O'Hare International Important Numbers

EMERGENCY:
773-894-9111

NON-EMERGENCY:
773-894-5000

CITY OPERATIONS:
773-686-2255

ASSET 2009 - 2025
16 Years of Aviation Safety

Revised May 1, 2025

O'Hare International Airport 2025 Construction Safety Guidelines

ORD Construction Safety Certified 2025

Runway Critical Area Information:

Runway Safety Area Protection Area

(All aircraft design groups)

RUNWAY SAFETY AREA (RSA)

500' wide (250' either side of centerline)

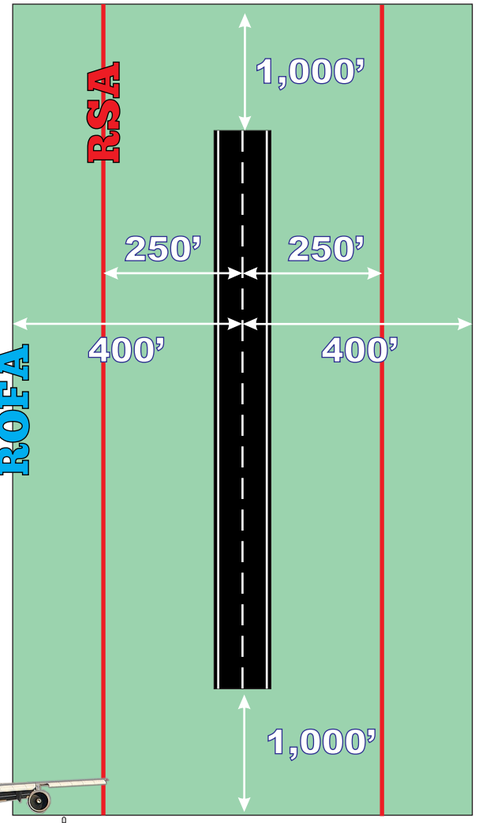
1,000' beyond the approach of the runway

****NOTE - Runway Hold Bars are normally located (painted) between 287' and 300' of the runway centerline**

RUNWAY OBJECT FREE AREA (ROFA)

800' wide (400' either side of centerline)

1,000' beyond the approach of the runway



Runway Object Free Area (ROFA) 400'	Runway Safety Area (RSA) 250'	Runway 150' to 200' Wide	Runway Safety Area (RSA) 250'	Runway Object Free Area (ROFA) 400'

Work is NOT allowed in the runway safety area unless the runway is closed, NO EXCEPTIONS. No survey work, no grading, no electrical work, no inspection of manholes. NOTHING!!! You will NOT be permitted to work in the RSA, DO NOT ASK!

Any work that is performed inside the safety area during a runway closure, must be inspected to assure the RSA is brought back to all FAR part 139 standards before the runway is opened to air traffic. No excavations, No stockpiles, No tire ruts, No equipment can be parked inside the RSA.

Work is permitted in the runway object free area 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 remain 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 with snow fence and barricaded with low slung barricades with RED lights. Any barricade or fencing used inside the ROFA must be less than 18" high and must be low impact material. Concrete low slungs are not permitted inside the ROFA.

KNOW THE LIMITS OF THE RSA AND ROFA ON YOUR PROJECT!!!

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Make sure you know the limits and requirements for using the 221.d construction criteria.

ALL MEASUREMENTS FOR 221.D ARE TAKEN FROM THE TAXIWAY EDGELINE NOT CENTERLINE

Think of SAFETY FENCE like a mandatory hold bar. If you see safety fence with these written on it:

RSA TSA TOFA

NEVER drive past them. The pavement or area you want to work on MUST be closed.

The ONLY safety fence you can drive past (when you are approved to be out there) is the:

ROFA

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Coordinating use of the 221.d limits

- Initial use of the 221.d MUST be coordinated in ADVANCE with CDA Ops *(7 day minimum, STOP Meeting prior to start of work)*.
- You cannot ask to use the 221.d (at a new location) without advanced coordination.
- WORKING WITH OPS:
  - They will determine what procedures/restrictions need to be in place for the specific area you want to work in.
  - They will identify with the contractor where safety fence will be placed and at what distances (normally 3 fence lines).
  - To use the 221.d, equipment MUST be able to quickly move. Permanent or immoveable objects cannot utilize the 221.d criteria.
  - Flagger MUST be on site and only responsibility is to monitor 221.d operations.

Using the 221.d limits each day

STEP 1 - Through the RE or Inspector, Contact Ops (686-2255) to use the 221.d limits for the work *(pre-approved work)*.

STEP 2 - Ops will send a supervisor (AOS) to your location to verify all requirements are in place.

a. Safety fence installed

b. Designated flagger is on-site for the work

STEP 3 - CDA Ops will issue the appropriate NOTAM's.

STEP 4 - Dedicated flagger is on-site the entire time work is taking place.

STEP 5 - Once work is complete within the 221.d for the day, RE or Inspector will notify Ops.

STEP 6 - Ops will send an AOS to inspect your work area. DO NOT leave until Ops clears you.

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ORD Advanced Construction Summary Guide

Taxiway Critical Area Information:

With increased construction activity at O'Hare International Airport and the possibly scheduled flights of the Airbus A380. Several ORD taxiways must now be protected for Aircraft Design Group (ADG) VI aircraft. This is a significant change from what was considered normal for construction limitations.

The following graph provides all taxiway critical area dimensions. At times in coordinated efforts with the airport community through the weekly STOP Meeting the ADG criteria for an entire taxiway or portion of taxiway can be decreased to allow construction activities closer to the taxiway pavement. Any reduction to a taxiway design group must be coordinated at STOP a minimum 7 days prior to start of work.

Construction activities can also utilize the 221.d limitations for a taxiway for a specific design group. Refer to Volume 2 of the O'Hare International Airport Construction Safety Phasing Plans for detailed information for working at 221.d limits. If taxiway design group criteria is reduced, the effective 221.d limits are also reduced.

ADG III - Aircraft Type - Boeing B737-900, Airbus A320/321, Embraer ERJ 190
ADG IV - Aircraft Type - Boeing B767-400ER, Airbus A300, A310, Douglas DC-10, MD-11
ADG V - Aircraft Type - Boeing B747-400, B777-300ER, B787-8, Airbus A330, A340-600, A350-900
ADG VI - Aircraft Type - Boeing 747-8, Airbus A380-800

Aircraft Design Group

	III	IV	V	VI
TSA		*Taxiway Safety Area*		
Total Width	*118'*	*171'*	*214'*	*262'*
Measured from Centerline	*59'*	*86'*	*107'*	*131'*
TOFA		*Taxiway Object Free Area*		
Total Width	*171'*	*243'*	*285'*	*335'*
Measured from Centerline	*85.5'*	*121.5'*	*142.5'*	*167.5'*
TLOFA		*Taxilane Object Free Area*		
Total Width	*158'*	*224'*	*270'*	*322'*
Measured from Centerline	*79'*	*112'*	*135'*	*161'*
221.d	*(all 221.d numbers are rounded up or down. This figure includes the 5' safety margin)*			
Measured from Edgeline	*58'*	*78'*	*91'*	*113'*
				96' B747-8

