completion of construction project, contractor must submit a permit closure to MCAQD.	Submit Notice of Closure to MCAQD and the Contracting Office, to be forwarded to Luke's Air Program Manager.
SWPPP	At project completion	After completion of construction project, contractor must submit a Notice of Termination (NOT) to ADEQ. All BMPs must be removed before submitting the NOT. All Post Construction Storm Water Controls must be inspected by Luke's Storm Water Manager.	Submit NOT to ADEQ and the Contracting Office, to be forwarded to Luke's Storm Water Manager.

Part 4 – Environmental Points of Contact

Listed below are the Environmental Office Points of Contact.

ENVIRONMENTAL POC		Work Phone	Cell Phone
Scott Mendenhall scott.mendenhall@us.af.mil	Environmental Chief	856-3832	(602) 245-4987
Josie Silva josefa.silva.1@us.af.mil	Stormwater / Tanks	856-3621	
Alan Thomas alan.thomas@us.af.mil	Air Program Manager	856-8486	(623) 341-9525
Robert Lewis robert.lewis.79@us.af.mil	Hazardous Materials Manager / Recycling	856-4748	
Bryan O'Sullivan bryan.osullivan.1@us.af.mil	Hazardous Materials / Asbestos / Recycling	856-4749	
Carl Moser carl.moser.2@us.af.mil	Hazardous Waste Manager / Asbestos / LBP	856-4569	(602) 228-0235
Dan Arnone daniel.arnone.1@us.af.mil	Hazardous Waste	856-6501	
Chris Jensen christoper.jensen.21@u.af.mil	Natural/Cultural Resources Manager	856-6890 856-6890	
Dylan Cole dylan.cole.9@us.af.mil	Environmental Intern	856-8488	

APPENDIX A

GUIDANCE FOR REPORTING HAZARDOUS MATERIAL USAGE

Hazardous Materials: A hazardous material is commonly known as a HAZMAT. OSHA defines a hazardous material as any substance to which exposure "results or may result in adverse effects on the health and safety of employees" or "any chemical which is a physical hazardous or health hazard." There is no 'one simple list' of hazardous materials.

Listed below are the general categories of hazardous materials that require the submission of Safety Data Sheets (SDS) and hazardous material usage reporting to the 56 CES Hazardous Materials Management Office:

- Compressed gases (all types)
- Adhesives
- Sealants
- Paints (including aerosols)
- Lubricants / oils / fuels
- Welding materials
- Solvents
- Chemicals used in testing or as additives
- Any fluids (except water) added to machinery/government-owned or leased equipment
- Pesticides/insecticides/rodenticides

Prior to the start of a project, the Contractor must submit a ***Contractor Hazardous Material Questionnaire***. The Contractor must then submit a ***Contractor Environmental Reporting Form*** monthly, no later than 5 days after the end of each month. Forms are required to be submitted to the 56 CES Hazardous Materials Management Office, (623)856-4748/4749.

APPENDIX B
CONTRACTOR HAZARDOUS MATERIAL QUESTIONNAIRE

APPENDIX C
CONTRACTOR ENVIRONMENTAL REPORTING FORM

APPENDIX D
HAZARDOUS AND UNIVERSAL WASTE MANAGEMENT AND DISPOSAL

Hazardous Waste and Universal Waste: The Contractor is required to manage and dispose of hazardous waste, and universal waste in accordance with local, state, and federal laws. It is the Contractor's responsibility to determine whether any of these wastes will be generated by a particular project and to properly manage such wastes.

