



REPUBLIC OF KENYA

CIVIL AVIATION ACT

(CAP 394)

In exercise of the powers conferred by section 51, 56 and 57 of the Civil Aviation Act Cap 394 laws of Kenya, the Cabinet Secretary for Roads and Transport makes the following order for the sole purpose of safeguarding of all aerodromes.

RESTRICTION OF BUILDING IN DECLARED AREAS ORDER, 2024

1. This order may be cited as the restriction of building in declared areas Order, 2024
2. The areas specified in the schedule 1 and 2 of this Order shall be free of any of any aerial mast, building or structure unless approval has been provided by the Kenya Civil Aviation Authority. Further clarification of the declared areas may be made at the Office of the Director General, Kenya Civil Aviation Authority Headquarters, Aviation House, Jomo Kenyatta International Airport, Nairobi.

3. Interpretation

"aerodrome" Means a defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for the arrival, departure, and surface movement of aircraft;

"aerodrome reference code" a combination of a number and letter intended to provide a simple method for interrelating the numerous specifications concerning the characteristics of aerodromes so as to provide a series of aerodrome facilities that are suitable for the aeroplanes that are intended to operate at the aerodrome;

"Aeroplane reference field length" means balanced field length for aeroplanes, if applicable, or take-off distance in other cases.

"authority"; Means Kenya Civil Aviation Authority as established under Section 4 of the Civil Aviation Act, Cap 394

"cabinet secretary" The cabinet secretary responsible for aviation matters.

"compliance"; conformity with the provisions of applicable Civil Aviation Regulations;

"obstacle" All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that;

a) are located on an area intended for the surface movement of aircraft; or

- b) extend above a defined surface intended to protect aircraft in flight; or
- c) stand outside those defined surfaces and that have been assessed as being a hazard to air navigation”;

“obstacle Free Zone (OFZ)”The airspace above the inner approach surface, inner transitional surfaces, and balked landing surface and that portion of the strip bounded by these surfaces, which is not penetrated by any fixed obstacle other than a low-mass and frangible equipment required for air navigation purposes;

“Obstacle Limitation Surfaces (OLS)” Generic term meaning various volumes of airspace that should be kept free from obstacles in order to minimize the dangers presented by objects to an aircraft. The Obstacle Limitation Surfaces include conical, inner horizontal, transitional, approach, balked landing, take-off climb and their dimensions depend on the type of runway operations, Obstacle limitation surfaces can extend to distances greater than 15 kilometres from the runway thresholds;

“State Agencies”; Kenya Civil Aviation Authority, Kenya Airports Authority, Ministry of Defence, National Intelligence Service, National Environmental Management Authority, Kenya Wildlife Services, County Government, Ministry of Lands Housing and Urban Development, Ministry of Roads and Transport , Ministry of Interior and National Administration and the National Construction Authority.

“vicinity” An airspace around an aerodrome for control of obstacles that may infringe the obstacle limitation surfaces around the aerodrome, contained within a radius of fifteen kilometres from the aerodrome reference point up to a height of one thousand five hundred feet above ground level.

- i) This Order shall provide guidance to all those involved in undertaking developments in areas that are in the vicinity of aerodromes.

5. The common aim of aerodrome safeguarding is to assess the implications of any development being proposed within the vicinity of an established aerodrome to ensure, as far as practicable, that the aerodrome and its surrounding airspace is not adversely impacted by the development, thus ensuring the continued safety of aircraft operating at the aerodrome or heliport. Aerodrome safeguarding covers several aspects but it’s purpose shall be to protect as applicable:

- a) the airspace around an aerodrome to ensure no buildings or structures may cause danger to aircraft either in the air or on the ground. This is achieved through both the ‘Obstacle Limitation Surfaces’ (OLS) and the ‘Instrument Flight Procedure’ (IFP).
- b) the integrity of radar and other electronic aids to navigation by preventing reflections and diffractions of the radio signals.