***NOTE - FAA Engineering Brief 78 has been cancelled under revised AC 150-5300/13B*

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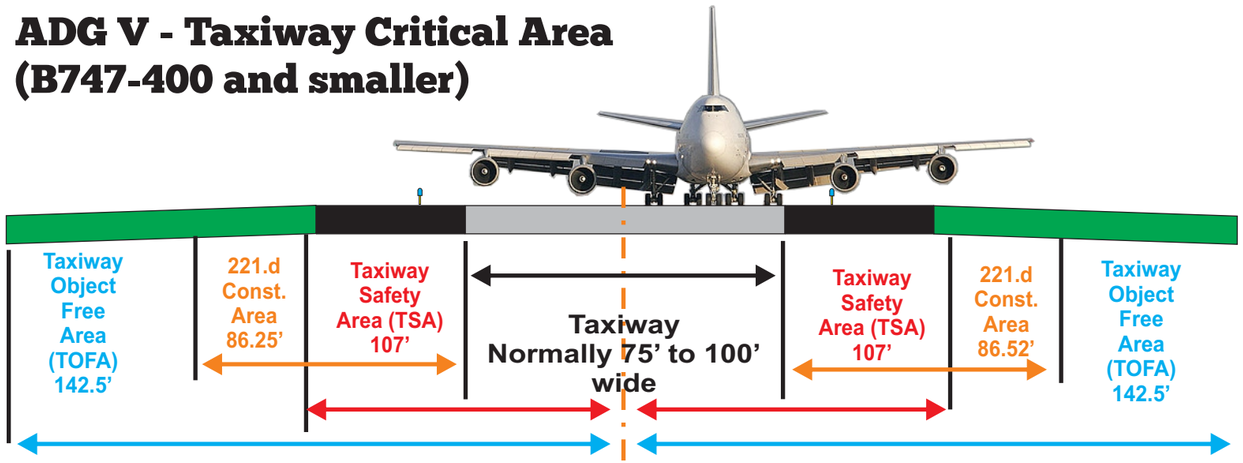
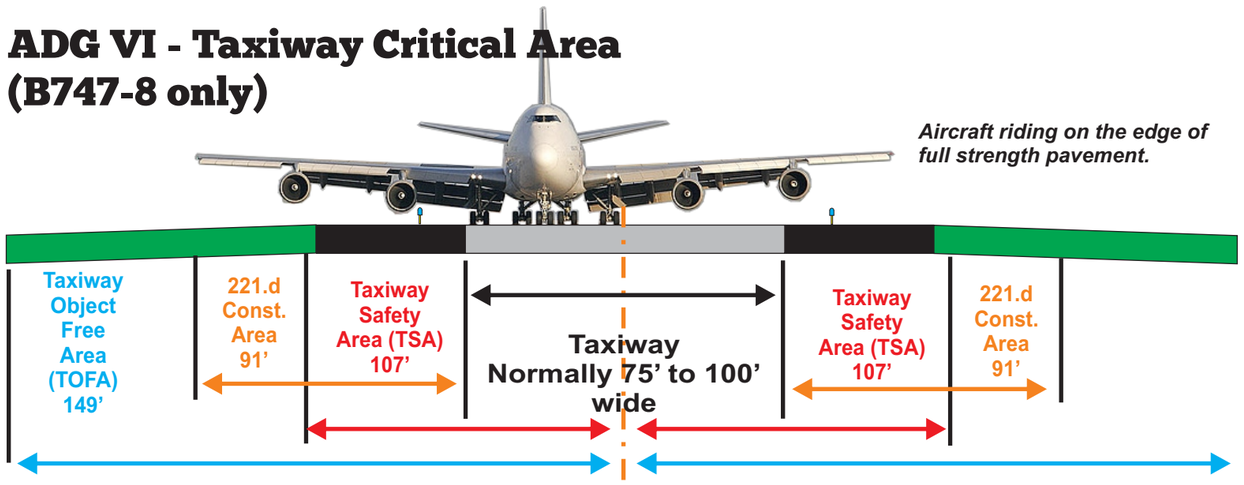
ADG V - Taxiway Critical Area (B747-400 and smaller)

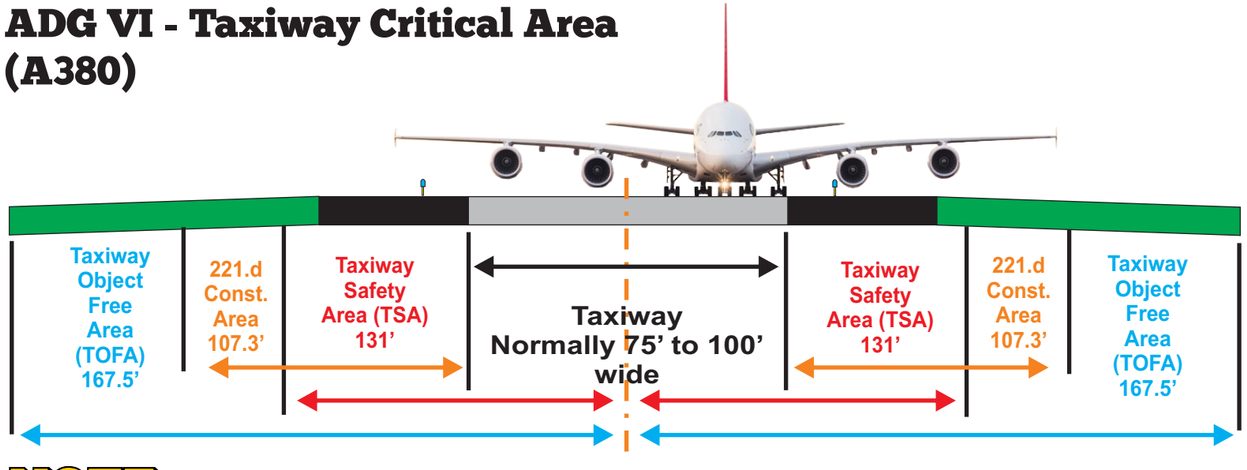


ADG VI - Taxiway Critical Area (B747-8 only)

Aircraft riding on the edge of full strength pavement.



ADG VI - Taxiway Critical Area (A380)



NOTE: 221.d calculation - Add 5' (Safety Margin) to the number above
B747-400 (86' + 5' = 91') B747-8 (91' + 5' = 96') A380 (107.3' + 5' = 113')

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Aircraft Design Group Critical Areas

	III	IV	V	VI
TSA				
Total Width	118'	171'	214'	262'
Measured from Centerline	59'	85.5'	107'	131'
TOFA				
Total Width	171'	243'	285'	335'
Measured from Centerline	85.5'	121.5'	142.5'	167.5'
** *EB 78 for B747-8 Operations on ADG V taxiways*				(ONLY for B747-8 aircraft) 149'
221.d *(all 221.d numbers are rounded up or down. This figure includes the 5' safety margin)*			91'	113'
Measured from Edgeline	58'	78'		96' *B747-8*

NOTE: 221.d calculation - Add 5' (Safety Margin) to the number above
B737-Max (53' + 5' = 58') B747-8 (91' + 5' = 96') A380 (107.3' + 5' = 113')

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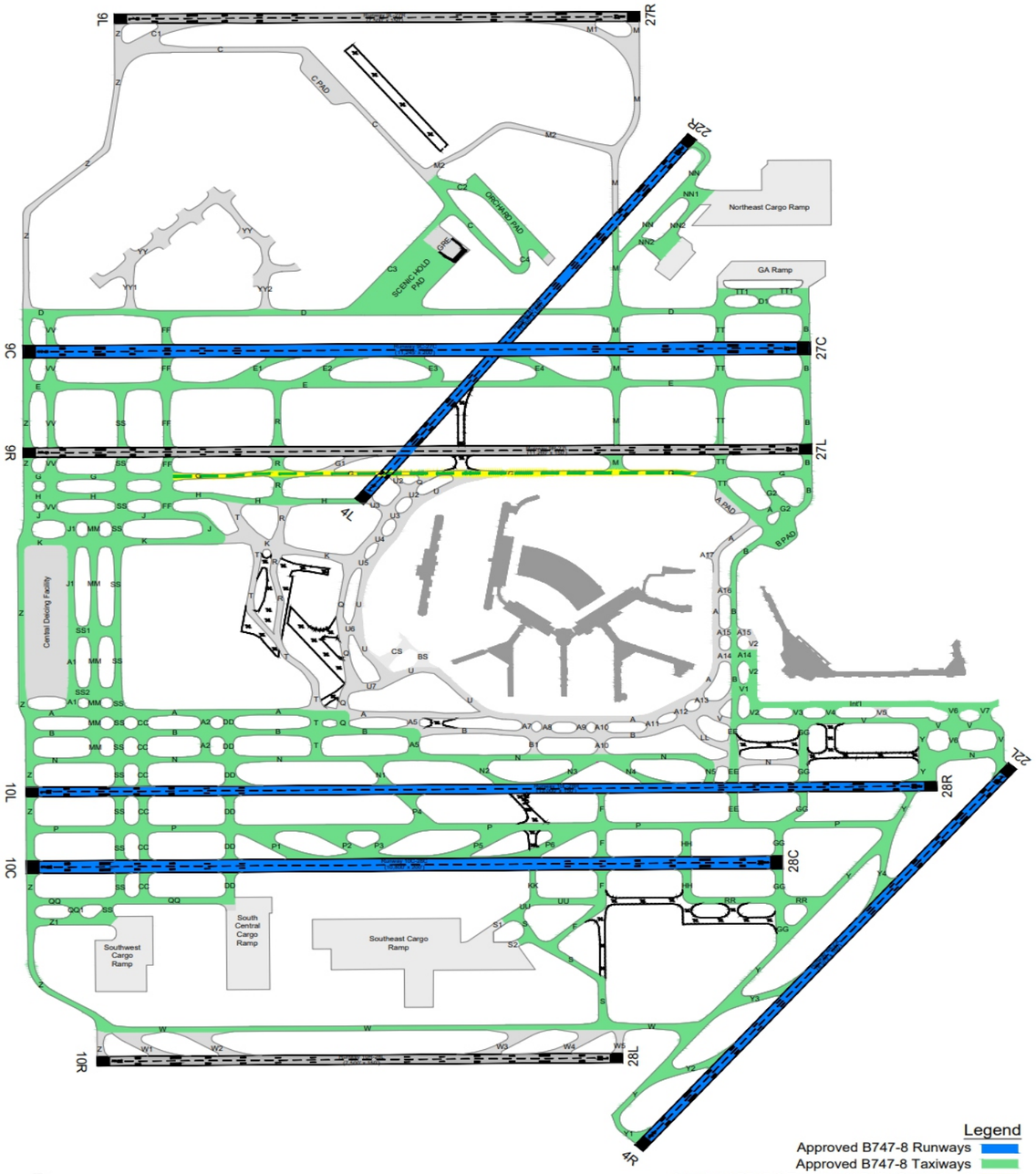
FINAL