Listed below are examples of wastes which can be hazardous waste (this list is not all inclusive):

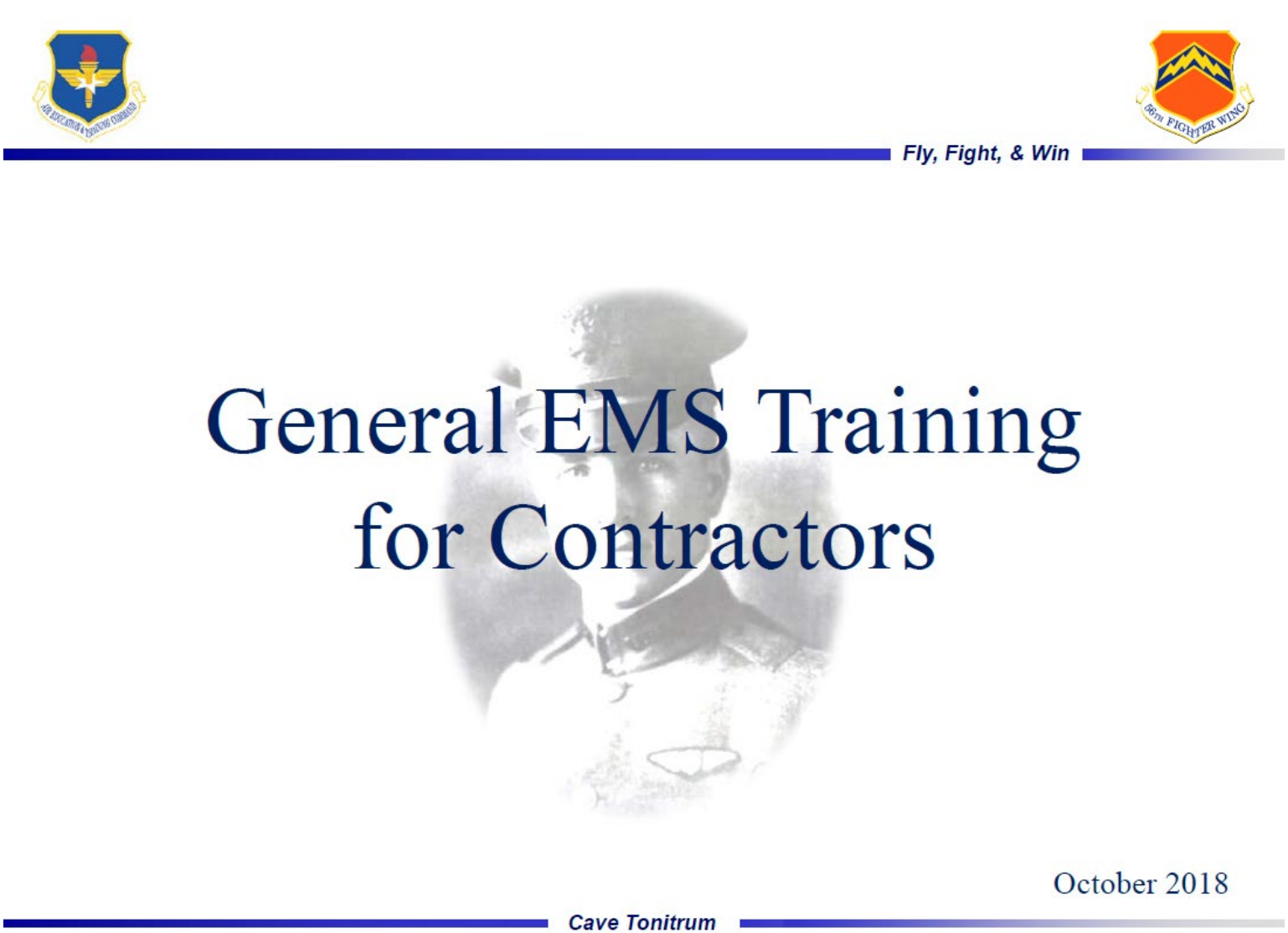
- Acids or caustics
- Adhesives, caulks, roofing cements
- Empty aerosol cans
- Items that contain lead (such as lead flashing, lead solder, lead-based paint chips)
- Items that contain mercury (such as mercury switches, mercury thermostats, fluorescent bulbs)
- Paints, varnishes, and sealers
- Pesticides, insecticides, and rodenticides
- Waste solvents, thinners, cleaners, and fuels
- Sandpaper, sand blasting residue
- Rags, gloves, coveralls, masking paper contaminated with hazardous materials.

