Construction Safety Phasing Plan

Volume 2
CDA and FAA Compliance
General Conditions

CDA
CHICAGO DEPARTMENT OF AVIATION
O'HARE 21

Table of Contents

Volume 2: Includes all general O'Hare International Airport, FAA Advisory Circulars and Federal Aviation Regulations rules and procedures. All construction limitations and issues are addressed in this volume.

2.8 - Protection of Navigational Equipment (NAVAIDS)

All navigational equipment will be protected during all construction activities. The contractor will coordinate all work in this area with the RE, CDA Operations and FAA Tech Ops to ensure there are no disruptions to aircraft navigation systems.

2.9 - Contractor Access

The following items will detail the procedures for contractor access, stockpiles and construction employee operations and requirements.

a. ***Contractor Access and airfield entry points*** – The contractor will have access to the airfield through any approved guard post, CVIA Location or construction access gate (unless otherwise noted). All contractors must be properly badged and equipment must have proper ORD vehicle placards. Those employees without badges will be required to be signed onto the airfield by a badged and escort approved employee.

b. ***Location of stockpiled construction material*** – Staging and stockpile locations will be permitted within the footprint of the construction project. Construction stockpiles, materials and equipment are not permitted within any runway, taxiway or taxilane safety area, or object free area. All stockpile locations higher than 25' must have an FAA 7460 airspace study completed to ensure stockpiles do not penetrate any FAR Part 77 navigable surfaces.

   The contractor maybe permitted to stage and stockpile equipment and material on closed or decommissioned taxiway and runway pavements. All material and equipment to remain on the closed taxiway or runway MUST receive approval from CDA Operations and must be protected with "A" frame barricades with red lights.

   All stockpiled material must be monitored and/or secured to ensure construction debris does not become dislodged by wind or jet blast and create a FOD hazard on the airfield. Provisions must also be in place to prevent stockpiled material from becoming wildlife attractants. **ALL ROLLOFF CONTAINERS STAGED WITHIN THE AOA MUST BE COVERED AT ALL TIMES.**

c. ***Vehicle and pedestrian operations*** – Aircraft and passenger safety is of the utmost importance. Vehicle traffic will be limited to those individuals that have an operational need to access the airfield for this project. All employees working within the AOA for this project will be required to obtain an ORD Identification badge with basic airfield driver's

access privileges. All vehicles that enter the airfield must either have an ORD vehicle permit or be escorted onto the airfield by an authorized company escort.

Under the requirements of the CDA badging and escorting rules and regulations, any person who signs in a non-badged employee and/or vehicle onto the AOA will be responsible for that person/vehicle until they are escorted off the airfield. Under no circumstances shall unbadged personnel be left within the AOA unattended.

1. ***Construction equipment and site parking*** **–** This project will have designated staging areas for equipment both within and outside the movement areas. Privately owned employee vehicles are NOT permitted to be parked in the movement area. Contractors may be permitted to stage and park construction equipment within the confines of a designed extended closure area (pending approval from CDA Operations), but equipment and material MUST be located outside surrounding open taxiway and/or runway critical areas. Prior to staging any equipment, the contractor shall coordinate with the construction management team and CDA Operations on where equipment can be staged.

1. ***Access and haul routes*** – Construction traffic is required to stay on designated haul routes for this project. At no time is construction/contractor vehicles permitted to enter any movement area or secured portions of the AOA unless under authorized CDA escort. Any changes to the approved haul route must be approved through CDA operations. All haul routes are to remain clean and free of debris that may damage aircraft. During AOA construction, the contractor is required to have at minimum, three vacuum type roadway sweepers on site at all times. If the contractor will be working in multiple locations that will affect open taxiways multiple sweepers will be required. The contractor will be responsible for dust control throughout the project job site and haul routes as required.

2. ***Marking and Lighting of vehicles*** – All contractor/construction vehicles that operate within the AOA MUST without exception have an operational rotating or yellow strobe light mounted on the top of the vehicle. These lights must be in use anytime within the AOA construction project limits. Strobe lights mounted inside or within a vehicles head lights and/or tail lights are not acceptable and do not comply with FAA standards. During hours of darkness and low visibility, vehicles MUST have their headlights on.

Vehicle trailers must be connected to their respective tow vehicle with operational parking lights. Several accidents have occurred on airfields due to unattended trailers parked with no marker lights on. If a trailer must be detached from the tow vehicle, barricades shall be placed around the trailer to make it visible.

All "Heavy" equipment is required to have a 3' x 3' orange and white flag mounted on the highest point of the vehicle while working on the airfield.

Vehicles not considered "Heavy" equipment: Pick-up trucks, dump trucks, box and panel vans, stake bodies, passenger vehicle, mechanic/service trucks, skid steers, combination back hoes and busses. These vehicles must have an operational yellow rotating/strobe light.

Hand operated equipment such as; concrete saws, dowel machines etc. and tow behind equipment such as light wagons, compressors, trailers, etc, do not require flags or rotating/strobe lights.

All vehicle lighting and flags must be maintained in good working order and operational condition. Flags must be replaced by the contractor if they become faded, discolored or torn.

3. ***Proper vehicle operations*** – All contractors and employees working on this project will be responsible for proper vehicle operations on the airfield. Several O'Hare International Airport construction "Safety Talks" are available and should be distributed to all contractors on the project and should be frequently discussed in weekly tool box talk meetings.

d. ***Required escorts*** – All employees that enter the AOA must have an active "ORD" Badge and vehicles must have an "ORD" vehicle placard. Contractors without badges and/or vehicle placards must be signed in by an employee with an active ORD badge and also have escorting privileges. Once a person and/or vehicle is signed in, the badged escort MUST stay with that person(s), the escort CANNOT leave an unbadged person on the airfield. Contractors or employees caught in this situation will be removed from the airfield and the employee's badge permanently suspended.

All construction activities within the AOA will require CDA escorts to be present and monitor contractor related activities. At no time shall the contractor start work on site

unless the escort is present. Requests for airfield escorts are to be made through the resident engineer who will coordinate with CDA Operations. Requests for escorts must be called in no later than 11:00 am the day prior to scheduled work or by 11:00 am on Friday for weekend, Monday or holiday work.

e. ***Training Requirements for vehicle drivers*** – To maintain then safest working environment for all airfield users, it is required that ALL contractor personnel who receive and O'Hare International Airport identification badge complete the required FAR Part 139 airfield driver training program, also referred to as "303 Annual Training". 303 Training is mandatory and must be completed prior to an employee's initial access of the AOA, and once each year thereafter. Under the scope of this project any employee with a green badge with or without the yellow stripe MUST attend 303 Training.

   Under the requirements of AC 150-5370-2G all personnel flagging on an airport must be familiar with the specific requirements and limitations of the construction project and taxiway crossing areas. All contractor flaggers are required to attend the O'Hare flagger training program. All flaggers are required to have portable radios for each crossing location to ensure continued communications between all the flaggers.

   As part of the requirements of working within the object free area of an open taxiway, every construction operation within this area will require a designated flagger to watch each construction activity and taxiing aircraft. Flaggers must attend a specific training class for this operation, this is different that vehicle flagger training.

f. ***Situational Awareness*** – Working in the airport environment is complex. All Contractors working in the AOA are required to maintain situational awareness at all times. Situational awareness is the ability to assess a situation and determine which course of action must be taken to complete the task safely. It is imperative that individuals working on the airfield are aware of the dangers involved with construction at an airport. All employees must attend annual 303 training prior to starting work on the project. This training ensures that construction personnel are familiar with safety procedures, regulations and hazards that maybe encountered on the airport during all steps of the construction project. Individuals must be aware of their location and know access routes to and from the project including proper procedures for escorts and how to safely cross taxiways. Employees must watch for aircraft at all times. Employees must understand that aircraft always have the right of way and it is their responsibility to stay clear of them at all times. Contractors need to know safety and critical areas delineated within the project and the

repercussions associated with accessing these areas. Employees must know emergency procedures and the proper personnel to contact in the event of an emergency. All employees are to report any dangerous conditions that may exist.

g. ***Two-way radio communications –*** Not applicable to construction projects at O'Hare International Airport.

h. ***Maintenance of the secured area of the airport –*** Any breach or changes to any AOA perimeter fence lines require a minimum 45-day notice to the resident engineer and CDA Security for approval. Breach to any inside perimeter fence requires a 7-day notice. Changes to any airport fence lines, need to be reviewed by CDA Safety and Security and TSA. Contractors must allow adequate time for approval process for fence breaches or changes.

2.10 - Wildlife Management

Wildlife on or around airports can create a very hazardous situation for arriving, departing and taxiing aircraft. It is the responsibility of the contractor as well as all involved working on this project to be aware and eliminate any activities that can attract any form of wildlife.