O'HARE INTERNATIONAL AIRPORT
Approved B747-8 Runways & Taxiways
June 20, 2025

CDA
Chicago Department of Aviation

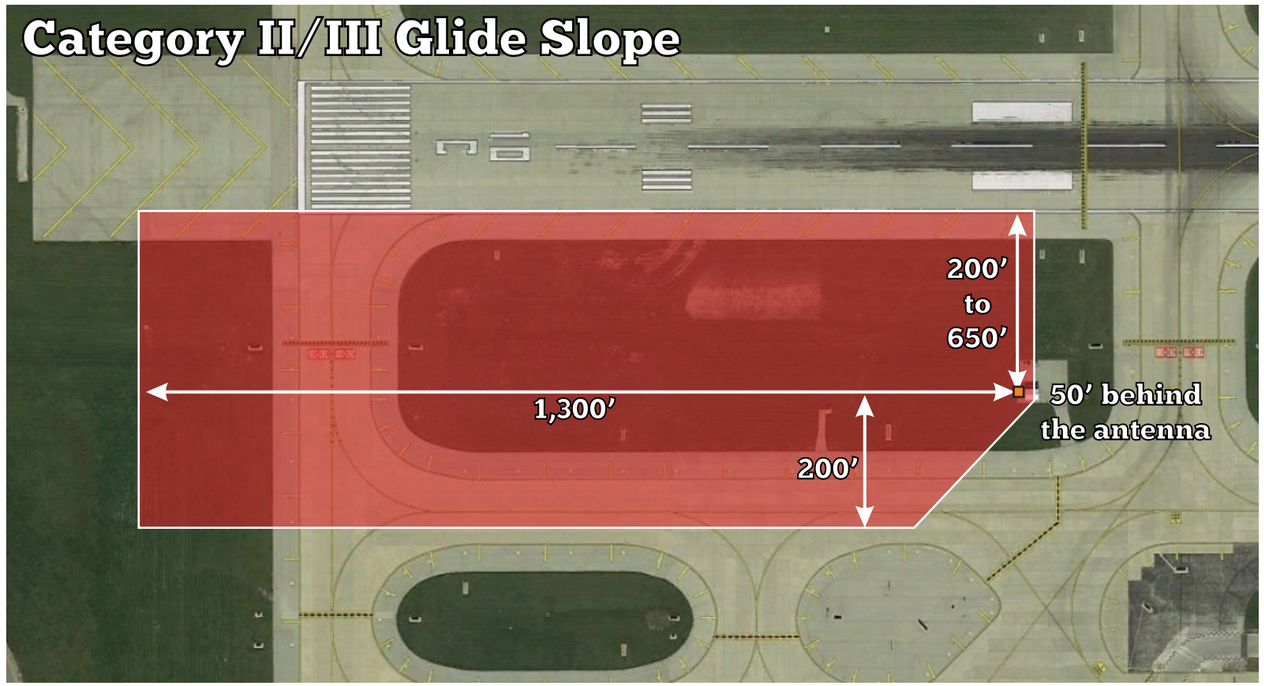


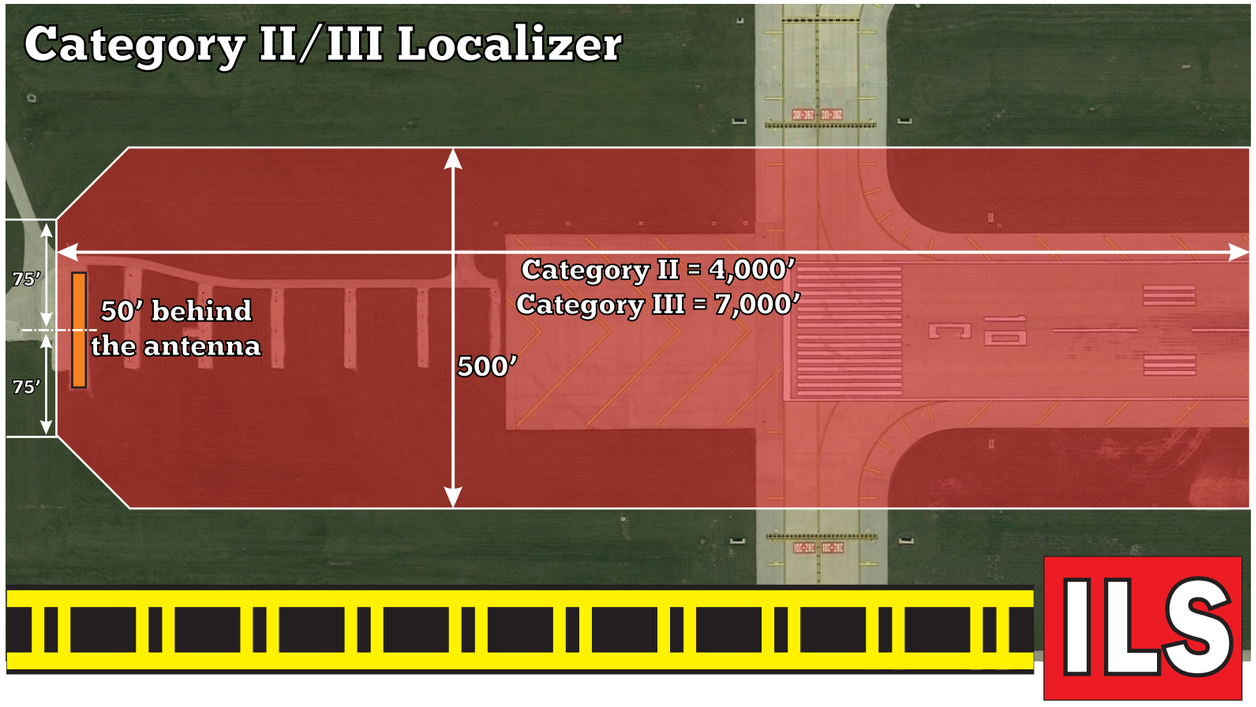
Not to Scale

Date: June 20, 2025

Revised June 20, 2025

ILS Critical Area Dimensions





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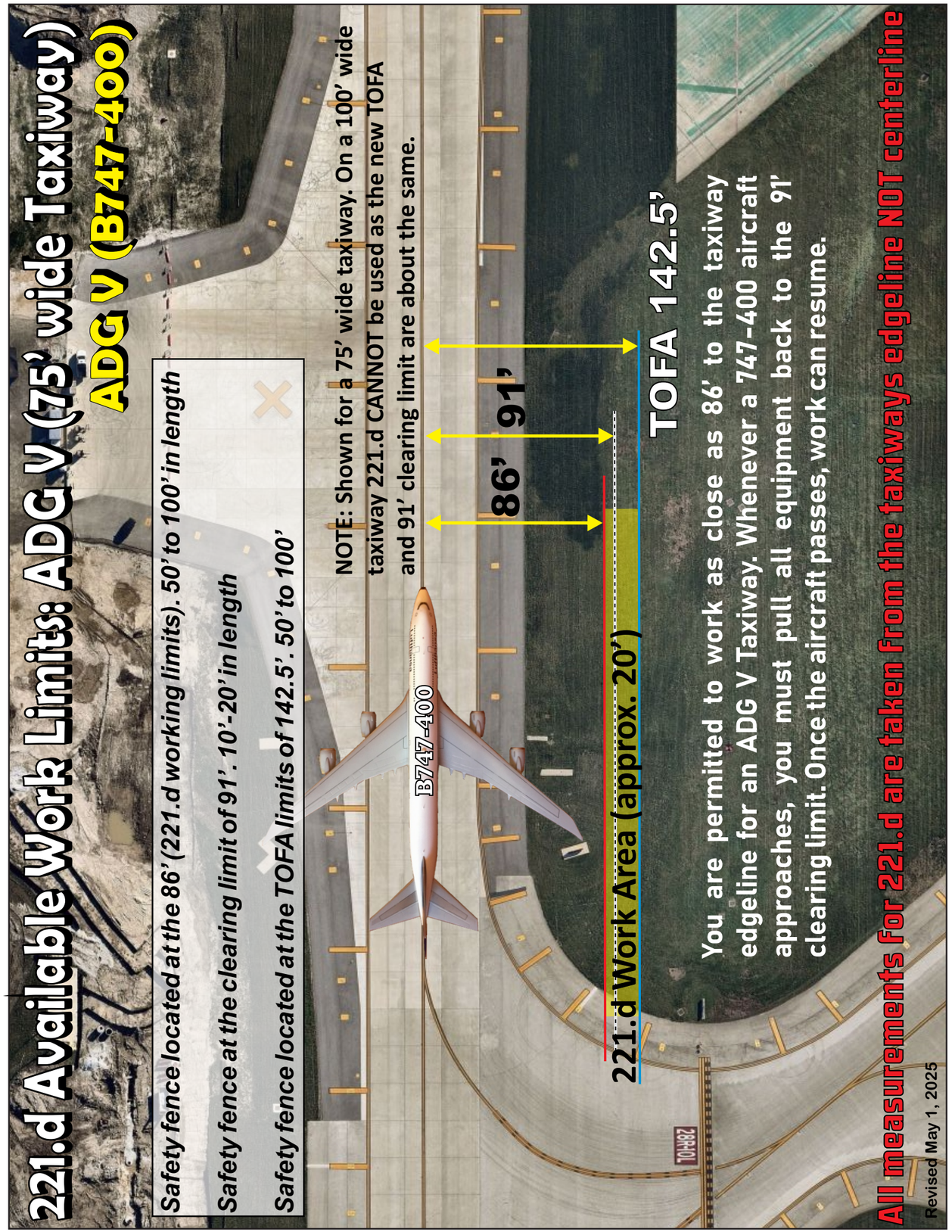


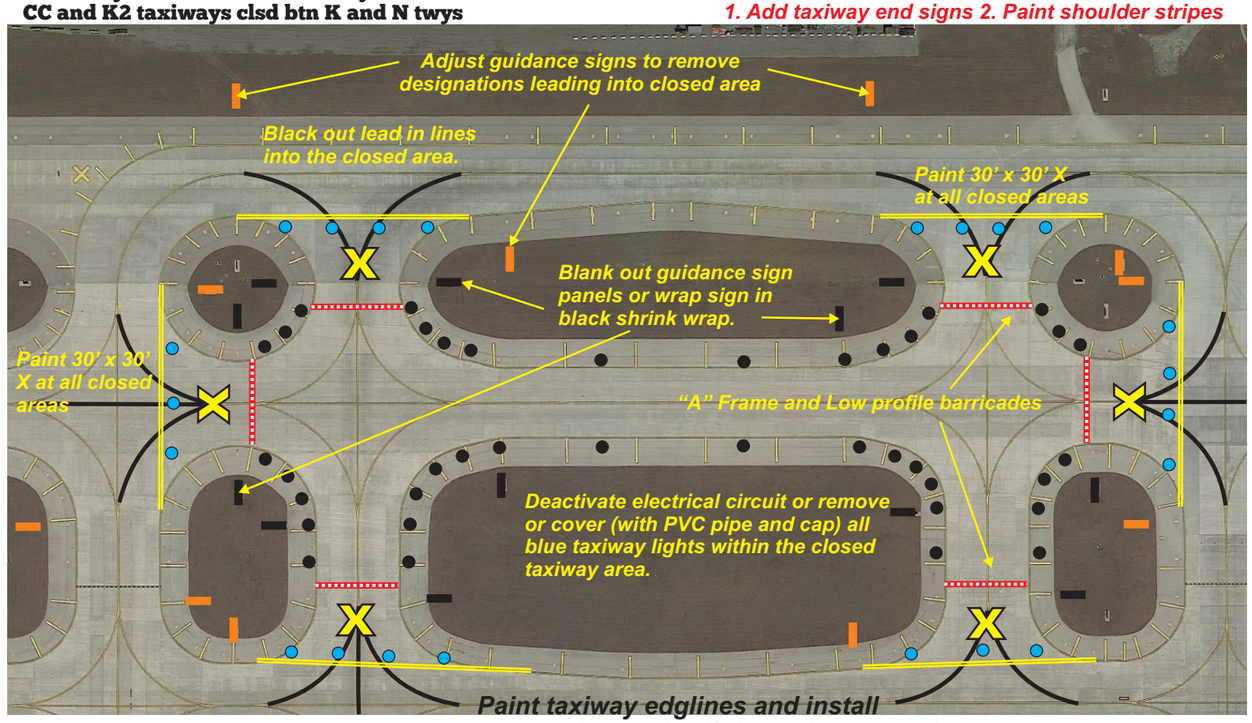
Taxiway closures of over 90 days (All closures over 90 days will be charted as closed):

- 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.
- Taxiway lights will be deactivated within the closed area or covered in a manner to prevent light leakage
- Taxiway centerline lights, when provided, will be deactivated for closed taxiways.
- 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.
  - For temporary closures that will re-open in the same configuration, temporary above ground lighting can be [illegible]. Only secondary power feeds can be above grade all primary feeds must be in ground or encased in [illegible] area.
  - For permanent closures or those where the taxiway intersection will change in configuration the new edge lights must be cored/kerfed in.
- Taxiway signs within the closed area will be deactivated and any that are visible from open pavement will be covered or blanked out.
- 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.
- Runway Exit signs for closed runway exits will be covered or blanked out
- Taxiway Ending signs will be added on a per closure bases decided on by CDA Operations
- All taxiway center lines, edge lines and shoulder stripes leading into the closed areas will be removed or blacked/grayed out
  - blacking/graying out only allowed if geometry/alignment of the intersection does not change. They will be coming back in the same location
  - For permanent closures all markings for the closed pavement within the safety areas and object free areas of open pavement will be removed
- New taxiway edge lines will be painted across closed taxiways to correctly establish edge lines for open pavement.
- Place an X at the entrance to both ends of the closed section of taxiway

Criteria for temporary taxiway edge lights to be coordinated with CDA Ops until SOP's are finalized

Sample Extended Closure (90 days)
L taxiway clsd btn BB and DD twys
CC and K2 taxiways clsd btn K and N twys

Other criteria determined on a case-by-case basis by Ops:
1. Add taxiway end signs 2. Paint shoulder stripes