- c) aeronautical lighting, such as approach and runway lighting, by ensuring that they are not obscured by any proposed development and that any proposed lighting, either temporary or permanent, could not be confused for aeronautical ground lighting.
- d) the aerodrome from any increased wildlife strike risk and in particular bird strikes, which pose a serious threat to flight safety.
- e) aerodrome operations from interference by any construction processes through the production of dust/smoke, temporary lighting or construction equipment impacting on radar and other navigational aids.
- f) aircraft from the risk of collision with obstacles through appropriate lighting.
- g) aircraft from the risk of building induced turbulence.
- h) aircraft from the risk from glint and glare, e.g. solar panels.

All the above shall be taken into account by the Kenya Civil Aviation Authority when assessing development proposals/requests.

6. Safeguarding Criteria

Aerodrome safeguarding shall be based on the following publications:

- a) The Civil Aviation Act Cap . 394
- b) The Civil Aviation (Aerodromes) Regulations
- c) The Civil Aviation (Certification, Licensing and Registration of Aerodromes) Regulations
- d) The Civil Aviation (Construction of Visual and Instrument Flight Procedures) Regulations

4. Developments that require Height Approvals

The following developments shall require height approval from the Authority before commencement of the construction:

aerial masts: including telecommunication, radio, and television base transmitter structures/stations, powerlines / transmission lines, Solar farms - mounting structures, wind turbines and wind farms, buildings, elevated roads/rails, floodlight masts, chimneys, mobile structures, elevated tanks, and any other structure that may affect aircraft operations ;

5. Height limitations of developments

The Aerodrome Reference Codes are based on aeroplane reference field length and the operational requirements which are subject to elevation, temperature and slope. For ease of obstacle determination criterion, aerodrome can be classified as follows

- a) Code 1: Aeroplane reference field length of less than 800 metres
- b) Code 2: Aeroplane reference field length between 800 and 1200 metres

- c) Code 3: Aeroplane reference field length between 1200 and 1800 metres
- d) Code 4: Aeroplane reference field length of more than 1800 metres

Further, the type of runway is classified as follows:

- a) Non-instrument runways: With no navigation Aids
- b) Non-precision approach runways: With VOR/DME or RNP approaches but no Instrument Landing System (ILS) – Wajir, Malindi,
- c) Precision approach runways: With Very high Omnidirection Radio (VOR)/ Distance Measuring Equipment (DME) or Required Navigation Performance (RNP) approaches and ILS & Glide Path

6. Compliance with approved heights

The considerations/criteria that shall be used for determining heights is attached as Schedule 1 and 2 to this Order. All developers shall comply with the provisions of this Order, failure to which enforcement action shall be leveled against the offenders.

7. Submission of the applications to Authority

All Applicants for height approval shall submit their application to the Director General of the Authority. The following items shall be availed:

- a) Project description
- b) coordinates of the location in WGS 84 format.
- c) the requested height of the building/structure above ground level. Attach copies of the building plans.
- d) Payment of the applicable regulatory fees

8. Applicability

This Order shall apply to all developers undertaking any development within a radius of 15 kilometres from any aerodrome, heliport or airstrip.

SCHEDULE 1: CRITERIA FOR DETERMINING APPLICABLE SAFETY HEIGHT LIMITS IN AERODROMES

#	SAFETY SURFACES	DESCRIPTION	OBSTACLE LIMITATION REQUIREMENTS
			<u>Aerodrome Reference Codes</u> (i) Code 1: Aeroplane reference field length of less than 800 metres (ii) Code 2: Aeroplane reference field length between 800 and 1200 metres (iii) Code 3: Aeroplane reference field length between 1200 and 1800 metres (iv) Code 4: Aeroplane reference field length of more than 1800 metres
1	Runway Strip	The immediate area surrounding the runway	No obstacle is allowed within the runway strip except navigation aids which must meet the frangibility requirements. Code 1 – Lateral distance of 30 metres from the centreline on both sides and 30 metres longitudinally from each runway end. Code 2 – Lateral distance of 40 metres from the centreline on both sides and 60 metres longitudinally from each runway end. Code 3 – Lateral distance of 75 metres from the centreline on both sides and 60 metres longitudinally from each runway end. Code 4 – Lateral distance of 150 metres from the centreline on both sides and 60 metres longitudinally from each runway end.