- *Trash* – It is the contractor's responsibility to maintain and keep the construction project site clean. All trash and debris shall be picked up and properly disposed of.
- *Standing water* – Water that collects within the project site in excavations, tire ruts or low graded areas as a result of contractor construction activities must be pumped out immediately. Standing water can attract several types of wildlife which can be hazardous to aircraft operations. Standing water that collects in the basins because of normal storm water runoff does not apply to the above standards.
- *Tall grass and seeds* – All trees, shrubs, vines, forbs, green roof plants, ornamental grasses, sedges and turf grasses that are used within the AOA must meet the Sustainable Airport Landscaping Specification 02905, Seeding Specification T-901 of the Chicago Department of Aviation O'Hare Modernization Program Specifications. All vegetation within the boundaries of this project must be maintained. Excessive vegetation growth attracts several forms of wildlife that present serious hazards to arriving, departing and taxiing aircraft. All safety/silt fence lines must be maintained so vegetation height does not exceed 8" and flowering plants must be removed from the construction site immediately. The Contractor will be responsible to have landscaping crews available for removal of vegetation when growth approaches the 8" maximum height.

- *Fencing and gates* – All project installed fencing will be constantly maintained so grasses do not exceed 8" in height. It will be the responsibility of the contractor to control and maintain grass and weed heights along all fence lines for this project.
- *Disruption of existing wildlife habitat* – Not applicable for this project.

2.11 - Foreign Object Debris (FOD) Management

Foreign Object Debris can cost airlines, airports, tenants and contractors billions of dollars every year in damage or injury to equipment and personnel. The contractor will be responsible to develop a FOD management plan for this project and submit this plan with the SPCD. All contractor employees must be aggressive in the mitigation of FOD issues. Daily, employees will monitor the site for FOD or potential sources for FOD and remove the hazard. FOD containers should be placed around a jobsite for FOD control. The word "FOD" should be printed on it so it's visible and noticeable to all employees. The contractor will be responsible to remove any trash or debris that builds up on all safety and silt fence around the entire project.

Roll off dumpsters used on this project (regardless of size) shall be covered at ALL times.

All airfield personnel and vehicle drivers will monitor construction sites and any haul routes that cross active taxiways for potential FOD hazards. Personnel are to make all efforts to keep open/active taxiways clear of debris and FOD. If hazardous conditions exist, notify City Operations immediately at 773-686-2255.

NEVER chase FOD! If debris or FOD is observed near, adjacent to or on an active runway or taxiway, **NEVER** attempt to retrieve it. Contact City Operations and advise them of the situation.

2.12 - Hazardous Material (HAZMAT) Management

It is important that all contractors and sub-contractors are familiar with and knowledgeable of the rules, regulations and procedures of the CDA Spill Prevention and Control Program (SPCP). These procedures apply to ALL contractors working on the project. Of significant importance to the SPCP is what type of spills must be reported; ALL SPILLS (which include, but are not limited to; fuel, oil, deicing chemicals and solvents) regardless of volume, must be reported to the OCC and subsequently to O'Hare Airport Operations. The affected company will take all necessary precautions to prevent spilled fluids from reaching any surrounding sewers or waterways, if it can be done without harm to any personnel. Immediately surround any spill with approved containment materials, secure the site and contact the OCC.

All personnel shall handle hazardous materials according to the guidelines as defined by the product Safety Data Sheets (SDS) formally referred to as MSD sheets. Extra attention must be applied during all fueling operations.

Anyone that causes or witnesses a spill ANYWHERE on the airfield MUST first report it to the O'Hare Communication Center (OCC), and subsequently to City Operations. The OCC will dispatch the Chicago Fire Department (CFD) to determine the severity of the spill, assist with spill containment and cleanup and/or oversight if needed. CFD will issue the official volume of product released for the responsible party to notify agencies if required.

All contractors are required to have clean up and spill kits on site at ALL times when equipment is in use. Kits are to be of adequate size to handle fuel or oil spills for the size and amount of equipment in use on the project at any specific time. The contractor must develop and submit a spill prevention and control plan and incorporate these procedures in the Safety Plan Compliance Document.

2.13 - Notification of Construction Activities

Listed below are the key contact departments and individuals for the immediate notification of airport users and the FAA of any condition that adversely affects the operational safety of the airport.

a. ***List of responsible representatives*** -

Airport Operations	773-686-2255 (24 hours)
O'Hare Communication Center	773-894-5000 (24 Hours)
Emergency	773-894-9111 (24 hours)
Resident Engineer	TBD
Safety Inspector	TBD

b. ***Notice to Airmen (NOTAM's)*** - All NOTAMS for this project will be initiated, enforced and cancelled by Airport Operations. All NOTAMS specific to AOA activities will be coordinated through Airport Operations daily.

c. ***Emergency notification procedures*** - In the event of an emergency within the property lines of the airports (both landside and airside) the contractor shall request emergency services by calling 773-894-9111, 24 hours a day. NOT 911!
In the event of an aircraft emergency the contractor will be advised through the resident engineer, Airport Operations or airfield escort if they must leave the jobsite and vacate

the airfield. The contractor shall submit in the SPCD procedures for severe weather conditions. Details should include notification procedures, personnel and site protection.

d. ***Coordination with ARFF*** – The contractor will coordinate all activities that directly affect ARFF procedures or responses with the resident engineer who will then coordinate directly with a representative of the Chicago Fire Department and CDA Operations.

e. ***Notification to the FAA*** – All requirements and requests for removal of FAA equipment, and compliance with Federal Aviation Regulations (FAR) including but not limited to FAR part 77 and 139, all applicable advisory circulars and FAA orders will be coordinated through the resident engineer in a timely manner. Approvals for revisions or new applications for changes to the project may take up to 90 days for FAA response.

   Any work that takes place in an FAA owned structure or building or within manholes that carry FAA ductbank and wiring, must have an FAA assistance form submitted to the FAA. The contractor CANNOT work in or on any FAA equipment without their approval and supervision. FAA assistance forms should be requested a minimum 10 days before work will begin.

f. ***NAVAIDS*** –All necessary airspace studies will be submitted for each project and any identified restrictions or limitations will be followed.

2.14 - Inspection Requirements

To ensure the safe operation of the construction project and the safety of the airport and the traveling public procedures are in place to provide continuous inspections to assure compliance with all applicable FAA Advisory Circular and Regulations and CDA and OSHA safety standards.

a. ***Daily Inspections*** – The contractor shall conduct a daily construction inspection of all AOA construction activities. Airport Operations will also conduct daily self-inspections of the construction area and advise the resident engineer of any deficiencies or violations to FAR Part 139 or applicable advisory circulars. Prior to the opening of any short term (daily or nightly) runways or taxiways, the contactor must ensure all pavement areas are clean, free of construction equipment or material and all affected airfield lighting circuits are operational. Refer to Appendix “B” for a detailed FAR Part 139 construction inspection checklist

b. ***Interim Inspections*** -

Prior to the opening of any taxiways that were closed for extended durations or opening a new taxi route for aircraft, a comprehensive inspection with the RE and CDA Operations will be conducted to ensure all lights, signs and markings are installed and correct. The contractor will schedule a "Pre-Commissioning" inspection of taxiways to be opened a minimum 72 hours prior to opening to allow sufficient time to correct any issues not compliant with FAR Part 139.

c. ***Final Inspection*** - A final inspection and walk through of the project will take place prior to opening any closed or restricted airfield pavements to aircraft operations.

2.15 - Underground Utilities

O'Hare International Airport has very strict rules and regulations on locating, identifying, marking and protecting all utilities that run through the airport. It is important for all contractors to be aware of the seriousness of a utility strike on the airfield, understand what to be on the lookout for, and know their responsibility when working around utility lines.

All underground utilities shall receive added attention to assure no disruption of services for the airport or surrounding tenants. The contractor shall locate utility crossings within the project site. Utilities shall be marked according to CDA locating standards. All marked or identified utilities must be exposed using hydro-excavating methods (mechanical excavating is not permitted to expose or locate a marked utility) within 5' (either side) of the utility marker. Any utilities or cables damaged shall immediately be reported to the resident engineer, CDA Airport Operations and follow the utility strike procedure. If damage is caused due to negligence on the contractor all repairs will be at their own expense. Failure to report any damaged utilities may result in disciplinary actions.

Shut down or disruption to any CDA, FAA or Local Utility shall be coordinated through RE utility coordinator. Requests for utility locates are as follows:

- Common Utilities – DIGGER 312-744-7000
- Common Utilities – JULIE 800-892-0123
- O'Hare Utilities – Through CDA (72 hours in advance) 773-686-2224
- FAA Utilities – Through FAA (7 days in advance) 773-601-7635

A "Dig Book" must be completed prior to any airfield excavations taking place on the airfield, and MUST remain on the project site at all times.