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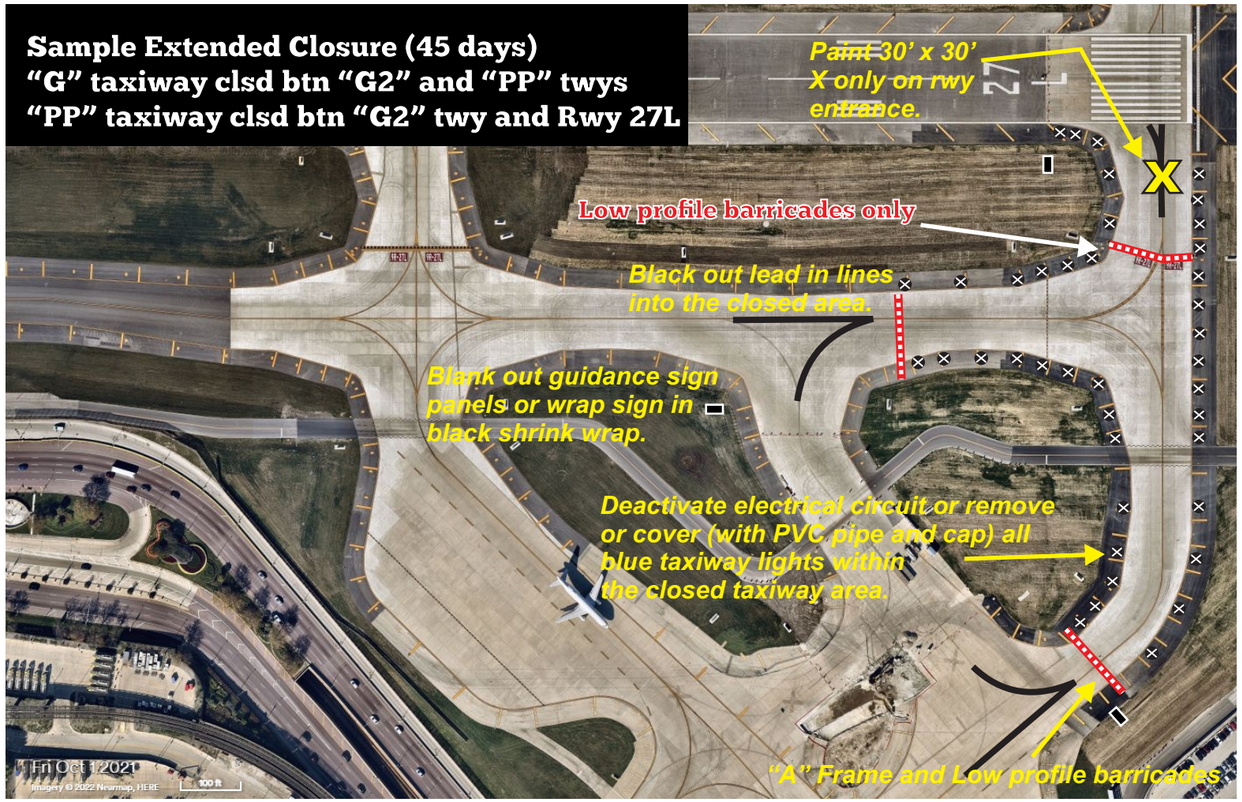
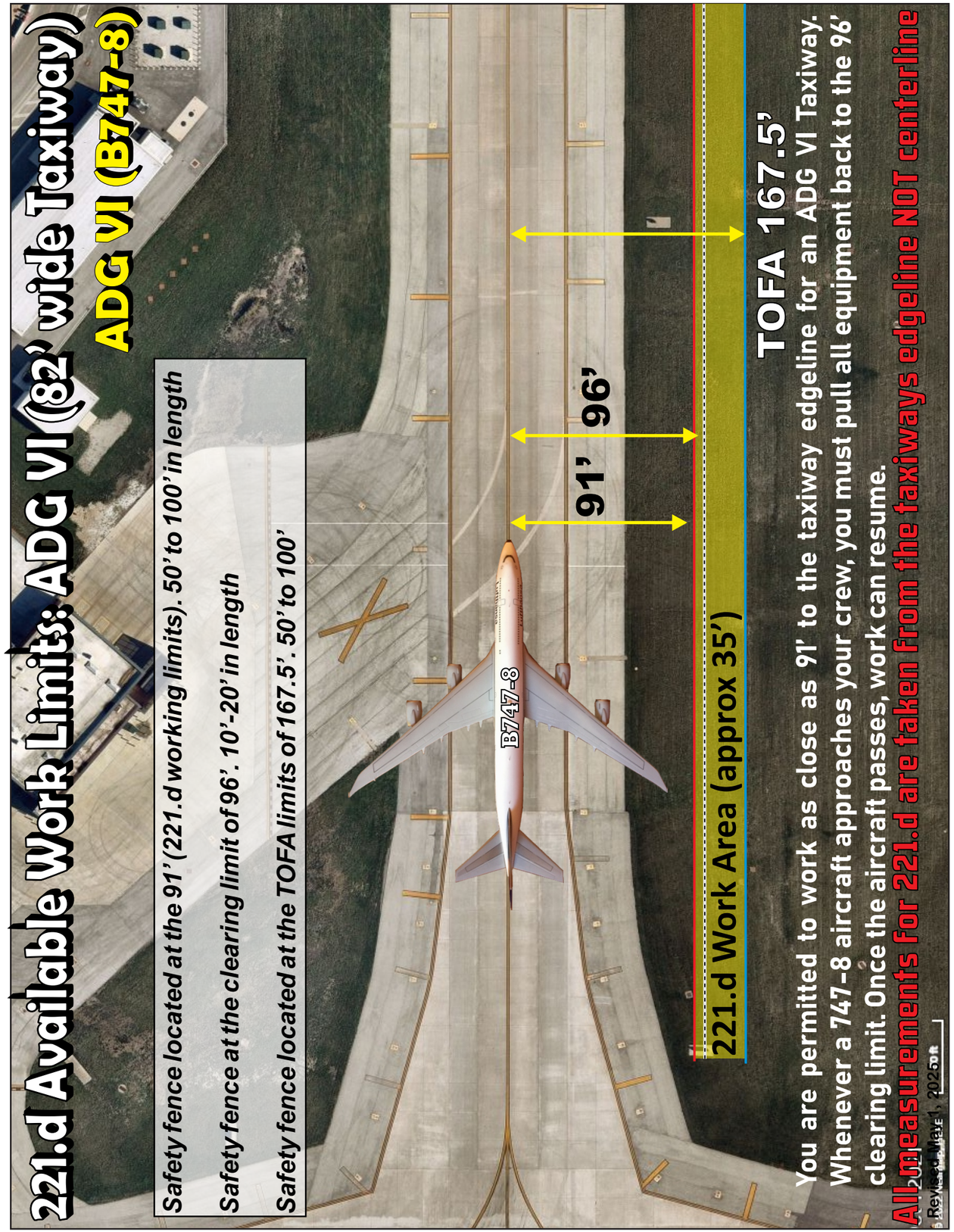
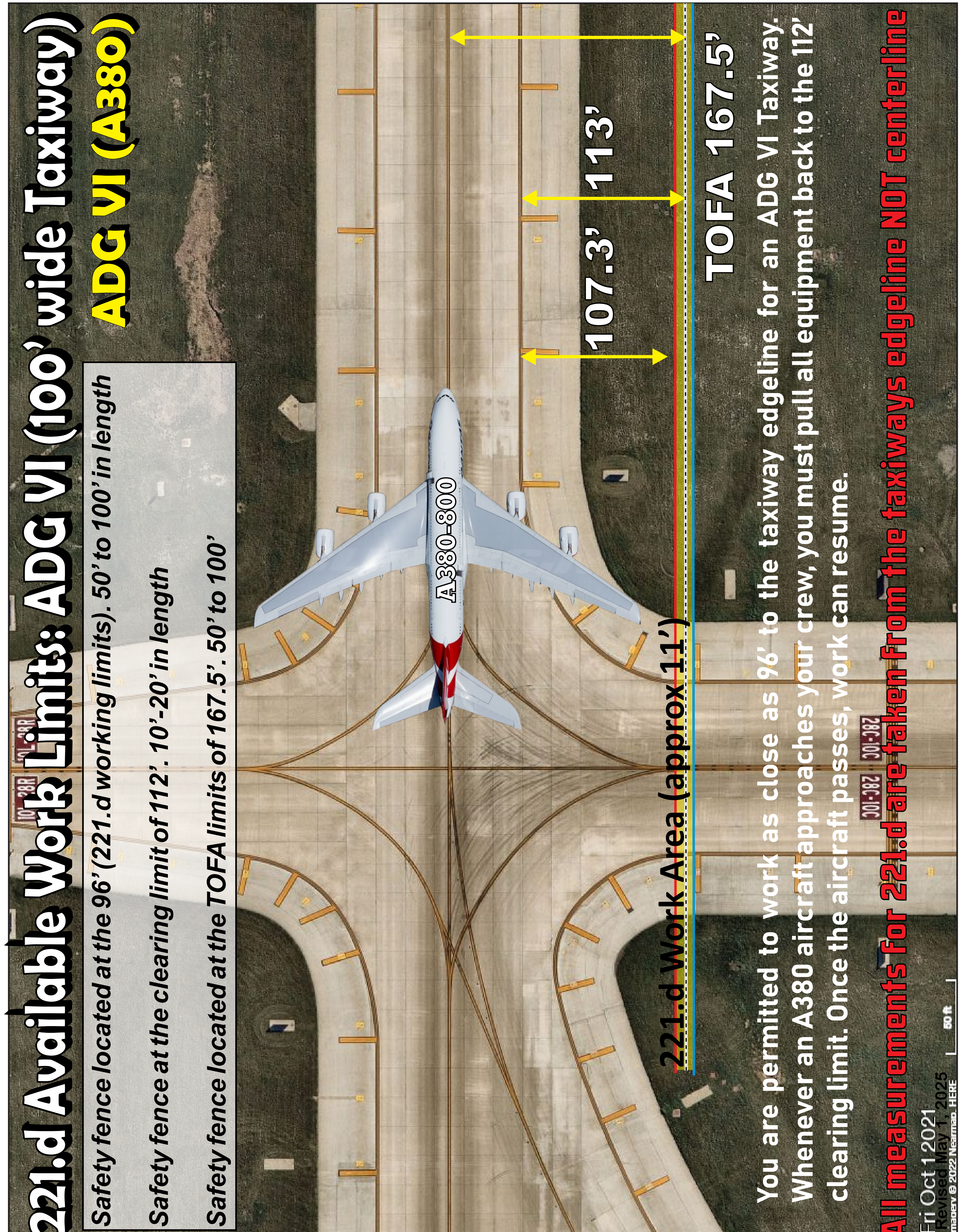
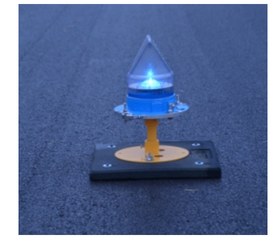
Taxiway Closures of over 7 days to 90 days (NOTAM'd Closed):