The following table presents a list of questions that the Contractor may use to help identify whether their work will be generating a hazardous or universal waste (these questions are not all inclusive).

What processes will be performed during the project?	**Potential Regulated Waste**
Will any paint be chipped, sanded, abraded, or chemically removed?	Many paints and primers contain lead, cadmium, or chromium, and these paint residues and sandpaper may be **RCRA toxic for heavy metals**.
Will any flammable paints, varnishes, cements, adhesives, or other coatings be used?	Many flammable coatings & adhesives contain methyl ethyl ketone (synonyms are MEK & 2-butanone) and brushes, rags, etc. contaminated with these may be **RCRA toxic for MEK**. Additionally, if these are to be disposed in liquid form, they may be **RCRA ignitable**.

What processes will be performed during the project?	Potential Regulated Waste
Will any chemicals be used to clean or strip surfaces?	Many solvents (e.g., chlorinated solvents, benzene, toluene, MEK, xylene, etc.) are hazardous and the stripping residues along with rags and applicators may be RCRA **listed spent solvent wastes**. Corrosive strippers (acids, alkalis, etc.) may be **RCRA corrosive** if disposed in liquid form. Depending on what is being removed, the residues may also contain **RCRA toxic heavy metals**.
Will any aerosol cans be used?	Empty aerosol cans are regulated as **RCRA reactive**. Non-empty aerosol cans that are disposed may also be **RCRA ignitable**.
Will any fluorescent lamps be removed?	Fluorescent lamps contain **mercury** and are regulated as **Universal Waste** (***No Bulbs*** may be disposed of in trash receptacles).
Will any electronic equipment be removed (equipment containing circuit boards, switches, thermostats, transformers, soldered parts, CRTs, etc.)?	Some types of equipment may contain heavy metals and be **RCRA toxic for mercury, lead, or silver**. Transformers and lamp ballasts may contain **Polychlorinated Biphenyls (PCBs)**. Some types of equipment may contain batteries that have **RCRA toxic metals** or are **RCRA corrosive** or are regulated as **Universal Waste**.
Will all unused hazardous materials be removed by the contractor at job completion?	Full or partially full containers that are to be disposed may be **RCRA wastes**. RCRA wastes must be removed by a licensed hazardous waste transporter and accompanied by a hazardous waste manifest.

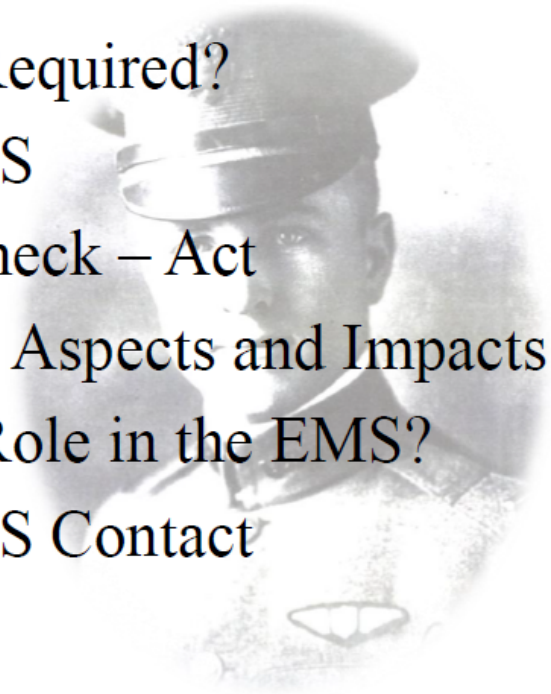
APPENDIX E
ENVIRONMENTAL MANAGEMENT SYSTEM TRAINING



Overview

Fly, Fight, & Win

- What is EMS?
- Why is EMS Required?
- Luke AFB EMS
- Plan – Do – Check – Act
- Environmental Aspects and Impacts
- What is Your Role in the EMS?
- Luke AFB EMS Contact



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What is EMS?