2.16 - Penalties

Rules, regulations and procedures are outlined and in place to ensure the safety of all entities throughout the airport. Any violations to rules, regulations or procedures regarding this project will fall under the responsibility of the contractor and its sub-contractors.

The contractor shall be responsible for any and all fines or penalties that may be assessed either to them or to the Chicago Department of Aviation as a result of negligence or non-compliance with airport rules, regulation and safety plans. Severity of fines or disciplinary actions may include suspension or termination of badged employees to monetary fines to termination of contract.

2.17 - Special Conditions

Special conditions may affect the performance of work on the AOA. In these instances, the contractor will be notified of what actions must be taken by the resident engineer or CDA Operations to ensure the safety of its employees and the general safety of the airport.

a. ***Winter Conditions*** - As much as possible CDA will allow construction activities through the winter season which is defined as December 15 to April 15. However, snow removal operations take precedence over all other activities during this time frame. A contractor may be notified in short notice of cancellation or termination of work. It is the contractor's responsibility to coordinate work activities with the resident engineer to keep project shut downs to a minimum during these months. Airfield clean-up operations usually extend one to three days after a snow event and escorts may not be available for that time.
b. ***Severe Weather Conditions*** – During conditions of severe weather contractors will be notified as best as possible by CDA Operations or construction management of impending conditions. Contractors must take all precautions to ensure construction material or debris does not become FOD and pose a hazard to the safety of aircraft or employees working on or adjacent to the construction project. Contractors should have a means of notifying employees of severe weather and evacuation plans if necessary.
c. ***VIP Arrivals*** - VIP activities at O'Hare international Airport are closely coordinated with airport operations. At times VIP movements or activities will be in the vicinity of an active construction project. For safety reasons, affected contractors will be required to shut down construction operations for a specific portion of a project or at times the entire project. Contractors will normally receive prior notice to any VIP activities. CDA Operations will coordinate with the resident engineer to determine what construction activities will be permitted and when work must be stopped. Construction personnel may not be permitted to remain within the construction site during VIP arrivals.
d. ***Aircraft/ Airport Emergencies*** - In the event of an airport or aircraft emergency Airport Operations will notify the resident engineer if contractors should prepare all crews to

evacuate the airfield. Contractors are to stay cautious in the event of a significant aircraft incident on the airfield. All construction crews are to be well informed regarding proper procedures in the event of an accident. NEVER proceed to an accident site; procedures are in place with the air traffic control tower, CDA and the fire department to respond to all incidents. Contractors are required to contact the OCC for all airfield emergencies at 773-894-9111.

e. ***Construction Moratoriums*** - Twice a year the FAA issues nationwide construction moratoriums to minimize disruptions to the national airspace system due to construction incidents that may affect FAA navigational equipment. During construction moratoriums construction is not permitted in, around or adjacent to any FAA or CDA airfield electrical or communication ductbanks, cables or facilities without proper authorization from the FAA.

   a. Thanksgiving Day Moratorium:
   Starts approximately 1 week prior to the holiday, ends up to 5 days after the holiday.

   b. Christmas/New Year Moratorium:
   Starts approximately 1 week prior to the holiday, ends 1-3 days after the holiday.

2.18 - Runway and Taxiway Visual Aids

Runway and taxiway markings, lights and signs provide positive visual guidance to arriving, departing and taxiing aircraft. It is imperative that all airfield markings, lights and sign are in good condition and working order to ensure aircraft safety. Any of the above items that become obscured due to construction activities will immediately be cleaned, repainted or if damaged, immediately replaced.

Cleaning may entail hand washing, sweeping or high powered water pressure washing. Critical markings such as runway mandatory hold bars, hold signs, and ILS hold bars shall be constantly monitored and cleaned or repaired as required.

a. ***Runway markings, lights, signs, and NAVAIDS*** – Runway markings, lights, signs and NAVAIDS must be maintained on good operational condition throughout the project. Any changes to these items must coordinated and approved by CDA Operations.

b. ***Taxiway markings and lights*** – Refer to each specific project work area that will identify all taxiway short term and extended closures. Pre-activity meetings will be held prior to

the extended closing of any taxiway to determine which markings, signs and lighting must be removed, covered or temporary edge lights to be installed. Refer to the new "Extended Taxiway Closure Criteria" in section 2.20.b of this CSPP.

Markings on concrete surfaces will be removed using either water blasting, media blasting or grinding. Markings on asphalt surfaces will need to be evaluated for the condition of the pavement. If it is determined that removal of markings will cause significant damage to the asphalt surface, these markings will be blacked out instead of being physically removed. Black out or painting over existing markings only applies to taxiway markings that will be reused in existing locations once a taxiway is re-opened. Black out or shading over of runway markings is not permitted. Any markings that are to be removed from a runway (hold bar to hold bar) must be physically removed and CANNOT be painted over, this includes taxiway and high speed lead-on/off lines.

c. Temporary taxiway edge lighting usage policy –
The following describes the criteria for the use of temporary taxiway edge lighting systems at O'Hare International Airport:

The following outlines emergency and alternative taxiway edge lighting methods during hours of darkness:

1. When the airport experiences unplanned loss of taxiway edge lighting, or;
2. When permanent lighting installations are impractical due to planned reconfigurations of pavement use.

For emergency response to maintain taxiway edge lighting only:

1. When proper and permanent repair is not possible, the airport may install solar powered rechargeable taxiway edge lights, adjacent to and in line with the existing lights (or their installation location), in order to maintain visual guidance on taxiways affected. Areas that cannot be lighted during hours of darkness, will be closed to aircraft use.
2. The taxiway lighting system must be maintained at the same step level of brightness.
3. CDA AAO approves the fixtures and/or lighting system affected prior to installation.

For extended temporary use on pavements:

1. The airport will default to kerf cut circuit installations whenever possible along temporary taxiway edge lighting installations. Unless:
    a. The pavement will undergo reconfiguration in its use one or more times before its final configuration/use;

   b. The pavement cannot be altered/damaged because of its age, makeup, and/or final configuration/use;
2. The airport will install solar powered rechargeable taxiway edge lighting as an alternative to kerf cut circuit installations. Unless:
   a. Other visual aids that will not be lighted otherwise require constant electrical power.
3. The airport will install above ground taxiway edge lighting circuits, in such a manner, that will reduce the loss of an entire circuit. If a taxiway edge light or series of lights, are inadvertently damaged.
4. The taxiway lighting system must be maintained at the same step level of brightness.
5. CDA AAO approves the fixtures and/or lighting system affected prior to installation.

Proposed time limits for use in:
Emergency Response situations: ***Until permanent repair is completed.***

Extended temporary use:
Kerf cut circuit installations: ***No time limit.***
Solar powered lights: ***One (1) year from installation.***
Above ground circuit installations: ***On a case by case basis, pending approval from CDA AAO management.***

2.19 - Markings and Signs for Access Routes

Haul routes for this project as outlined in section 2.9 will utilize existing airport service and access roads. All haul routes to the extent possible will be marked and signed in accordance with all applicable FAA advisory circulars, the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and /or local and state highway specifications.

All contractor (including sub-contractors) employees that receive an O'Hare Access badge will be required to attend a contractor 139.303 airfield safety training (303 Annual Training), which will discuss driving on the airfield, haul routes and accessing project jobsites.

2.20 - Hazard Marking Lighting and Signing

Proper placement and operation of barricades is critical to the safety of this project and aircraft operations. Barricades provide a distinct point to identify to pilots of closed AOA pavements or that hazards exist. Barricades also identify to construction workers the limits of the construction project. Under no circumstances are contractors to drive past an AOA barricade line unless under authorized CDA escort.

Barricades used for this project will consist of O'Hare type or highway type "1" barricades as well as low mass, low profile barricades. All barricades shall have a minimum of one red omni-direction hazard light. Due to the potential FOD hazard, obstruction flags are not to be used on barricades. AOA barricades are required to delineate closed portions of the airfield from open areas.

Due to the extremely busy operations and variety of aircraft that operate in and out of O'Hare and the constant inspections and evaluations that must occur on the airfield on a 24-hour basis by numerous CDA departments (Operations, Electrical, Maintenance, ARFF), low mass low profile barricades are sometimes not the best choice for short term closures at the intervals as described in AC 150-5370-2G section 2.20.2.1

On a daily basis CDA vehicles need to gain access into the jobsite. From Airport Operations and escort vehicles to ARFF vehicles. Due to various conditions, vehicles trying to get around the barricade line will either need to drive through the grass area, possibly creating tire ruts within the TSA or inadvertently knock down a taxiway edge light that may not be visible to the driver. For short term closures, it is not feasible to fill the units with water or sand due to the numerous times they may need to be moved for various AOA closures. Without sand or water, the barricades are very susceptible to the effects of jet blast or high winds and can create a potential FOD hazard or injuries to personnel.