- 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.
- Taxiway lights will be deactivated within the closed area or covered in a manner to prevent light leakage
- Taxiway centerline lights, when applicable, will be deactivated for closed taxiways
- Taxiway signs within the closed area will be deactivated and any that are visible from open pavement will be covered or blanked out.
- Taxiway directional signs on open taxiways will be left in place and operational.
- Runway Exit signs for closed runway exits will be covered or blanked out
- All taxiway centerlines leading into the closed areas will be removed or blacked/grayed out
    - blacking/graying out only if they will be coming back in the same location
- For runway/taxiway intersections only, place a painted X at the entrance to the closed taxiway from the runway.









O'Hare International Airport Temporary Edge Lighting Usage Policy

Standard ORD procedures for temporary taxiway lighting is being developed and will be updated to all contractors once the SOP is approved and finalized by CDA

a. 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 outli[...] [...]hods during hours of darkness:

1. When the airport experiences unplanned loss of taxiway edge lighting, or;
2. When perma[...] [...]ed reconfiguration of pavement use[...]

For emergency response to maintain taxiway edge lighting only:

1. Wh[...] [...]proved solar pow[...] [...]ghts (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 taxiw[...] [...]ess.
3. CDA AAO[...] [...]on.

For extended temporary use on pavements:

1. The airport will default to kerf cut circuit installations whenever possible [...] temporary taxiway [...] final configuration/use;
   b. The pavement cannot be altered/damaged because of its [...], makeup, and/or final configura[...]
2. The airport will [...] as an alternative to kerf cut circuit installations. Unless:
   a. Other visual aids that will not be lighted otherwise require constant electrical power.
3. T[...], that will reduce the loss of an entire circuit. If a taxiway edge light or series of lights, are inadvertently damaged.
4. T[...] system must be maintained at the same step level of brightness.
5. [...]

Proposed time limits for use in:
Emergency Res[...] situations: [...]

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.***

NA

ORD Runway and Taxiway Closure Criteria

With recent changes to the construction Advisory Circular, ORD is modifying the airfield changes required for taxiway closures. These changes are based off time frame of closure and whether the closure is NOTAM'd closed or charted closed.

A charted closure is identified as a permanent or long term closure that is identified in FAA and other aeronautical publications.

Barricade Placement General Information:

Whenever possible all barricades must be located outside the safety area of surrounding open taxiways.

SHORT TERM CLOSURE (GENERAL INFORMATION):

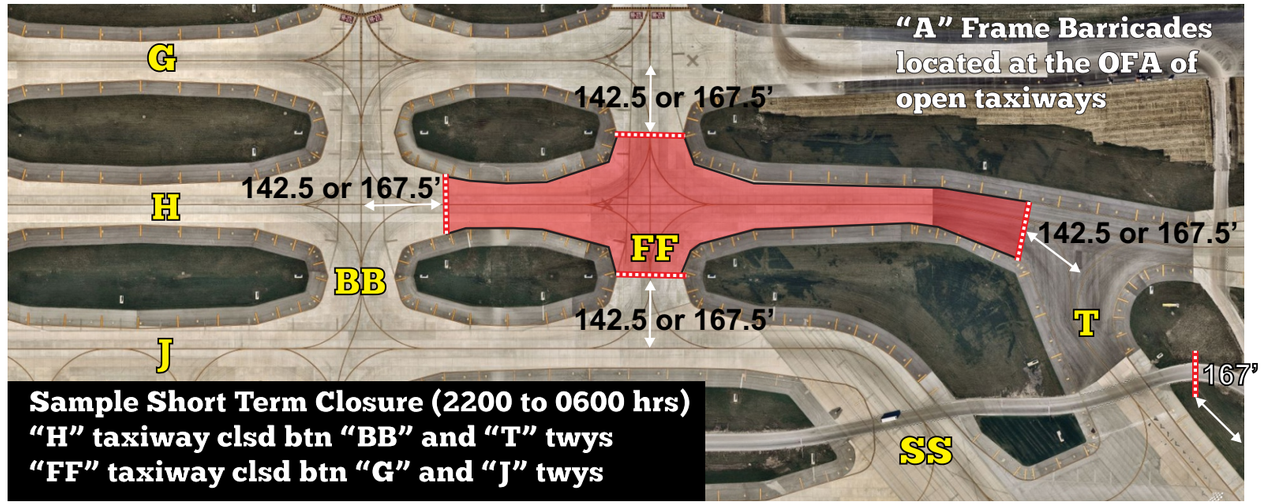
1. **Any taxiway or runway closure of LESS THAN 24 hours, ONLY "A" Frame barricades will be used. Low profile barricades are NOT required for short term closures.**
2. **As best practice, barricades should be set up outside the OFA of open pavements, when this is not possible, Operations AOS will advise the contractor for the optimum location for the barricade line. (Fig. 1)**
3. **"A" Frame Barricades are spaced NO MORE than 15' apart, one barricade on centerline. (Fig 2)**

EXTENDED CLOSURE (GENERAL INFORMATION): ***Any runway or taxiway closure over 24 hours will require the following barricade set up***

1. **Low profile barricades are established at the hold bar of any taxiway closure that intersects an open runway. (Fig. 3)**
2. **Low profile barricades are spaced NO MORE than 4' apart. (Fig. 4)**
3. **Barricade at a taxiway/taxiway intersection will have "A" Frames set up at the TOFA (15' spacing) with a low profile barricade between them. (Fig. 5)**
4. **If the extended closure work area is within the TOFA of the open taxiway (using 221.d criteria) then only low profile barricades are to be used (spaced at 4') this will be coordinated with Ops.**
5. **Several ORD taxiway closures do not have room to place barricades at TOFA, so ONLY low profile barricades can be used whenever barricade line is inside the TOFA or ROFA.**

Taxiway closure of 24hrs or less (NOTAM'd Closed):

- 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. In some areas around the "A", "B" and "V" Taxiways there is not enough room to place barricades at the OFA limits. In these situations, "A" Frame barricades will be coordinated with Ops and placed as close to the OFA as possible, but may be within the OFA.



