(d) Do not use chopping tools as wedges or to drive metal wedges.

(e) Properly sheath all edged tools and blades when not in use.

(9) Cant Hooks, Tongs, and Carrying Bars.

(a) Firmly set hooks before applying pressure.

(b) Before moving logs, warn those in the area and ensure that everyone is clear.

(c) Hook points must be at least 2 inches (5.1 cm) long and kept sharp.

(d) When rolling logs, stand to the rear and uphill.

(10) Wedges and Chisels.

(a) Wedges and chisels must be properly pointed and tempered.

(b) Use only wood, plastic, or soft metal wedges with power saws.

(c) Protect all wood-handled chisels with a ferrule on the striking end.

31-9. Figures and Tables.
Not Applicable.

31-10. Checklists and Forms.
Not Applicable.

Chapter 32
Airfield and Aircraft Operations

32-1. References.

a. FAA AC 150/5210-20A, Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports (https://www.faa.gov/regulations_policies/advisory_circulars) (32-1.a)

b. FAA AC 150/5370-2F, Operational Safety on Airports During Construction (https://www.faa.gov/regulations_policies/advisory_circulars) (32-1.b)

c. FAA AC 150/5370-2G, Operational Safety on Airports During Construction (https://www.faa.gov/regulations_policies/advisory_circulars) (32-1.c)

d. UFC 3-260-01 Airfield and Heliport Planning and Design (https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc) (32-1.d)

32-2. Definitions.

a. Approach-Departure Clearance Surface. An extension of the primary surface and the clear zone at each end of the runway, first along an inclined plane (glide angle) and then along a horizontal plane, both flaring symmetrically about the runway centerline extended. (32-2.a)

b. Foreign Object Debris (FOD). Stones and other small objects that might damage aircraft propellers or jet aircraft. (32-2.b)

32-3. Personnel Required Qualification/Training.
Provide training to vehicle drivers and equipment operators to ensure compliance with the airport operator's vehicle rules and regulations. Provide specific training to vehicle operators providing escorts according to FAA AC 150/5210-20A.

32-4. Roles and Responsibilities.

a. A Competent Person (CP). See paragraphs 1-2 or 2-2, as applicable. Must prepare a Construction Safety and Phasing Plan (CSPP) and Safety Plan Compliance Document (SPCD) according to paragraph 32-7. (32-4.a)

b. Airfield Managers will review and accept the CSPP and SPCD no later than 14 days prior to beginning work. (32-4.b)

32-5. Inspection Requirements. Not Applicable.

32-6. Activity Hazard Analysis (AHA) Requirements.
Develop AHAs according to paragraphs 1-6 or 2-6, as applicable, for all airfield operations. The AHA must include the work methods to be used to include systems, equipment, and other materials, tools, and PPE, along with the controls used to eliminate or control the hazards to an acceptable level.

32-7. Minimum Plan Requirements.
CSPP and SPCD. The USACE supervisor/KO or COR will ensure the airfield's appropriate FAA Regional or District Office is notified of the construction and will provide the FAA a copy of the CSPP and SPCD. Before changes to the approved/accepted CSPP or SPCD may be implemented, the USACE supervisor/KO or COR and Airfield Manager must be informed in writing of proposed revisions to the approved CSPP and SPCD.

a. Construction Safety and Phasing Plan (CSPP). A CP must prepare the CSPP according to FAA 150/5370-2F and UFC 3-260-01 following the format identified in FAA 150/5370-2F. (32-7.a)

b. Safety Plan Compliance Document (SPCD). A CP must prepare the SPCD according to FAA 150/5370-2G and UFC 3-260-01 following the format identified in FAA 150/5370-2G. (32-7.b)

32-8. General Requirements.

a. General. (32-8.a)

(1) Airports and airfields are complex environments and procedures and conditions associated with construction activities often affect aircraft operations and can jeopardize operational safety. Safety considerations are paramount and may make operational impacts unavoidable. However, careful planning, scheduling, and coordination of construction activities can minimize disruption of normal aircraft operations and avoid situations that compromise the airport's operational safety. The Airfield Manager must understand how construction activities and aircraft operations affect one another. This understanding is critical to develop an effective plan to complete the work. Only after allowing a determination if the proposed construction or other work would have a hazardous effect on air navigation, the plan would identify the need for obstruction marking and lighting, or other measures necessary to ensure safe airspace. Prior to work, various coordination activities, (for example, communicate with Airfield Manager, file FAA Form 7460-1 (Notice of Proposed Construction or Alternation) see para 32-10, file Notice to Air Mission (NOTAM), DoD notifications) must be conducted.

(2) The following safety requirements are in addition to the airfield's day to day operational safety requirements. When an airfield has safety requirements that differ from those of this chapter, the more stringent requirements apply.

(3) Unless the Airfield Operator closes a runway and properly marks it, it may not be used for purposes other than aircraft operations unless approved by the USACE supervisor or accepted by the KO or COR.

(4) Keep all paved surfaces, such as runways, taxiways, and hardstands clean at all times, particularly with regards to FOD. Perform sweeping operations by truck mounted vacuum sweeper capable of regenerative air sweeping and water to minimize dust generation. When possible, magnetic bar assemblies should be attached to vehicles and used to pick up ferrous metal FOD.

(5) When mobile equipment is not actively being utilized to perform work on an airfield, remove it to an approved location away from the runway centerline and outside the Runway Safety Area (RSA), the Obstacle Free Zone, and the Runway Object Free Area of active runways as approved by the USACE supervisor or accepted by the KO or COR.

(6) Do not place anything upon the landing areas without approval by the USACE supervisor or accepted by the KO or COR approval.

(7) All vehicle access must be at an entry control point and approved by the Airfield Manager. Maintain effective control of vehicles required to enter or cross aircraft movement areas.

(8) When work is to be performed at an airfield where flying is controlled, obtain permission to enter a landing area from the control tower operator every time entry is required, unless the landing area has been closed by the Airfield Operator and marked as hazardous.

(9) When working in landing areas, perform work so as to leave that portion of the landing area that is available to aircraft free from hazards, including holes, piles, or material, and projecting shoulders that might damage an airplane tire. Equip each vehicle, piece of equipment, or work crew with a two-way radio capable of keeping communications with the air traffic control (ATC) tower while performing work in landing areas.

(10) Do not place equipment, materials, or contractor plant upon or within a safety precaution area without approval of the USACE supervisor or acceptance by the KO or COR.

(11) If an object in a safety precaution area projects above the approach-departure clearance surface or above the transitional surface, the object must be marked with a red light.

b. Excavations. (32-8.b)

(1) Open trenches or excavations are not permitted within the RSA while the runway is open or on the Taxiway Surface Area while the taxiway is open. If possible, backfill trenches before the runway or taxiway is opened. If the runway or taxiway must be opened before excavations are backfilled, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the runway across the trench without damage to the aircraft.

(2) Mark open trenches and excavations at the construction site with red or orange flags and red lights, as approved by the Airport Operator, and light them with red lights during hours of restricted visibility or darkness.

(3) Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Lights must be mounted on barricades and spaced at no more than 10 feet (3 m). Operate the lights between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be controlled by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

c. Vehicle Requirements. (32-8.c)

(1) Provide all vehicles with a flag on a staff attached to the vehicle so that the flag will be readily visible if the vehicles do not routinely traverse any portion of the air operations area (AOA) under the control of ATC and if they are not escorted by a vehicle in constant two-way radio communication with ATC and properly equipped and authorized to operate in the AOA.

(2) Provide flags on all vehicles at airports that do not have ATC facilities.

(3) Each flag must be at least a 3 feet by 3 feet (0.9 m by 0.9 m) square having a checkered pattern of international orange and white squares at least 1 feet (0.3 m) on each side.

d. Notice to Air Mission (NOTAM) (32-8.d)

(1) Submit information on landing areas hazards to aircraft to the Airfield Manager. Unless otherwise directed by the USACE supervisor/KO or COR, the Airfield Manager will prepare an FAA NOTAM for the hazards associated with the displaced threshold or other changes on non-use or caution. Those landing areas hazardous to aircraft must be submitted to the Airfield Manager for a FAA NOTAM on displaced threshold or other changes on non-use or caution unless otherwise directed by the USACE supervisor/KO or COR.

(2) During daylight, outline the areas with highly reflective barricades, lights, signs, and/or orange or red flags, spaced according to FAA AC 150/5370-2G and as approved by the Airfield Manager. The flags must be at least 20 inch x 20 inch (51 cm x 51 cm), with diagonal plastic stiffeners.

(3) During periods of darkness, outline the areas with battery-operated, low-intensity omni-directional red flashing lights spaced according to FAA AC 150/5370-2G and as approved by the Airfield Manager.

(4) Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Mount the lights on barricades and space them no more than 10 feet (3 m) apart. Operate the lights between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be controlled by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

(5) The USACE supervisor/KO or COR must keep the Airport Operator informed so that a NOTAM can be issued to reflect hazardous conditions or changes to the CSPP.

e. Notice of Proposed Construction or Alternation. Construction of new airfields, heliports, helipad or hoverpoints, or modifications to existing facilities affecting the use