All short term closures will be set up using O'Hare approved "A" frame or highway type "1" ("A" frame) barricades spaced every 15' (If O'Hare type barricades are not available it is approved to use highway type "A" barricades for all AOA closures). This spacing will provide ample room for CDA vehicles to enter and exit the site as needed, but also provide enough barricades to be seen by taxiing aircraft.

To further ensure all construction workers are familiar with the purpose of the barricades and the required spacing criteria, barricades are covered in length during all 303 training classes, so every contractor that receives a badge and works on the airfield understands the importance and limitations of AOA barricade lines.

The contractor is required to review all barricade criteria defined below and they must acknowledge these rules and procedures in the Safety Plan Compliance Document (SPCD).

- All barricades must be in good working order. Damaged or broken barricades must be repaired or replaced or cannot be used on the AOA.

- All “A” frame barricade signs and/or reflective tape must be visible at all times
- AOA Barricades cannot be set-up until approved by CDA Operations
- AOA Barricades cannot be removed until contractor is cleared by CDA Operations
- Quantities identified within the CSPP must be adhered to
- Barricade red obstruction lights must be 100% operational at all times.
- Barricade lights must be red omni directional, 2 sided lights are not permitted
- To facilitate future barricade set-up; the contractor may identify the location of each barricade with a small paint mark on the pavement surface.

a. ***Short Term Closure Barricade Set-up*** –
Due to the limited time available for AOA closures and to maximize productivity, daily and or nightly closures of taxiways and runways will be set up using the following barricade spacing criteria: Taxiway and/or runway closures less than 24 hours in duration will be permitted to use “A” Frame barricades spaced every 15’. (See Fig. 1) As best practice, barricades should always be set up outside the OFA of open pavements. However, this may not be possible for all taxiway closure locations. In these situations, “A” Frame barricade locations will be closely coordinated with CDA Operations and will be placed as close to the OFA of the open taxiway as possible, but may be within the OFA. All barricades are required to be 100% operational with no inoperative lights. Barricades are to be clean, so all reflective material is clearly visible. The graphics below depict the barricade spacing for short term closures for various widths of AOA Pavements.

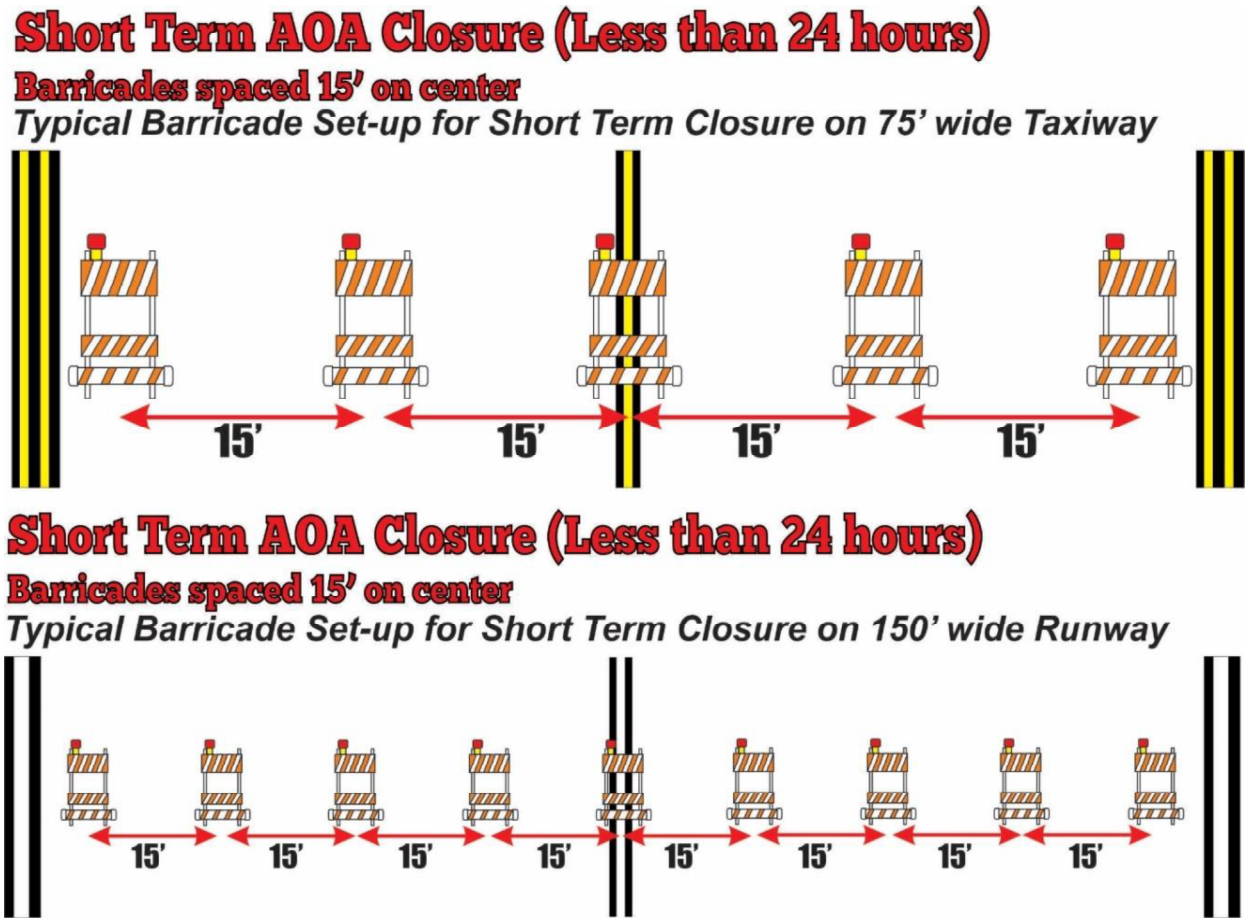


Figure 1

b. ***<u>Extended Closure Barricade Set-up</u>*** –

Taxiway and/or runway closures that exceed 24 hours in duration will use a combination of "A" frame barricades and low mass low profile barricades. "A" frame barricades will be spaced at 15' intervals with one low mass low profile barricade between the "A" Frames. One "A" frame is always to be placed on the centerline of the closed taxiway or runway, then evenly spaced every 15' out. For ALL AOA extended closures, the distance between barricade red lights cannot exceed 10'.

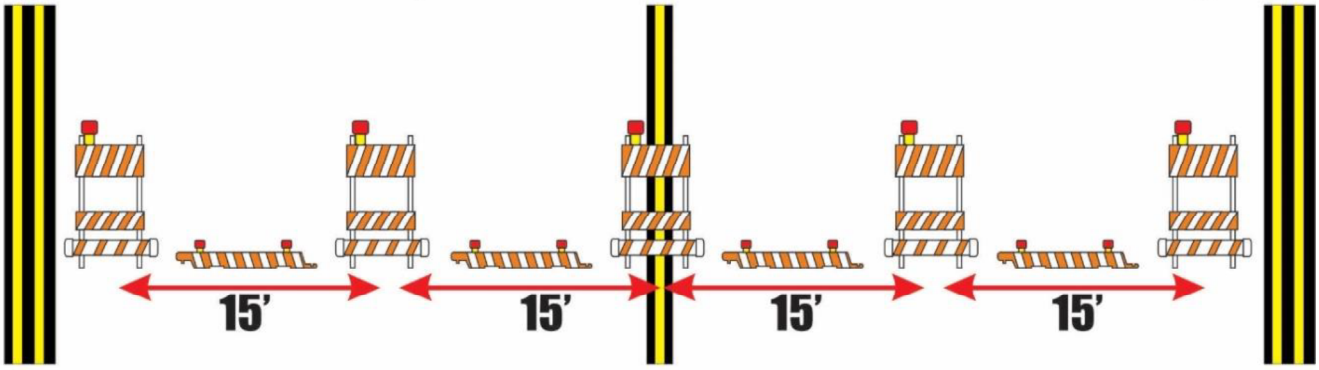
If directed by CDA operations, gaps may be requested to provide for ARFF access into the closed section of the pavement. Any gaps are to be located on the taxiway or runway edge line, never on the centerline. For extended closures, barricades must be filled with sand or water. Any obstructions lights that are missing or damaged must be immediately repaired. The placement of barricades for extended closures will be located at the object free area for any intersecting taxiways or runways. On taxiways

where the proximity of adjacent open taxiways will not permit the barricades to be placed at the OFA, barricades will be placed as far out as possible in coordination with CDA Operations. If a barricade line cannot be located outside the OFA of an open runway or taxiway, then only profile barricades are to be used with a spacing not to exceed 4' between barricades. (See Fig. 2)

Extended Closure (More than 24 hours)

Barricades spaced 15' on center

Typical Barricade Set-up for Short Term Closure on 75' wide Taxiway



Extended Closure (More than 24 hours)