Taxiway Closures over 24hrs to 7 days (NOTAM'd Closed):

- Barricades will be placed outside of all safety areas of open pavement and/or as specified in the CSPP to delineate the closed portions of movement areas.
- Taxiway lights will be deactivated within the closed area or covered in a manner to prevent light leakage
  - On a taxiway closure remove or cover edge lights ONLY between barricade lines
  - If a closure extends to a runway remove or cover edge lights from the runway to the barricades.
- Taxiway centerline lights, when applicable, will be deactivated for closed taxiways.
- Taxiway centerline markings for high speed runway exits only will be blacked/grayed out. ONLY High speed exits 90 degree turns (exits) do not need to be blacked out.

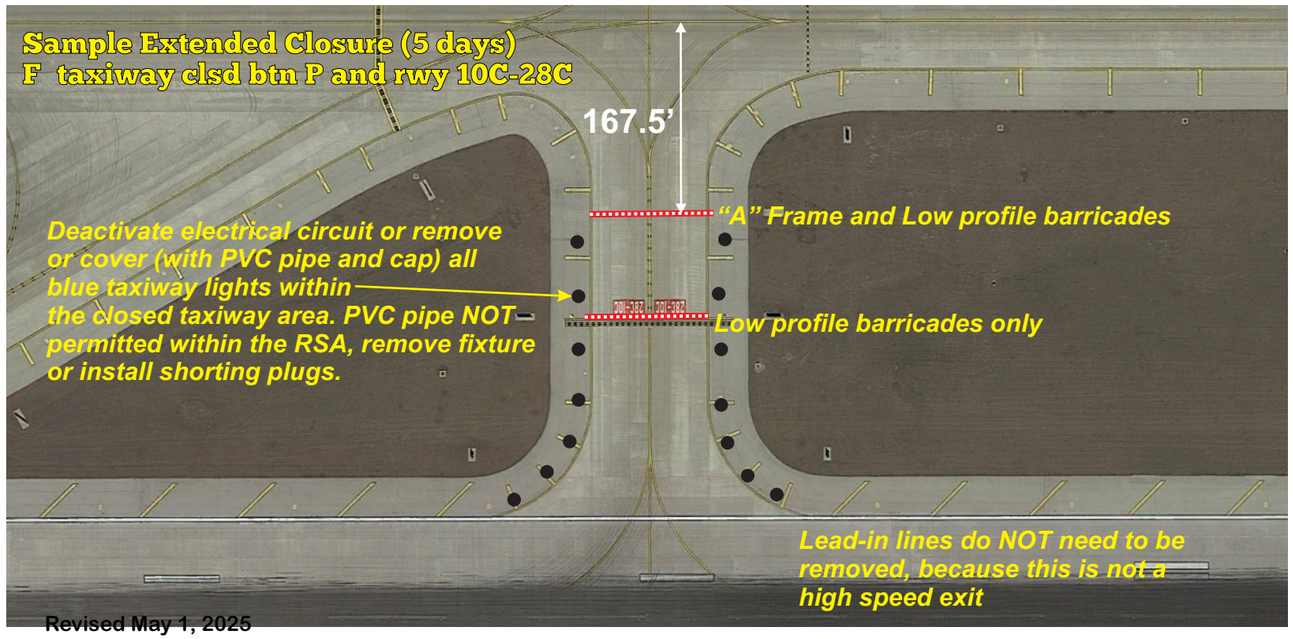


Figure 3

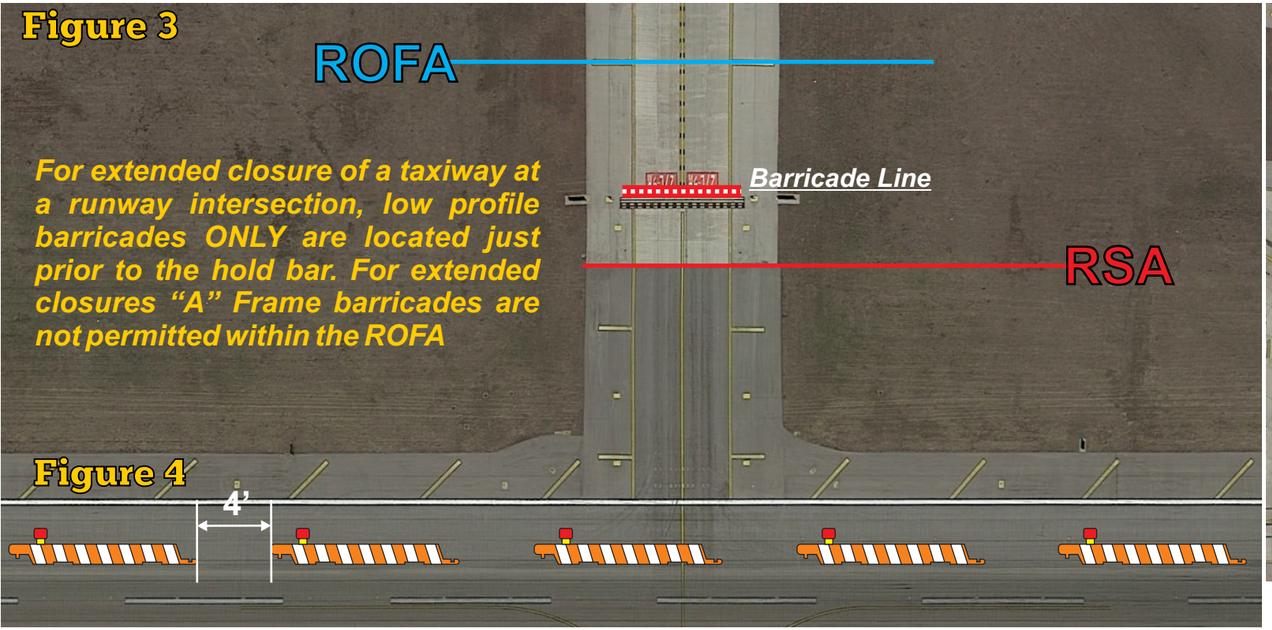


Figure 4

Figure 1

Figure 5

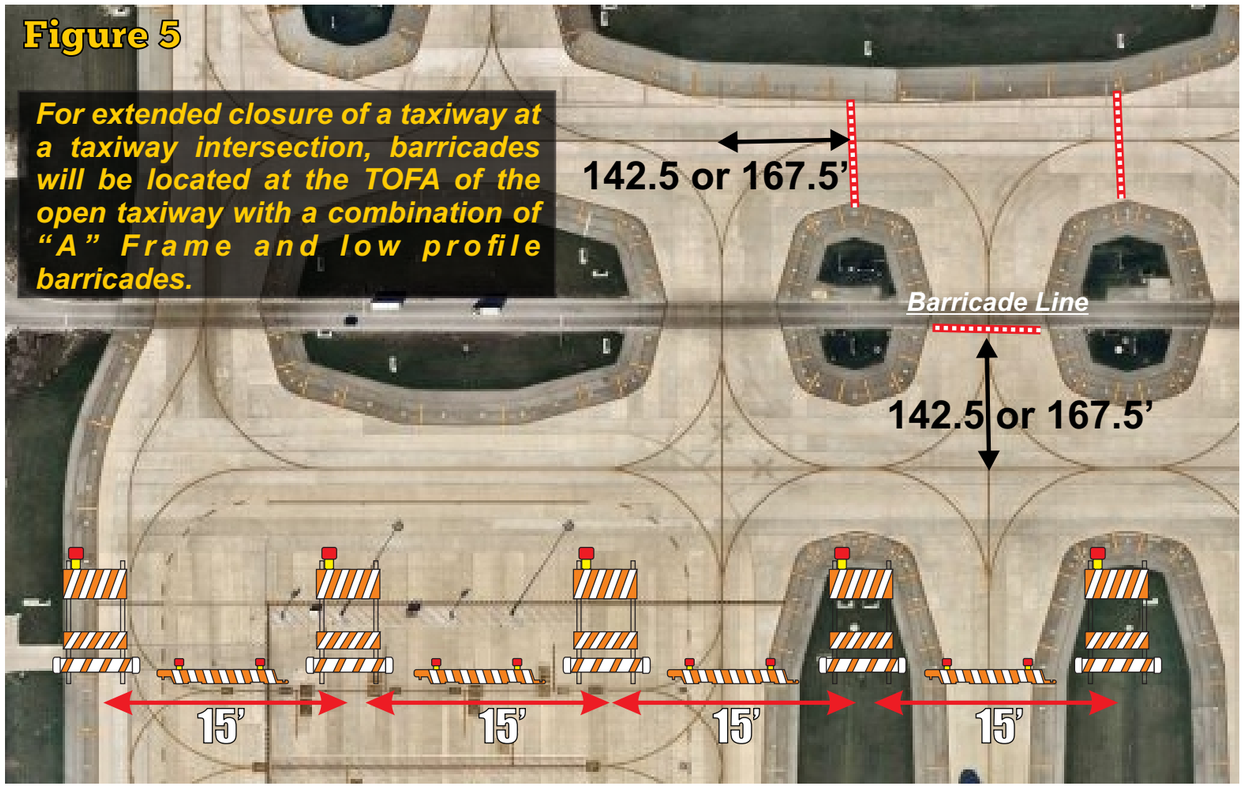
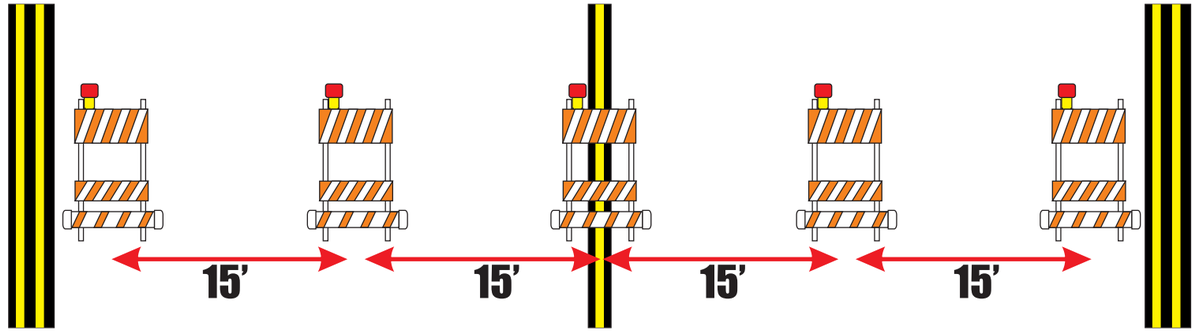