Fly, Fight, & Win

- The Environmental Management System (EMS) is a management process designed to integrate environmental considerations into everyday decision making.
- Continual improvement is the trademark of the EMS.
- EMS is more of a management philosophy, than an environmental program.

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Why is EMS Required?

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- EMS is required by:
  - Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*
    - "All appropriate facilities will use EMS as the primary management approach for addressing environmental aspects of internal agency operations and activities."
- DoDI 4715.17, *Environmental Management System*
  - Requires conformance with ISO 14001
- AFI 32-7001, *Environmental Management*
  - Provides the Air Force EMS framework and vision for implementation and sustainment

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Luke AFB EMS

Fly, Fight, & Win

The Luke AFB EMS is a framework used to:

- Establish environmental responsibilities across base;
- Determine a mission's impact on the environment and vice-versa;
- Identify and evaluate environmental risks;
- Evaluate the effectiveness of Air Force environmental programs; and
- Continually improve performance while planning for the future.

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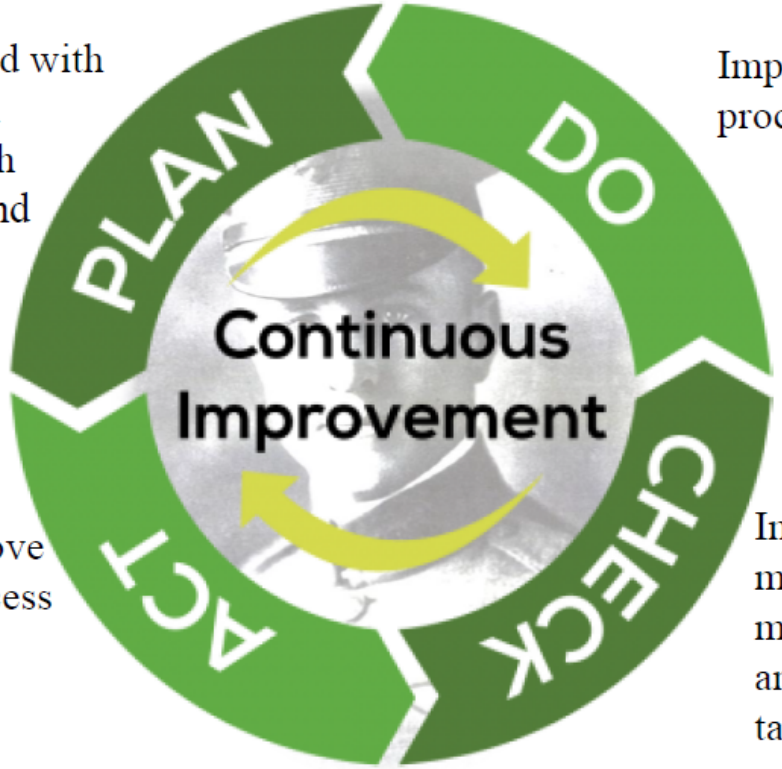
Plan – Do – Check – Act

Fly, Fight, & Win

Plan
Processes are established with regard to environmental aspects and impacts with consideration to legal and mission requirements.

Do
Implement those processes



Act
Action is taken to improve the performance of process based on the gathered results.

Check
Implementation is monitored, results are measured and corrective and preventative actions taken.

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Environmental Aspects & Impacts

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Activity/Aspect	Environmental Impact
Construction/Demolition Activities	• Degradation of air quality (fugitive dust in violation of Title V permit) • Degradation of water quality (stormwater runoff) • HW generation and disposal • Degradation of land (contamination, landfill use, erosion, natural resources) • Solid waste generation and disposal (recycling)
Hazardous Materials Storage, Transfer and Use (including POLs)	• HW generation • Degradation of land (contamination, uncontrolled accidental release, natural resources) • Degradation of water quality
Hazardous Waste Generation and Disposal	• Degradation of air quality • Degradation of land (uncontrolled accidental release, contamination) • Degradation of water quality

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What is Your Role in the EMS?