Barricades spaced 15' on center

Typical Barricade Set-up for Short Term Closure on 150' wide Runway

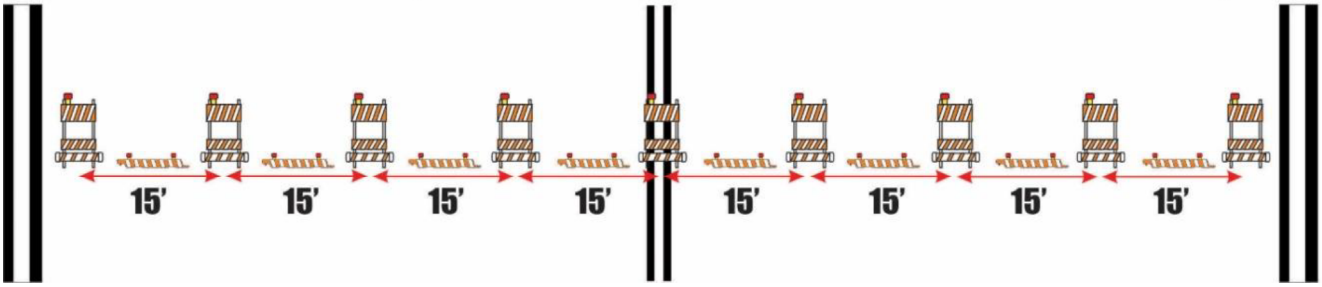
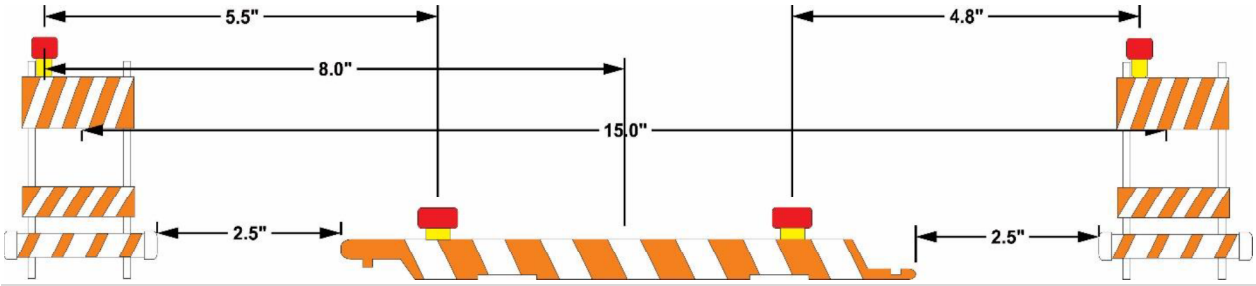


Figure 2

**** For extended airfield closures distance between red barricades lights cannot exceed 10' ****



With recent changes to the construction advisory circular O'Hare International Airport has modified the requirements in setting up extended taxiway closures. These changes are based off time frame of closure and whether the closure is NOTAM'd closed or charted closed.

Taxiway closures 24 hours to 7 days:

1. Taxiway(s) will be NOTAM'd closed by CDA Operations
2. Barricades will be at minimum placed outside of all safety areas of open pavement and/or as specified in the CSPP to delineate the closed portions of movement areas.
3. Taxiway lights will be deactivated within the closed area or covered in a manner to prevent light leakage
4. Taxiway centerline lights, when provided, will be deactivated for closed taxiways.
5. Taxiway centerlines markings for high speed runway exits only will be blacked/grayed out.

Taxiway closures over 7 days to 90 days:

1. Taxiway(s) will be NOTAM'd closed by CDA Operations
2. Barricades will be placed at minimum outside of all safety areas of open pavement and/or as specified in the CSPP to delineate the closed portions of movement areas.
3. Taxiway lights will be deactivated within the closed area or covered in a manner to prevent light leakage
4. Taxiway centerline lights, when provided, will be deactivated for closed taxiways
5. Taxiway signs within the closed area will be deactivated and any that are visible from open pavement will be covered or blanked out.
6. Taxiway directional signs on open taxiways with directional messages directing aircraft into the closed area will be left in place and operational.
7. Runway Exit signs for closed runway exits will be covered or blanked out
8. All taxiway centerlines leading into the closed areas will be removed or blacked/grayed out: remove markings for permanent closure, black/gray out markings if the taxiway will be re-opened.
9. For runway/taxiway intersections only, place an X at the entrance to the closed taxiway from the runway. Closure X can be from any approved method listed within the advisory circular, but will be evaluated for each location and method MUST be approved by CDA Operations.

Taxiway closures over 90 days:

1. Barricades will be placed at minimum outside of all safety areas of open pavement and/or as specified in the CSPP to delineate the closed portions of movement areas.
2. Taxiway lights will be deactivated within the closed area or covered in a manner to prevent light leakage.
3. Taxiway centerline lights, when provided, will be deactivated for closed taxiways.
4. New taxiway edge lights will be installed across the closed taxiways in accordance with AC 150/5340-30(current edition) to maintain taxiway edge light spacing requirements along open taxiways.
    a. For temporary closures that will re-open in the same configuration, temporary above ground lighting can be utilized.
    b. Only secondary power feeds can be above grade all primary feeds must be in ground or encased in concrete outside of any safety areas.
5. For permanent closures or those where the taxiway intersection will change in configuration the new edge lights must be cored/kerfed in.
6. Taxiway signs within the closed area will be deactivated and any that are visible from open pavement will be covered or blanked out.
7. Taxiway directional signs on open pavement with directional messages directing aircraft into the closed area will be changed to remove the message directing aircraft into the closed area.
8. Runway Exit signs for closed runway exits will be covered or blanked out
9. Taxiway Ending signs will be added on a per closure bases decided on by CDA Operations
10. All taxiway centerlines leading into the closed areas will be removed or blacked/grayed out: remove markings for permanent closure, black/gray out markings if the taxiway will be re-opened.
11. For permanent closures all markings for the closed pavement within the safety areas and object free areas of open pavement will be removed
    a. Centerline, enhanced markings, edgeline, shoulder stripes, mandatory hold bar and sign if applicable
12. New taxiway edge lines will be painted across closed taxiways to correctly establish edge lines for open pavement.
13. For runway/taxiway intersections only, place an X at the entrance to the closed taxiway from the runway. Closure X can be from any approved

method listed within the advisory circular, but will be evaluated for each location and method MUST be approved by CDA Operations.

As an addition measure to mitigate the potential of vehicle operators driving onto active portions of the AOA, all badged construction personnel are required to attend FAR Part 139.303 airfield safety training. The use of barricades, their location and purpose are covered at great length to ensure all workers understand where they can and cannot drive.

c. ***Protection of Excavations*** – Open excavations on the airfield can be very hazardous to airport employees and other contractors. In hours of darkness and limited visibility, it is normal for airport vehicles be in the grass areas adjacent to runways and taxiways. Open excavations without protection can cause injury to personnel and damage to vehicles.

All open excavations within airport property must be protected at all times. When work is completed for the day, barricades with operational RED omni directional lighting will be placed around the excavation with no more than an 8' gap between barricades. Refer to section 2.22 for detailed restrictions for excavations in runway and taxiway critical areas.

The following applies to barricade placement and protection of all excavations within ALL pavement critical areas:

a. Nothing can be protruding at a higher elevation than the surround ground unless it is a low mass material. (trench boxes and shoring CANNOT be left in the ROFA, TOFA or TSA if they are sticking above the surrounding ground elevations).
b. Low mass low profile barricades are required to protect vehicles from inadvertently driving into open excavations. Barricades must be continuously connected with no gaps around the entire excavated area.
c. Barricades located within object free areas should be filled with sand, however any existing barricades filled with water must not freeze during the winter months. The contractor will be responsible to add antifreeze to all water filled barricades, or drain and replace with sand. Frozen water filled barricades pose a hazard to aircraft and can cause severe damage to aircraft if impacted.
d. Barricades located within any runway or taxiway critical area ***CANNOT*** exceed 18" in height and must be low mass material that will not cause damage to an

aircraft if impacted. At no time can type "A" frame barricades be used to delineate excavations or construction hazards inside a runway or taxiway critical area.

d. ***Utility Lines*** - All utilities will be protected/identified using the approved ORD utility markers. Markers are 2" PVC pipe with the appropriate utility identifier label affixed to it. Utility labels can be obtained from the RE. (See Fig. 3)

Utilities that have been hydro excavated and must remain open will be readily marked and clearly identified using approved methods in accordance with AC 150/5370-2G. If it is not required for an excavated utility locate to remain open, the hydro excavated area shall be filled in and graded to meet FAR Part 139 standards.