#	SAFETY SURFACES	DESCRIPTION	OBSTACLE LIMITATION REQUIREMENTS
			The lateral distance from the centreline is reduced to 70 and 140 metres for code 3 and 4 respectively for instrument approach runways.
2	Runway end safety Area	Provided at each end of a runway strip	No obstacle allowed in the Runway End Safety Area (RESA). The width of the safety area is two times the width of the runway and the length is at least 90 metres except where an arresting system is installed.
3	Transitional surfaces	A complex surface along the side of the strip and part of the side of the approach surface, that slopes upwards and outwards to the inner horizontal surface.	Obstacles permitted as per the criteria given in Table 4-1 of Annex 14 volume 1. a) Intersection with runway strip = Nil b) Intersection with Inner horizontal = 45 metres above the aerodrome datum Code 1 & 2: Height allowable for non-instrument and non-precision a) The surface slopes upwards and outwards at 20% i.e. 1 metre vertically per 5metres Horizontally (1V:5H) up to a height of 45 metres (Horizontal distance from edge of runway strip =225 metres) Code 3 & 4 and Code 1 and 2 Precision Runways: Height allowable a) Intersection with runway strip = Nil b) Intersection with Inner horizontal = 45 metres above the aerodrome datum

#	SAFETY SURFACES	DESCRIPTION	OBSTACLE LIMITATION REQUIREMENTS
			c) The surface slopes upwards and outwards at 14.3% i.e. 1 metre vertically per 7 metres Horizontally (1V:7H) up to a height of 45 metres (Horizontal distance from edge of runway strip =315 metres) Note: Any development in this area requires approval from the Authority
4	Approach Surfaces	An inclined plane or combination of planes preceding the threshold.	Height allowable is based on the Aerodrome reference code. It starts at the end of the runway strip and diverges outwards at a specified rate and inclined upwards at a specified slope. <u>Divergence</u> a) Non-instrument Runways: 10% (1m lateral for every 10 Longitudinally) b) Instrument Runways: 15% (1.5m lateral for every 10 Longitudinally) <u>Slopes</u> <u>Non-Instrument Runways</u> a) Code 1: 5% up to 1600 metres (1 metre vertical for every 20 metres horizontal). b) Code 2: 4% up to 2500 metres (1 metre vertical for every 25 metres horizontal). c) Code 3: 3.33% up to 3000 metres (1 metre vertical for every 30 metres horizontal). d) Code 4: 2.5% up to 3000 metres (1 metre vertical for every 40 metres horizontal). <u>Non-Precision Runways</u> a) Code 1&2: 3.33% up to 2500 metres (1 metre vertical for every 30 metres horizontal)

#	SAFETY SURFACES	DESCRIPTION	OBSTACLE LIMITATION REQUIREMENTS
			b) Code 3 & 4: - 2% up to 3000 metres (1 metre vertical for every 50 metres horizontal). - 2.5% up to 6600 metres (1 metre vertical for every 40 metres horizontal) to intersect a horizontal plane 150 metres above the threshold elevation. - Horizontal section between 8400 to 15,000 metres <u>Precision Runways</u> a) Code 1&2: - 2.5% up to 3000 metres for the first section (1 metre vertical for every 40 metres horizontal) - 3.0% up to 12000 metres for the second section (1 metre vertical for every 33.3 metres horizontal) b) Code 3& 4: - 2% up to 3000 metres (1 metre vertical for every 50 metres horizontal). - 2.5% up to 6600 metres (1 metre vertical for every 40 metres horizontal) to intersect a horizontal plane 150 metres above the threshold elevation. - Horizontal section between 8400 to 15,000 metres
5	Inner Horizontal	A horizontal plane starting from the edge of the transitional surface to a specified distance from a	The height allowable is 45 metres above aerodrome datum. The lateral extents (radius) dependent on the aerodrome reference code and type of runway. <u>Non-Instrument Runways: radius from ARP and thresholds</u> a) Code 1: 2000 metres b) Code 2: 2500 metres