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- Environmental stewardship is everyone's responsibility.
- We each have a personal responsibility and obligation to conduct and manage our lives, and to perform our mission in a manner that protects and conserves our environment and natural resources.
- By increasing awareness across the installation, we can reduce environmental, economic, and mission liabilities, and continue to enhance our ability to accomplish the Luke AFB mission.

THE EMS IS EVERYONE'S MISSION SUSTAINABILITY!

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Luke AFB EMS Contact

Fly, Fight, & Win

Environmental Chief, EMS Coordinator

Scott Mendenhall

(623) 856-3832

scott.mendenhall@us.af.mil

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ATTACHMENT 1
DUST CONTROL METHODS

The following are suggested dust control methods that may be used to control fugitive dust from the sources listed.

Please note: Use of these control methods **DOES NOT** automatically assure compliance with Maricopa County Air Quality Department's fugitive dust standards (Rule 310).

Use of more than one method may be necessary.

Land Clearing Activities

Control Method	Description
Watering	Application by means of trucks and/or hoses during land cleaning operations.
During periods of high winds	1. Apply chemical stabilizers per manufacturer's directions, and prior to expected wind events. 2. Apply water as necessary, and prior to expected wind events. 3. Stop work activities temporarily.

Earthmoving Activities

Control Method	Description
Watering	1. Application of water by means of trucks, hoses, sprinklers at sufficient frequency and quantity to conducting, during, and after earthmoving operation. 2. Pre-application of water to the depth of the proposed cuts or equipment penetration.
Pre-grading planning	1. Grade each phase separately and time to coincide with the construction phase. 2. Grade entire project area but apply chemical stabilizers or ground cover to graded areas where construction is scheduled to begin more than 30 days after grading is complete.
Chemical stabilizers	1. Most effective in areas that are not subject to daily disturbances. 2. Apply per manufacturer's recommendations.
Wind fencing	1. Three to five foot barriers with 50% or less porosity, adjacent to roadways or urban areas. 2. Normally used in conjunction with watering or chemical stabilization. 3. Use trees and shrubs for long-term sites.
Operate off-road haul vehicles appropriately	1. Mix material with water prior to loading, and/or to entire surface of material after loading. 2. Empty loader slowly and keep bucket close to the truck while dumping. 3. Apply water as necessary during loading operation.
Alternative haul vehicles	Use bottom-dumping haul vehicles.
During periods of high winds	1. Apply chemical stabilizers per manufacturer's directions, and prior to expected wind events. 2. Apply water as necessary, and prior to expected wind events. 3. Stop work activities temporarily.

Storage Piles

Control Method	Description
Watering	1. Application methods include spray bars, hoses, and water trucks. 2. Frequency of application will vary with site-specific conditions.
Wind sheltering	Install three-sided barriers, with no more than 50% porosity, equal to material height.
Chemical stabilizers	Best for use on storage piles subject to infrequent disturbances.
Altering loading and unloading procedures	1. Confine loading and unloading procedures to the downwind side of storage piles. 2. May need to be used in conjunction with wind sheltering.
Coverings	1. Tarps, plastic, or other material can be used as a temporary covering. 2. When used, coverings must be anchored to prevent wind from removing them.
During periods of high winds	1. Apply chemical stabilizers per manufacturer's directions, and prior to expected wind events. 2. Apply water as necessary, and prior to expected wind events. 3. Install temporary covers.

Disturbed Surface Areas or Inactive Construction Sites

Control Method	Description
Chemical stabilization	1. Most effective when used on areas where active operations have ceased. 2. Apply per manufacturer's recommendations.
Watering	Apply at sufficient frequency and quantity to develop a surface crust.
Wind fencing	1. Three to five foot barriers with 50% or less porosity located adjacent to roadways or urban areas. 2. Normally used in conjunction with watering or chemical stabilization.
Vegetation	Establish as quickly as possible when active operations have ceased.
Prevent access	1. Install fencing around perimeter of property. 2. Install "No Trespassing" signs.
Site access improvements	Stay on established routes.
During periods of high winds	1. Apply chemical stabilizers per manufacturer's directions, and prior to expected wind events. 2. Apply water as necessary, and prior to expected wind events.