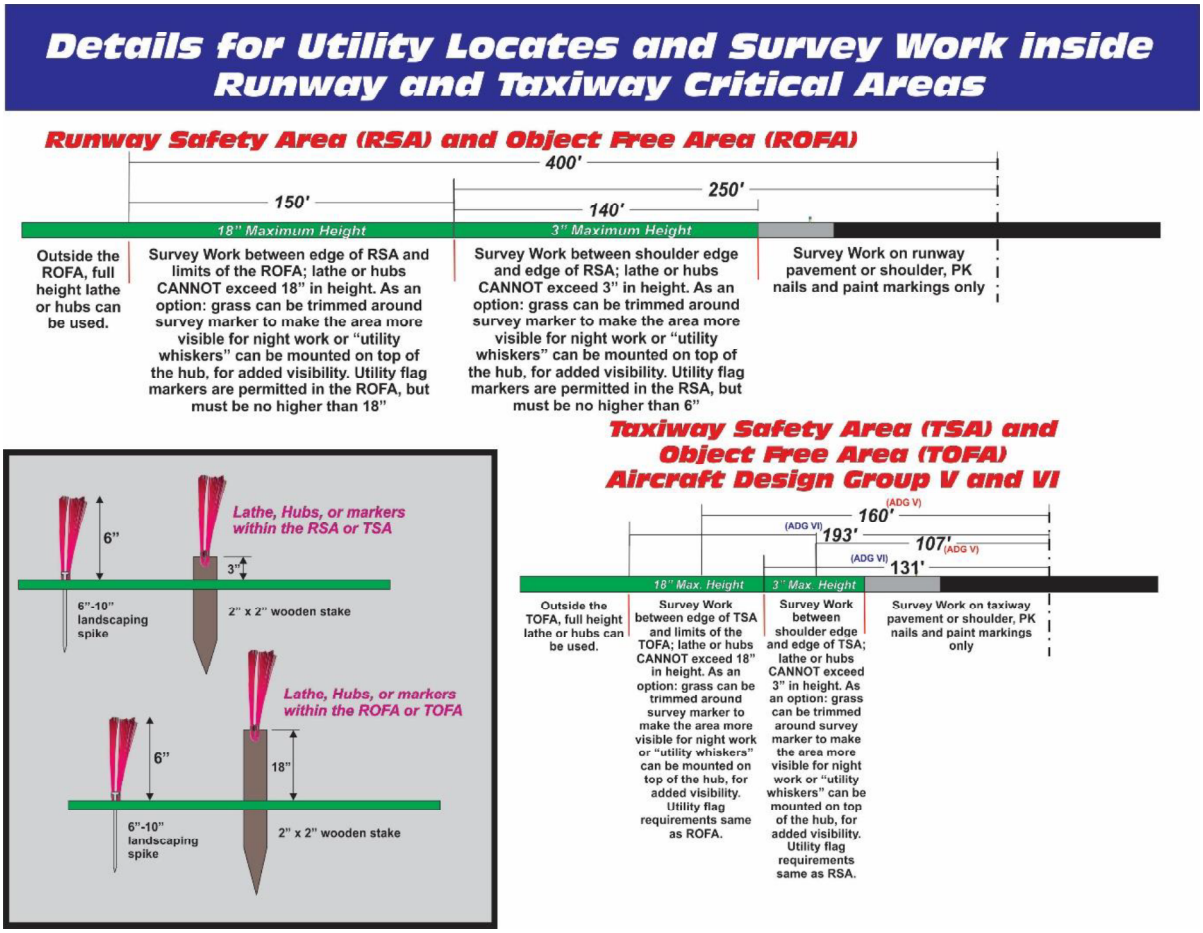


Figure 3

e. ***Marking of Temporary Electrical Conduits/Circuits*** - Due to the inherent dangers of airfield electrical circuits all temporary airfield lighting circuits will be designed so no components of the primary circuit such as cable, connectors and transformers are

brought above ground at the edge light base can or sign. Temporary airfield lighting circuits carrying components of the primary electrical circuit are required to be trenched into the infield or pavement surface and terminated in a manhole or base can. Secondary electrical circuits are permitted above grade. All secondary circuits are to be placed in rigid conduit if located on a pavement surface where the possibility of vehicle traffic is present.

Secondary cables placed in the infield can be placed in PVC or rigid conduits. PVC conduit will be permitted in areas where there is no chance of vehicle traffic; if vehicles are present, cables must be installed in rigid conduit. All temporary conduits shall be clearly marked and remain highly visible. Conduits on pavement surfaces should be marked with paint and infield locations identified with wooden lathe or survey flags (identifying markers cannot exceed 18" in height if temporary conduit is inside an object free area). Any temporary conduits within a safety area will need to be coordinated through CDA Operations.

All conduit and base cans (if applicable) that are mounted on a paved surface must be securely anchored/affixed to the pavement. Conduits may be required to be ramped over with asphalt or concrete within any safety area.

All temporary airfield electrical circuits shall be in compliance with AC 150-5340-30G specifically, Appendix A5-1.c (2) and (3)

Extended closures on runways for over 7 days will require all runway lighting circuits to be locked out at the lighting control vault. If testing of runway circuits is required during the duration of the extended closure this operation will be coordinated with CDA Operations, CDA Electricians and the FAA Tower. All runway protection markings such as mandatory hold signs, hold bars, surface painted hold signs, and enhanced taxiway centerlines will be required to be removed or painted over.

f. ***Runway Closure Marker (RCM)*** - Runway Closure Markers will be placed on the runway as directed by CDA Operations.

2.21 - Work Zone Lighting for Nighttime Construction

Working on the airfield during hours of darkness and/or limited visibility creates additional hazards as compared to day time work. All contractor vehicles are required to have a roof

mounted yellow/amber, rotating or strobe light on the vehicle. Headlight or tail light mounted warning lights do not provide the same level of safety as on a roadway. Pilots sitting 20'-30' above a vehicle may not be able to see those lights. Vehicle warning lights MUST be visible on the top of the vehicle.
Night time construction operations that will utilize portable light wagons must be oriented in a manner not to affect taxiing aircraft or the air traffic control tower.

Airfield barricades and lights are to be inspected by the contractor on a nightly basis for 100% functionality.

2.22 - Protection of Airfield Critical Areas

Runway and taxiway safety areas and object free areas provide a safe area adjacent to active pavements to allow aircraft to maneuver in the event of an emergency and excursion of the aircraft. Criteria for construction requirements and restrictions vary for certain pavement areas. Refer to each subsection below for restrictions and limitations for each area. Safety areas must be protected during all construction activities and comply with all FAR Part 139 standards. Any work within a safety area must be coordinated through the RE and Airport Operations. Work will only be permitted in these areas when a runway or taxiway is closed or restricted for a lesser aircraft design group.

Any projects that have a duration longer than 5 days on the airfield will require safety fence to delineate all work areas and pavement critical areas. Each work area will be evaluated to identify where safety fence is to be located. The following identify all runway and taxiway critical areas that may require safety fence as directed by the RE and CDA Operations.

- Runway Safety Area
- Runway Object Free Area
- Taxiway Safety Area
- Taxiway Object Free Area
- 221.d limits (this could include several distances and multiple safety fence areas)

The contractor will be required to place safety fence at locations adjacent to all work sites at the limits of the RSA or TSA of surrounding open runways and taxiways. Fencing used in these locations cannot exceed 18" in height. Excavations within a runway safety area are not permitted while the pavement is open. If an excavation area must remain open within the RSA, it must be completely covered and bridged with a structurally engineered stamped design capable of withholding the weight of largest aircraft that uses that runway. Maximum take-off weight of a

Boeing 747-8 is 1 million pounds and must be used in the design. This may change if the Airbus A380 begins operations at O'Hare.

a. *Runway Safety Area (RSA)* – Open trenches or excavations are not permitted within the RSA while the runway is open. The contractor will be responsible to backfill, compact and grade all open trenches and excavations prior to opening a runway with suitable material (aggregate material is not permitted). Any damage to infield grass areas due to construction activities MUST be repaired to meet FAR Part 139 standards prior to opening.