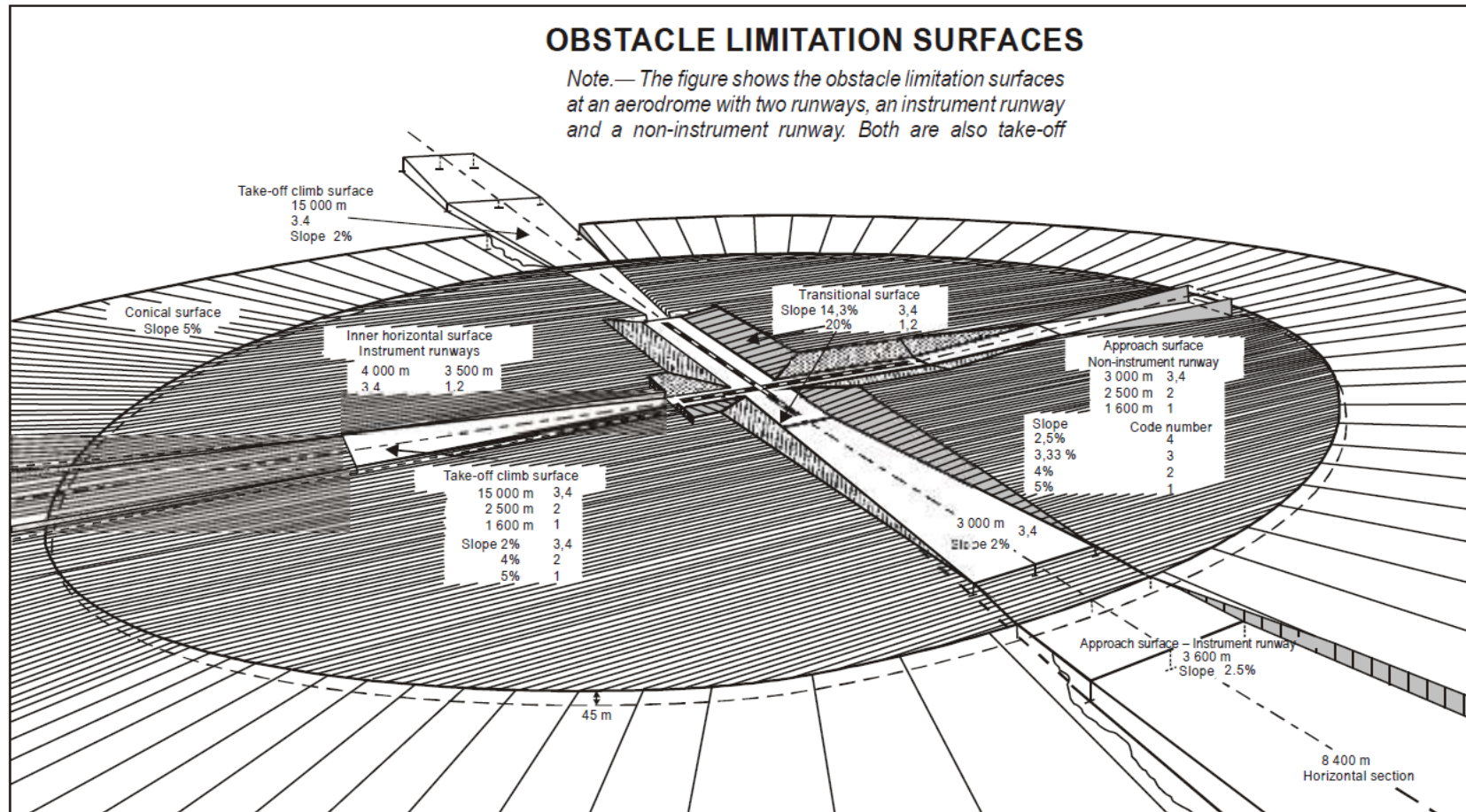
#	SAFETY SURFACES	DESCRIPTION	OBSTACLE LIMITATION REQUIREMENTS
		given reference point (ARP or runway) threshold.	c) Code 3& 4: 4000 metres <u>Non-Precision and Precision Runways: radius from ARP and thresholds</u> a) Code 1 & 2: 3500 metres b) Code 3 & 4: 4000 metres
6	Conical surface	A surface sloping upwards and outwards from the periphery of the inner horizontal surface.	The height allowable is 45 metres above threshold elevation on the lower edge coincident with the periphery of the inner horizontal surface and a specified height on the upper edge located above the inner horizontal surface based on aerodrome reference code and type of runway. The surface slopes upwards and outwards from the outer edge of the Inner horizontal surface with a slope of 5 percent (1metre vertical per 20 metres laterally) <u>Non-Instrument Runways: Height and lateral distance from ARP and thresholds</u> a) Code 1: 80 metres, 2700 metres b) Code 2: 100 metres, 3600 metres c) Code 3: 120 metres, 5500 metres d) Code 4: 145 metres, 6000 metres <u>Non-Precision Runways: Height and lateral distance from ARP and thresholds</u> a) Code 1& 2: 105 metres, 4700 metres b) Code 3: 120 metres, 5500 metres c) Code 4: 145 metres, 6000 metres