Unpaved Roads and Shoulders

Control Method	Description
Paving or chip sealing	Requires routine street sweeping if subject to material accumulation.
Chemical stabilization	1. Not recommended for high volume or heavy equipment traffic use. 2. Apply per manufacturer's recommendations.
Watering	1. Need sufficient quantities to keep the surface moist. 2. Required application frequency will vary according to soil type, weather conditions, and amount of vehicle traffic.
Reduce speed	Restrict vehicle speeds to no more than 15 mph.
Eliminate unnecessary travel	Restrict access or redirect traffic to reduce vehicle trips.
Gravel/recycled asphalt	Maintained to a size and depth effective in controlling dust.
Location	Locate haul roads as far from existing housing as possible.
Site access improvements	Stay on established routes.
During periods of high winds	1. Apply chemical stabilizers per manufacturer's directions, and prior to expected wind events. 2. Apply water as necessary, and prior to expected wind events. 3. Stop work and vehicle activity temporarily.

Paved Roads Track-Out

Control Method	Description
Wheel washers	1. Should be placed where vehicles exit unpaved areas onto paved areas. 2. May be adjusted to spray entire vehicle including bulk-stored materials in haul vehicles.
Sweep/clean roadways	Either sweeping or water flushing may be used.
Cover haul vehicles	Cover the cargo compartment with a tarp or other suitable closure.
Site access improvements	1. Install a gravel pad or grizzly at the access point to your site. 2. Designate a single site entrance and exit. 3. Stay on established routes.
During periods of high winds	1. Cover all haul vehicles. 2. Clean streets with water flushing.

ATTACHMENT 2
STORMWATER POLLUTION PREVENTION AT CONSTRUCTION SITES

Stormwater Pollution Prevention at Luke AFB Construction Sites

Stormwater Runoff from Construction Activities

Stormwater discharges generated during construction activities can cause a variety of adverse environmental impacts. As stormwater flows over a construction site, it picks up pollutants like sediment, debris, and chemicals. High volumes of stormwater can also cause stream bank erosion and destroy downstream aquatic habitat. **Preventing polluted runoff and soil erosion is an important responsibility at all construction sites.** In addition to the environmental impact, uncontrolled erosion can have a significant financial impact on a construction project. Obtaining permit coverage and implementing appropriate best management practices can reduce the environmental and financial impacts of stormwater runoff.

Construction sites that discharge unpermitted stormwater are in violation of the Clean Water Act and may be subject to fines up to $27,500 a day.

Who Needs a Permit?

All construction activity that disturbs 1 or more acres of land, as well as activity that disturbs less than 1 acre but is part of a larger common plan of development, must have permit coverage. Most stormwater discharges due to construction activities in Arizona are permitted under the Arizona Pollution Discharge Elimination (AZPDES) Construction General Permit (CGP). The CGP authorizes stormwater discharges from large and small construction-related activities where those discharges have a potential to enter surface waters of the United States or a storm drain system.

The operator of a construction site is responsible for obtaining coverage under an AZPDES permit. The operator could be the owner, the developer, the general contractor, or individual contractor. The operator must do the following:

- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that satisfies the conditions of the permit.
- Submit a Notice of Intent (NOI) to the Stormwater Coordinator at Arizona Department of Environmental Quality (ADEQ).
- Comply with the CGP, including maintaining Best Management Practices (BMP) and inspecting the site.

Once the SWPPP is prepared and a complete and accurate NOI is received by ADEQ, the operator must wait at least 2 business days before discharging. Additional information on stormwater permitting for construction activities is available at www.adeq.state.az.us/environ/water/permits/stormwater.html.