Figure 2

Short Term AOA Closure (Less than 24 hours)

Barricades spaced 15' on center

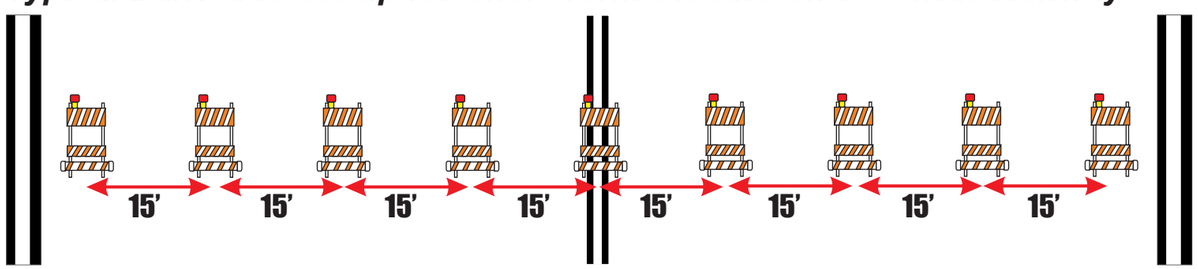
Typical Barricade Set-up for Short Term Closure on 75' wide Taxiway



Short Term AOA Closure (Less than 24 hours)

Barricades spaced 15' on center

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



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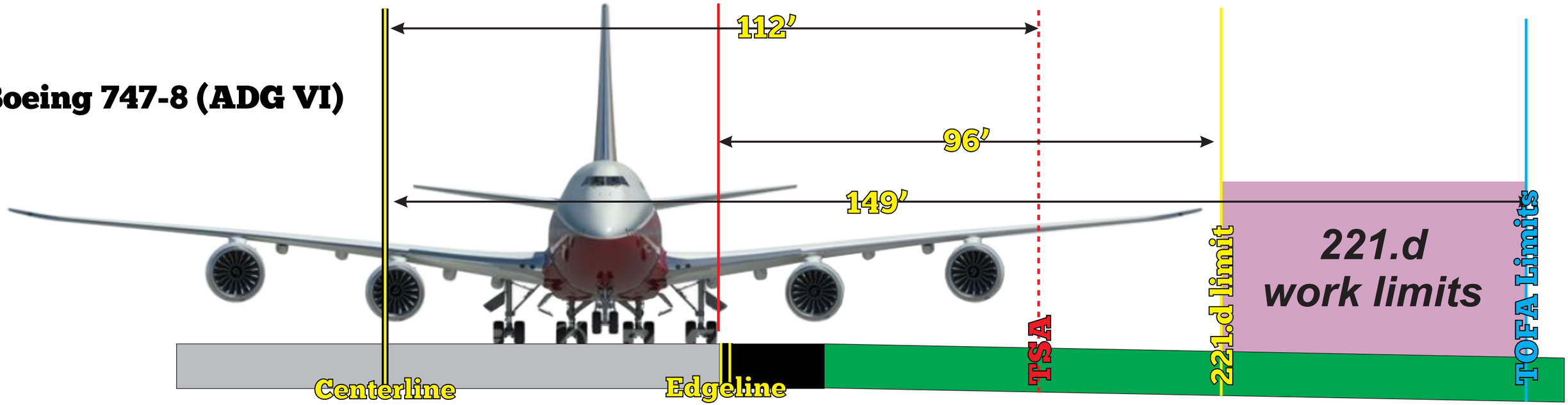
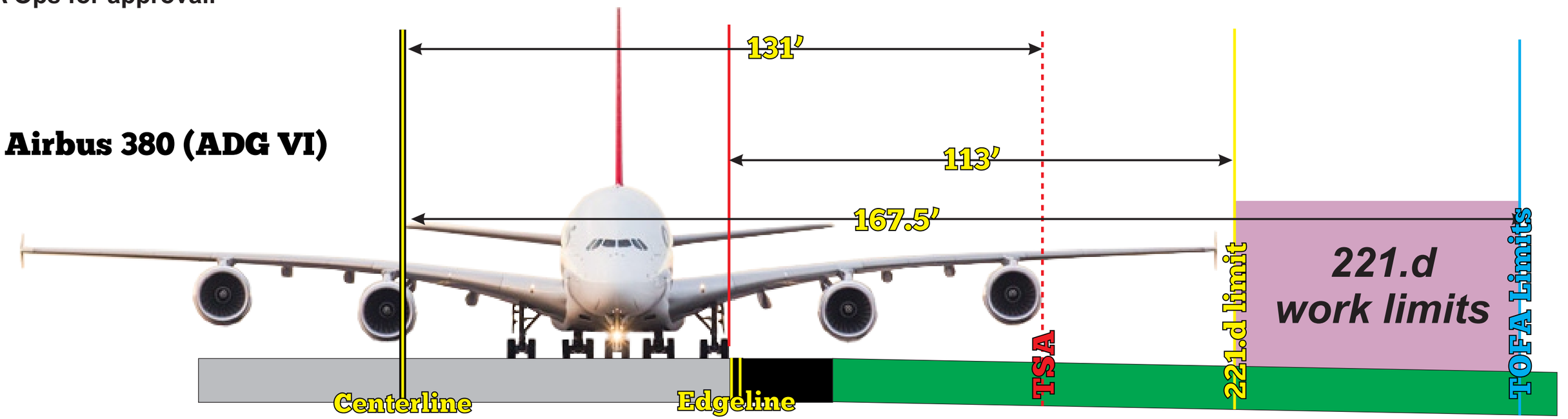
221.d Dimensions Critical Measurements

Boeing 747-8 (ADG VI)



The closest distance construction activities will be permitted to an open taxiway is 96’ for 747-8 operations (91’ 221.d + 5’ safety margin = 96’) and 112’ for Airbus A380 operations (107’ 221.d + 5’ safety margin = 112’). While a taxiway is open, NO construction activities will be permitted closer than 96’. 221.d dimensions can be adjust to the predominant aircraft or ADG. This MUST be closely coordinated with CDA Ops for approval.

Airbus 380 (ADG VI)



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