#	SAFETY SURFACES	DESCRIPTION	OBSTACLE LIMITATION REQUIREMENTS
			<u>Precision Approach Runways: Height and lateral distance from ARP and thresholds</u> a) Code 1& 2: 105 metres, 4700 metres b) Code 3 &4: 145 metres, 6000 metres
7	Outer Horizontal	A horizontal plane starting from the edge of the conical surface and extends to 15,000 metres from the ARP	Height allowable is 150 metres above ARP
8	Take Off Climb Surface	An inclined surface to allow for take-off and initial climb of an aircraft.	Height allowable is based on the Aerodrome reference code. Starts at the end of the runway strip and diverges outwards at a specified rate up to a specified width and inclined upwards at a specified slope to a specified height. <u>Start of the take-off surface from the runway end or clearway</u> Code 1: 30 metres Code 2: 60 metres Code 3& 4: 60 metres Obstacle prohibited at the start of the take-off climb surface or within the clearway where provided.

#	SAFETY SURFACES	DESCRIPTION	OBSTACLE LIMITATION REQUIREMENTS
			<u>Divergence</u> a) Code 1 & 2: 10% (1m lateral for every 10 m Longitudinally) b) Code 3 & 4: 12.5% (1.5m lateral for every 10 Longitudinally) <u>Initial and Final width of take-off surface</u> Code 1: 60 metres and 380 metres (30 m and 190m on each side of extended centerline laterally respectively). Code 2: 80 metres and 580 metres (40 m and 290 metres on each side of extended centerline laterally respectively). Code 3 & 4: 180 metres and 1200 metres or 1800 metres (90 m and 600 or 900 on each side of extended centerline laterally for straight or curved take-off climbs respectively). <u>Length of the takeoff climb surface, slope and final height</u> Code 1: 1600 metres, 5% (1 m Vertical per 20 metres Horizontal), 80 metres above threshold elevation. Code 2: 2500 metres, 4% (1 m Vertical per 25 metres Horizontal), 100 metres above threshold elevation. Code 3& 4: 15000 metres 2% (1 m Vertical per 50 metres Horizontal), 300 metres above threshold elevation. However, if no object reaches the 2 per cent (1:50) take-off climb surface, new objects should be limited to preserve the existing obstacle free surface or a surface down to a slope of 1.6 per cent (1 m Vertical per 62.5 m Horizontal).

#	SAFETY SURFACES	DESCRIPTION	OBSTACLE LIMITATION REQUIREMENTS
9	Enroute and obstacles outside OLS	-	Any obstacle extending to 150 metres or more above ground level must be approved by the Authority following an aeronautical study conducted by the proponents.

SCHEDULE 2: OBSTACLE LIMITATION SURFACES



Cabinet Secretary for Roads and Transport