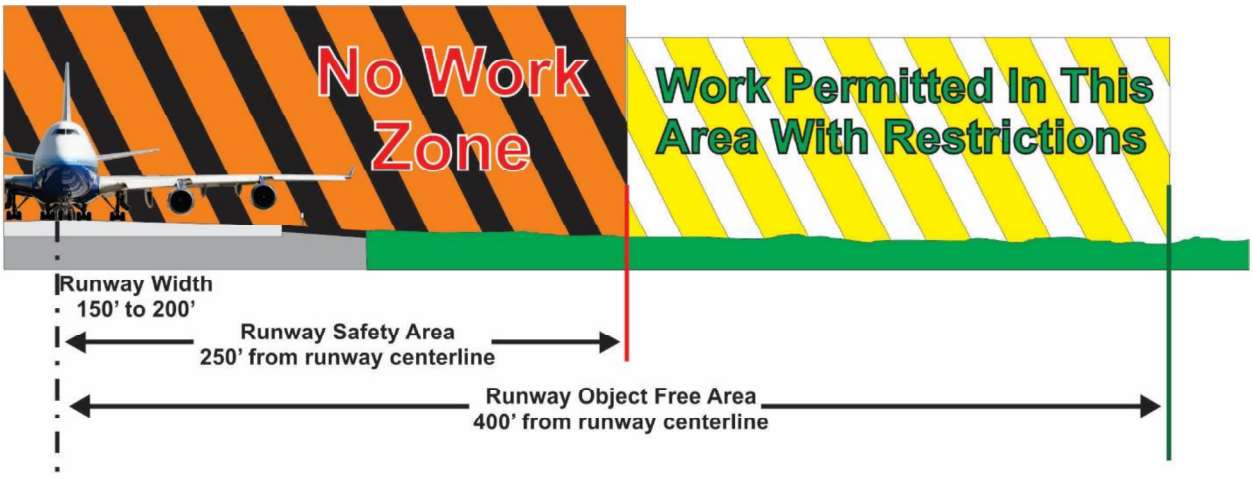
   If an excavation or trench area must remain open within the RSA, it must be completely covered and/or bridged with a proposed structure or covering capable of supporting the weight of largest aircraft that uses that runway. Maximum take-off weight of a Boeing 747-8 is 1 million pounds and must be used in the design. With the introduction of A380 operations at O'Hare specific for runway 10C-28C this weight is 1.2 million pounds. All proposed designs must have stamped drawings submitted to CDA by a licensed engineer for review and approval prior to the start of work. Any excavations or trenches within an RSA that will be covered must have approval from CDA Operations prior to the work beginning. Operations must also inspect any RSA affected area prior to opening a runway

   Survey marking lathe and utility markers are normally not permitted within the RSA. If it is critical to mark, identify or locate an object or point within the RSA the following criteria must be followed:
   - Prior approval from CDA Operations before leaving anything within an RSA
   - Utility locating flags can be used sparingly
   - If survey hubs or lathe are used, they cannot be higher than 3" from the surrounding elevation.

b. *Runway Object Free Area (ROFA)* – Construction activities are permitted in a runway object free area. However, at the completion of the work day all equipment, material and stockpiles must be moved outside the object free area. Trenches and excavations are permitted and may remain open, but they must be prominently marked with low mass low profile barricades. All barricades used within a ROFA must not exceed 18" in height (See Fig. 4).

   If required by CDA Operations the contractor will be required to place safety fence at locations adjacent to all work sites to identify the ROFA. Outside the ROFA regular height

safety fence is permitted. Excavations and trenches are permitted within the runway object free area once the runway has been opened. However, all equipment and stockpiles MUST be moved and staged outside the ROFA once work is completed for the day. Operations must be notified of all open excavations and trenches and will be required to inspect the area prior to opening the affected runway.



Work is permitted in the Runway Object Free Area (ROFA) while the runway is open and being used by aircraft, however, at the end of the work day, NO stockpiles, NO material storage, NO equipment can be in the ROFA, all these items must be placed or parked outside the ROFA. Excavations are allowed in the ROFA up to the edge of the RSA. All excavations must be clearly marked and barricaded with low mass, low profile barricades no higher than 18" in height with operational RED lights.

Figure 4

Open excavations within the ROFA (up to the RSA) are permitted. However, any trench boxes, shoring, or steel plates used for trench safety CANNOT be higher than ground elevation. In the event steel supports are needed to support ductbank within the ROFA, steel beams must be installed at grade and cannot be located above existing grade. (See Fig. 5)

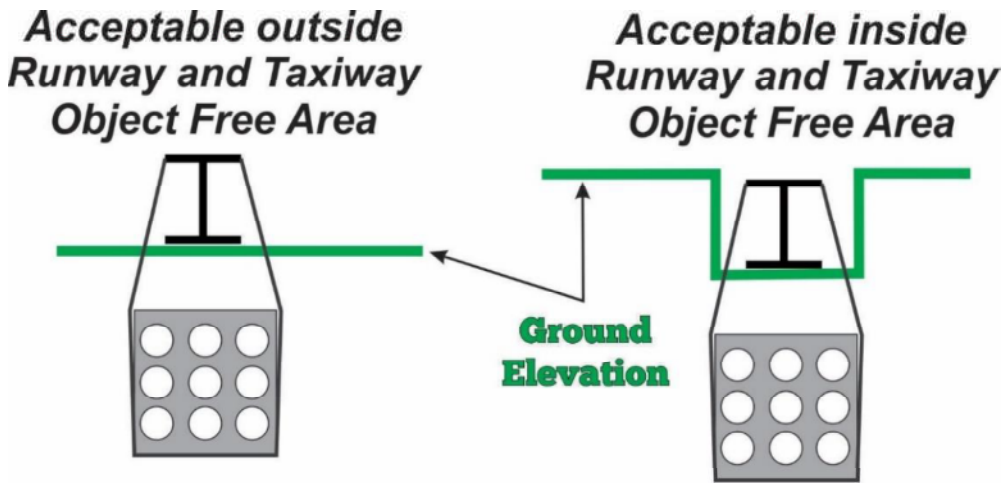


Figure 5

c. *Taxiway Safety Area (TSA)* – Under revised AC 150-5370-2G open trenches or excavations may be permitted within the TSA while a taxiway is open. Construction operations or only permitted while the taxiway is closed. The following criteria describes when and where an excavation can remain open within a TSA:

TAXIWAY CRITICAL AREA

1. Excavations and trenches are not permitted on curved sections within the taxiway safety area. If an excavation or trench area must remain open within the TSA, it must be completely covered and/or bridged with a proposed structure or covering capable of supporting the weight of largest aircraft that uses that taxiway. Maximum take-off weight of a Boeing 747-8 is 1 million pounds and must be used in the design. With the introduction and scheduled operations of the A380 several taxiway at O'Hare are designated as design group Vi criteria. As such any excavations on ADG VI taxiways must support a maximum weight of 1.2 million pounds. All proposed designs must have stamped drawings submitted to CDA by a licensed engineer for review and approval prior to the start of work. Appendix 1 shows runways and taxiways that operate aircraft design group VI aircraft.
2. All excavations that will be covered or bridged within the TSA of an open taxiway must have approval from CDA Operations prior to the work beginning.

3. In a circumstance where covering an excavation within a straight section of the taxiway safety area is not practical, the excavation or trench may be permitted to remain open with the following restrictions:
    a. CDA Operations MUST be notified a minimum 48 hours prior to leaving any open excavations.
    b. Detailed graphics with location, size and duration of excavation to remain open, must be provided to CDA Operations.
    c. Approval for all open excavations within a TSA must be received by CDA Operations prior to the start of any work
    d. Aircraft are limited to 10MPH taxi speed
    e. Orange airfield construction signs are placed in advance of the excavation (per CDA direction).
    f. Appropriate NOTAMS are issued.
    g. All low-profile barricades used to protect an excavation within the TSA must be filled with a minimum 100lbs sand ballast. Water filled barricades during cold temperatures will freeze and can cause damage to aircraft if they get hit.

Similar to the ROFA, trench boxes, shoring, or steel plates used for trench safety CANNOT be higher than ground elevation. All excavations permitted to remain open within the TSA must be protected with low mass, low profile barricades. The contractor will be required to ensure any barricades within the TSA are secured in a manner that they do not become dislodged by jet blast, which is likely probability at O'Hare. Barricades used inside the TSA must be low mass no higher than 18"

Survey marking lathe and utility markers are normally not permitted within the TSA. If it is critical to mark, identify or locate an object or point within the TSA the following criteria must be followed:

- Prior approval from CDA Operations before leaving anything within an TSA
- Utility locating flags can be used sparingly
- If survey hubs or lathe are used, they cannot be higher than 3" from the surrounding elevation.

d. *Taxiway Object Free Area (TOFA)* – Work within the taxiway object free area is more restrictive than a ROFA due the potential of an aircraft wing tip penetrating this area. No work will occur within the TOFA while a taxiway is open to air traffic (except as described in paragraph e). For daily taxiway closures; at the end of the work day all equipment and stockpiles must be staged or parked outside the TOFA. No parking or servicing of

equipment will be permitted within the TOFA. If required by CDA Operations the contractor will be required to place safety fence or silt fence at locations adjacent to all work sites to identify the TOFA for necessary taxiways. Outside the TOFA regular height safety fence is permitted. (See Fig. 6)