At Luke AFB, the general contractor for a project is responsible for ensuring that all AZPDES permitting requirements are met for the planned construction activity. Copies of all notices of intent (NOIs) and other correspondence with ADEQ must be submitted to the Luke AFB contracting officer.

What Is an SWPPP?

The SWPPP details the erosion and sediment control practices and pollution prevention BMPs that will be implemented during construction activities. A Construction SWPPP Checklist is available from ADEQ to assist operators in the preparation of the SWPPP. Additional information on developing a SWPPP is available at:
www.adeq.state.az.us/environ/water/permits/stormwater.html
www.epa.gov/npdes/pubs/sample_swppp.pdf

How Do I Identify BMPs?

A BMP is a method used to prevent or control stormwater runoff and the discharge of pollutants, including sediment, into local waterbodies. Silt fences, inlet protection, and site-stabilization techniques are typical BMPs at construction sites. BMPs should be implemented before construction begins.

Luke AFB personnel involved in contracting or overseeing construction activities should be aware of appropriate BMPs that should be implemented at construction sites to be protective of stormwater.

The other side of this page presents BMPs that are typically used at construction sites. Additional information on construction site BMPs can be found in the BMP fact sheet series available at www.epa.gov/npdes/memoofbmps.

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Stormwater Best Management Practices

Silt Fencing

- Inspect and maintain silt fences after each rainstorm.
- Make sure the bottom of the silt fence is buried in the ground.
- Securely attach the material to the stakes.
- Don't place silt fences in the middle of a waterway or use them as a check dam.
- Make sure stormwater is not flowing around the silt fence.

Protect Natural Features

- Minimize clearing.
- Minimize the amount of exposed soil.
- Identify and protect areas where existing vegetation, such as trees, will not be disturbed by construction activity.
- Protect streams, stream buffers, wild woodlands, wetlands, or other sensitive areas from any disturbance or construction activity by fencing or otherwise clearly marking these areas.

Vegetative Buffers

- Protect and install vegetative buffers along waterbodies to slow and filter stormwater runoff.
- Maintain buffers by mowing or replanting periodically to ensure their effectiveness.

Construction Phasing

- Sequence construction activities so that the soil is not exposed for long periods of time.
- Schedule or limit grading to small areas.
- Install key sediment control practices before site grading begins.
- Schedule site stabilization activities, such as landscaping, to be completed immediately after the land has been graded to its final contour.

Construction Entrances

- Remove mud and dirt from the tires of construction vehicles before they enter a paved roadway.
- Properly size entrance BMPs for all anticipated vehicles.
- Make sure that the construction entrance does not become buried in soil.

Slopes

- Rough grade or terrace slopes.
- Break up long slopes with sediment barriers, or under drain, or divert stormwater away from slopes.

Storm Drain Inlet Protection

- Use rock or other appropriate material to cover the storm drain inlet to filter out trash and debris.
- Make sure the rock size is appropriate (usually 1 to 2 inches in diameter).
- If you use inlet filters, maintain them regularly.

Site Stabilization

- Vegetate, mulch, or otherwise stabilize all exposed areas as soon as land alterations have been completed.

Photos and text excerpted from *Stormwater and the Construction Industry Poster, EPA 833-H-03-001*.

Attachment 3

Contractor Awareness Training Roster

IAW DoD Policy and AFI 32-7001, *Environmental Management*, all personnel, including contractors, are required to receive both EMS and general environmental awareness training at the level necessary for their job function. Prior to beginning work onsite or within 30 days, all contractor personnel must sign and date the below training roster and return it to the 56 CES Environmental Office. Anyone who works on a contract at any point during the contract period must receive this information and training.

By signing below, you certify that you have read, understood, and accept this document and all attachments. All personnel working within the job site will comply with the environmental policies and regulations herein.

NAME/TITLE/COMPANY NAME	SIGNATURE	DATE

Submit the completed Training Roster to 56 CES Environmental Office at 56CES.CEIE.Enviromental@us.af.mil