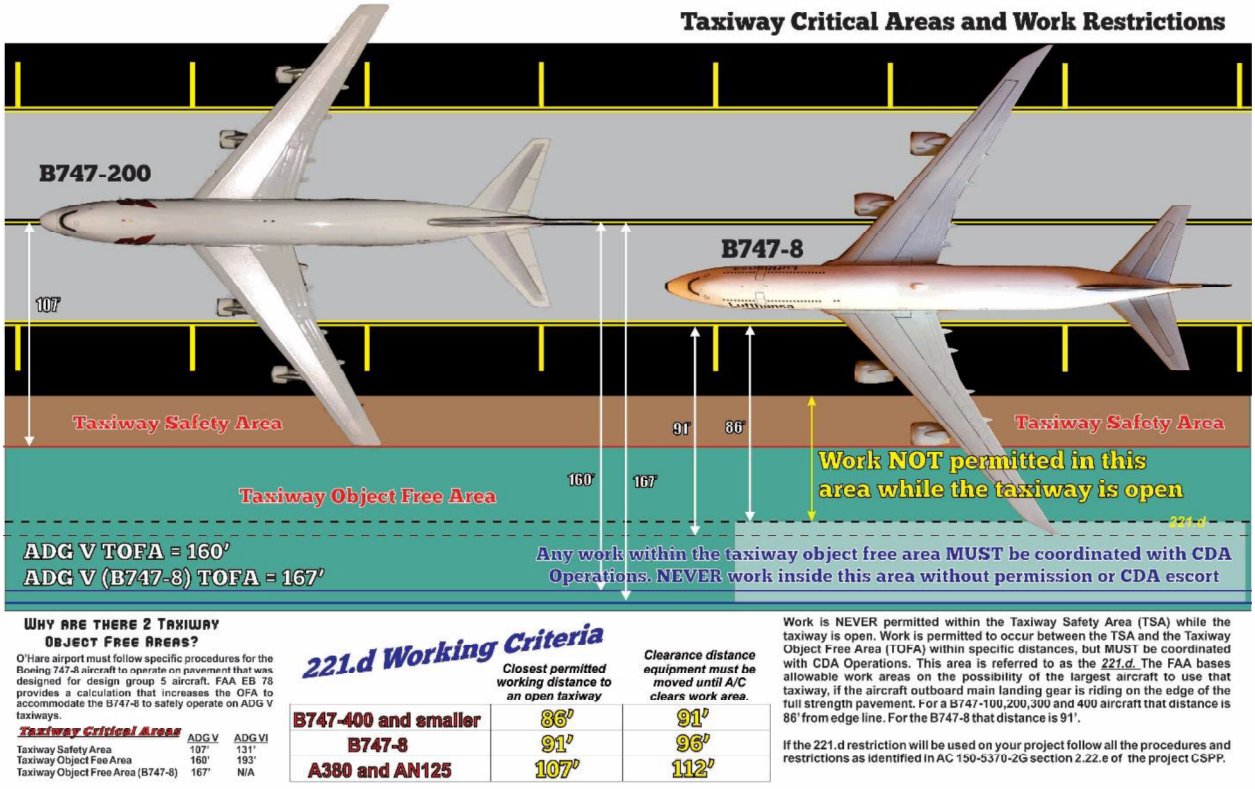


Figure 6

e. *Work within TOFA of open taxiway* – As described in section 2.22.d, construction activities are not permitted within the taxiway object free area while the taxiway is open for aircraft operations unless the following criteria can be adhered to. Using the criteria and restrictions as detailed in Advisory Circular 150-5370-2G section 2.22.4, construction activity may be accomplished without adjusting the width of the taxiway object free area.

The following are specific requirements for construction activities within a taxiway critical area:

1. Work is NOT permitted within the taxiway safety area when the taxiway is open
2. Stockpiles and equipment are not permitted within the TSA and TOFA once construction activities are completed for the day. All must be removed to an

approved area outside the critical area. All stockpile locations must be approved by CDA operations and have a corresponding FAA 7460 case number.

3. Construction activities are not permitted within the taxiway object free area except as provided below:
    a. The taxiway aircraft design group (ADG) may be reduced to allow a smaller TOFA dimension which permits construction activities closer to the taxiway centerline. Any requests to reduce the ADG for taxiway must be coordinated with the airport community a minimum 2 weeks before construction is to start.
    b. Offset taxiway centerline and edge lines may be used to shift the location of the taxiway critical area to allow construction. ***Temporary shift of these markings do not require the use glass beads when painting.***
    c. The closest distance construction activities will be permitted to an open taxiway will be 86', from the edge of full strength pavement.
    d. The 221.d working criteria has a "Clearance Distance" that must be maintained for aircraft. If work is occurring within the TOFA up to 86' from the edge of full strength pavement, all equipment must be mobile and easily moved whenever a 4-engine aircraft approaches the construction site. ALL equipment must be moved to 96' from the edge of full strength pavement until the affected aircraft is past the work site. This distance will increase for Airbus A380 and AN125 aircraft and will be addressed on a case-by-case basis with CDA Operations.
    f. Any equipment working within the 221.d limits (86') that cannot be readily moved (track cranes, drilling rigs, rubber tire cranes with outriggers positioned) must be located at 96' to ensure adequate clearance if an applicable aircraft approaches. If the boom of the crane is working inside the 96' limit, it must swing clear of the clearance distance until the affected aircraft is past the worksite.
    e. If requested by CDA Operations orange construction signs will be placed in advance of the work area.
4. When a 221.d area of work is approved by CDA Operations the contractor and RE are required to complete the following activities on a daily basis:
    a. Coordinate work with the resident engineer who will coordinate with CDA Operations to issue appropriate NOTAMS.
    b. Notify the resident engineer when work starts and ends

c. CDA Operations must inspect and verify all provisions are in place for every work location prior to starting work within the TOFA on a daily basis. Work CANNOT start unless approved by CDA Operations.
d. **The contractor must provide one designated flagger for each construction activity within the 221.d area. This person must not conduct any other functions on the jobsite except to monitor construction operations and watch for approaching aircraft. One flagger CANNOT watch two different construction operations.**
e. Designated flaggers will be required to complete a special training class to make them familiar with the responsibilities of working within the 221.d area limits.
f. Safety fence is required to identify all taxiway critical areas. Exact locations and lengths of fence will be determined by CDA Operations. Areas to be identified include: TSA, TOFA and 221.d
g. Refer to figure 7 for all taxiway critical area criteria.

	Aircraft Design Group			
	III	IV	V	VI
TSA				
Total Width	118’	171’	214’	262’
Measured from Centerline	59’	85.5’	107’	131’
TOFA				
Total Width	186’	259’	320’	386’
Measured from Centerline	93’	129.5’	160’	193’
** EB 78 for B747-8 Operations on ADG V taxiways			167’ measured from C/L	
221.d				
Measured from Edgeline	53’	73’	91’ B747-400	113’
			96’ B747-8	96’ B747-8

**NOTE - B747-8 is approved to operate on ADG V criteria under the FAA Engineering Brief 78

Figure 7

h. *Obstacle Free Zone (OFZ)* – Construction activities will not impact any runway obstacle free zones.

i. *Runway Approach/Departure Areas and Clearways* – Construction activities will not impact any runway approach or departure surfaces.

2.23 - Other Limitations During Construction

All cranes or tall pieces of equipment are required to boom down to the lowest point possible at the completion of the work day or as directed by the FAA in the 7460-airspace response letter. It is the contractor's responsibility to review all FAA airspace studies and equipment heights for the entire project. If a discrepancy exists between a submitted equipment height and what is to be used on the project, the contractor must notify the resident engineer immediately, so a revised airspace study can be submitted to the FAA for review, which could up to 60 days for approval.

a. *Prohibitions* – The following items are prohibited from use on this project
   i. No open flame welding or torches unless "hot permit" has been issued for the specific work.
   ii. Electric blasting caps may be permitted for mining operations only if the contractor can show a need for the operation and all approvals are received from CDA Safety and the Chicago Fire Department.
   iii. Flare pots are not permitted on the AOA
   iv. Marking tape shall not be used for temporary or permanent pavement markings on runways, taxiways, taxi lanes or gate parking aprons.

b. *Restrictions* – Throughout the course of the project certain airport restrictions may apply to construction activities. It is important for the contractor to work closely with the resident engineer and airport operations to identify airfield work restrictions that will impact this project.
   i. Construction suspension required during specific airport operations: Refer to details as described in section 217
   ii. Areas that cannot be worked on simultaneously:
   Construction activities on taxiways "T" and "SS must be coordinated with the airport community at the weekly STOP meeting. Taxiways "T" and "SS" cannot be closed simultaneously
   iii. Day or night construction restrictions: Refer to details as described in section 207

iv. Seasonal construction activities – As described in section 2.17.a airfield construction activities may be suspended due to airport snow removal operations. Cancellation of work may occur on a moment's notice. If a contractor has a critical airfield activity to occur during the winter season, they must coordinate with the resident engineer and airport operations the specifics and importance of the activity. All costs associated with unexpected construction shut downs or cancellations during the winter season will be the responsibility of the contractor.

Appendix A: