

	<p style="text-align: center;">TANZANIA CIVIL AVIATION AUTHORITY SAFETY REGULATION</p> <p style="text-align: center;">AERODROMES AND GROUND AIDS</p>	<p>Revision: 1</p>
<p>Document No. TCAA/QSP/SR/AC/AGA-014</p>	<p style="text-align: center;">CONSTRUCTION AND LICENSING OF UNPAVED AERODROMES HANDLING AIRCRAFT NOT GREATER THAN MOTW 5700 KILOGRAMMES</p>	<p>Page 1 of 9</p>

1. PURPOSE

The purpose of this Advisory Circular (AC) is to provide guidance on procedures for construction, licensing and operations of aerodromes handling aircraft not exceeding maximum take-off weight (MTOW) of 5700 kilograms.

2. REFERENCE

- 2.1 Civil Aviation (Aerodromes) Regulations, 2017,
- 2.2 Manual of Aerodromes Standards , 4th edition, December 2016;
- 2.3 ICAO Annex 14 – Volume I - (Aerodromes), 7th edition, July 2016;
- 2.4 Manual of Aerodrome Licensing Procedures.

3. BACKGROUND

3.1 In Tanzania more than 80% of aerodromes are small in terms of physical characteristics, have low level of operations and handle aircraft not exceeding MTOW of 5700 kg. These aerodromes are mostly unpaved (grass, murram/ gravel surfaces), and are located in remote areas such as in game controlled areas, small townships, rural hospitals, mining sites, forest reserves or tourist destinations. These aerodromes contribute to the growth of the aviation industry and also enhance economic and social development of the State.

3.2 The Authority recognizes the importance of upholding safety of operations at such aerodromes and therefore the need to provide guidelines relating to their construction and operations to enable them meet the licensing requirements as stipulated in the Civil Aviation (Aerodromes) Regulations, 2017. This AC therefore provides the prerequisite information to satisfy the regulatory requirements for granting of aerodrome construction permit and aerodrome license to such aerodromes. This AC should be read in conjunction with the construction, licensing and operations provisions set out in the regulations.

4. PROCEDURE FOR APPLICATION TO CONSTRUCT AN AERODROME USED BY AIRCRAFT NOT EXCEEDING MTOW OF 5700 KG

A private or public entity may wish to construct an unpaved aerodrome for use by an aircraft with MTOW not exceeding 5700kg. It is imperative that the services, facilities and

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installations at the aerodrome provide for safe operation of such aircraft.

The Authority shall consider granting of a permit to construct the aerodrome where the applicant has submitted a duly completed Application Form as prescribed by the Authority. The application form shall be accompanied by:

- a) **Letter of Approval from the Local Authority** Regional, District, Village, Ministry of Wildlife and other relevant authorities;
- b) Proof of land ownership**
- c) **Detailed design** of the proposed construction including related architectural requirements;
- d) **Aerodrome data** in accordance with the characteristics of the aircraft for which the aerodrome is intended and the expected aerodrome category;
- e) **Topographical map** of the proposed aerodrome site in scale of 1:50,000 indicating other aerodromes in the proximity.
- f) **Approval from the authority responsible for the national environmental management.**
- g) **A fee** as prescribed by the CAA to cover costs for inspection and assessment.

The Authority shall carry out an inspection and/or assessment of the proposed aerodrome site in order to determine the suitability of the area for safe operation of aircraft. This may also involve an inspection by flight operations department of the Authority. The Authority

may issue the construction permit in accordance with the provision of the regulations and upon being satisfied that the proposed aerodrome site meets regulatory requirements. In a situation where an inspection has been conducted by flight operations, the flight operations recommendations will be taken into account before issuance of a permit. The Authority shall carry out continuous surveillance during construction works to ensure compliance with applicable standards.

Following completion of the aerodrome construction, a separate application for an

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aerodrome licence will be required to be submitted once construction and installations of the necessary aerodrome facilities have been accomplished. The Authority will, in this regard, designate an Aerodrome Inspector to conduct inspections for the issuance of the licence.

5. PROCEDURE FOR APPLICATION TO LICENCE AN AERODROME USED BY AIRCRAFT NOT EXCEEDING MTOW OF 5700KG

A private or public entity may wish to apply for an initial or renewal of a licence of its aerodrome for use by aircraft with MTOW not exceeding 5700kg. The Authority, will process the application for the grant of the aerodrome licence where the applicant has submitted to the Authority a duly completed form as prescribed by the Authority. The application form shall be accompanied by:

- a) **Letter of Approval from the Local Authority** Regional, District, Village, Ministry of Wildlife, Wildlife Management Area, and other relevant authorities unless this had already been submitted during the request for construction permit. For existing aerodromes this requirement is not necessary unless otherwise required by the Authority.
- b) **Land ownership documents**, where applicable. This is not applicable during renewal of licence particularly where submission has previously been made during construction phase or during the issuance of the initial licence.
- c) **Topographical map** of the proposed aerodrome site in scale of 1:50,000. This may not be required during renewal of licence particularly where submission has previously been made during construction phase or during the issuance of the initial licence.
- d) **Approval from the authority responsible for the national environmental management**. This may not be applicable during renewal of the licence and where submission has previously been made during construction phase or during the issuance of the initial licence.
- e) **A fee** as prescribed by the Authority for inspection and licensing of aerodromes.

On submission of the above, the Authority will consider issuance of a licence and where conformance to the safety standards is found to be unsatisfactory; the Authority will require

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the operator to submit a corrective action plan (CAP) in accordance with procedures prescribed by the Authority.

6. SERVICEABILITY OF THE MOVEMENT AREA

The aerodrome operator shall maintain serviceability of the aerodrome by ensuring that:

- a) The landing areas, runways, taxiways and the apron are kept in serviceable condition;
- b) For murrum/gravel surfaces, there should be no loose stones or corrugations and the surface of the runway should be cambered to allow water to drain quickly;
- c) No gullies formed by rain should be allowed to develop;
- d) The runway edge markers and runway designators are not be damaged or faded;
- e) The grass in the strip area is trimmed;
- f) Torn wind direction indicators are promptly replaced;
- g) Markers are regularly painted to avoid fading;
- h) Obstacles in the vicinity of the aerodrome are continuously monitored and reported;
- i) Access roads are in useable condition;
- j) Where constructed, the fence is maintained;
- k) Appropriate warning signs are in place and maintained; and
- l) Incursion by people and animals is controlled.

7. PROVISION OF VISUAL AIDS

In most of the aerodromes used solely by aircraft of MTOW not exceeding 5700 kg, air traffic control services will normally not be available. In this case, provision of visual aids is necessary to enable visual manoeuvres at the aerodromes. For unpaved aerodromes, the following visual aids shall be installed or constructed:

a) Aerodrome Markers:

i) Aerodrome edge markers

The edge markers shall be constructed along longitudinal edges of the runway. On unpaved surfaces (grass, earth or gravel) the markers shall be constructed using precast or cast-in-place concrete slabs. The slabs shall be installed flush with the ground surface

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and placed at intervals of 90 metres. The dimensions of the markers are shown in Figure 1 below:

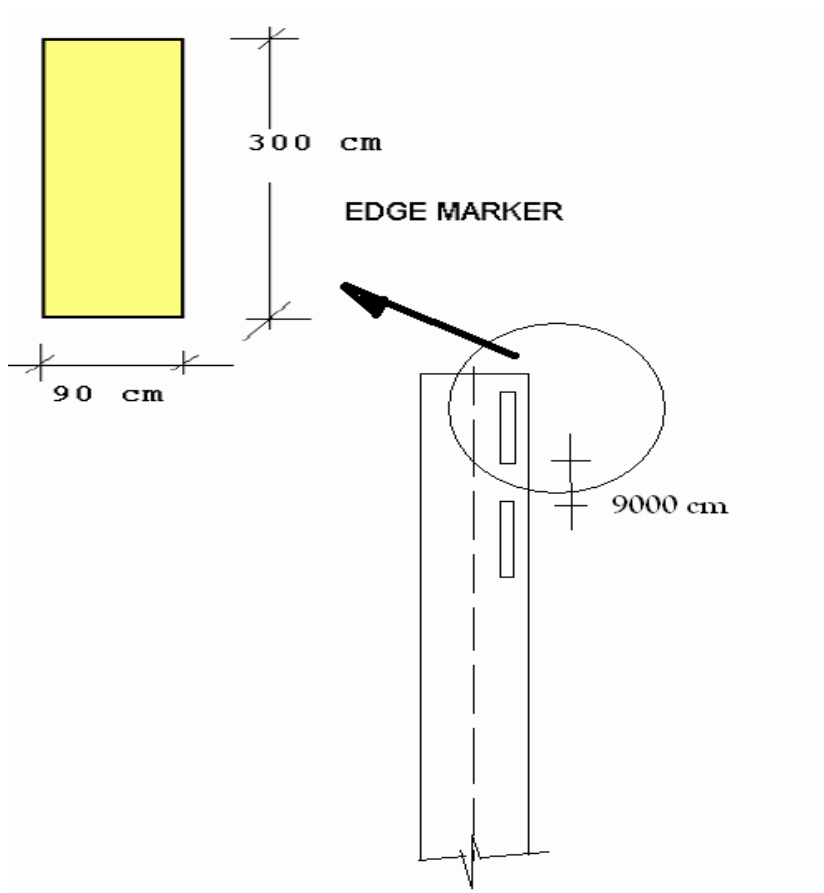


Figure 1: Location and dimension of edge marker

ii) Aerodrome End Markers

The end markers shall be constructed at the start/end edges of the runway. On unpaved surfaces (grass, earth or gravel) the markers shall be constructed using precast or cast-in-place concrete slabs. The slabs shall be installed flush with the ground surface and placed at intervals of 90 metres. Dimension of the markers are shown in Figure 2 below:

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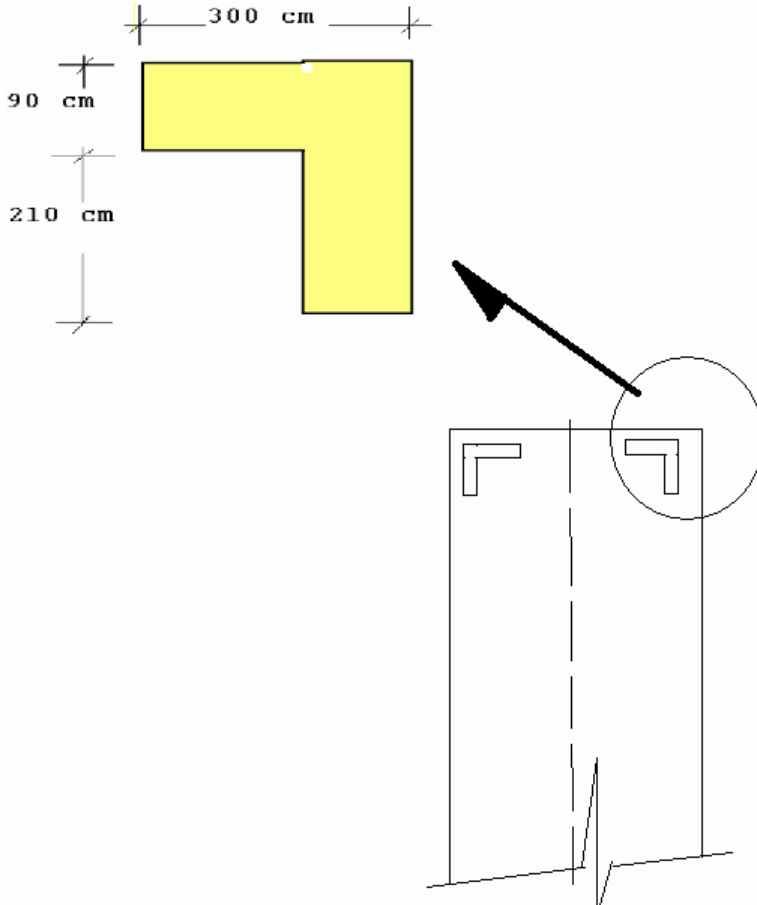


Figure 2: Location and dimension of end marker

iii) Aerodrome Designation Markers

Aerodrome designation markers which indicate runway orientation shall be constructed in accordance with letters and number with the dimension in metres as recommended in Figure 3 below.

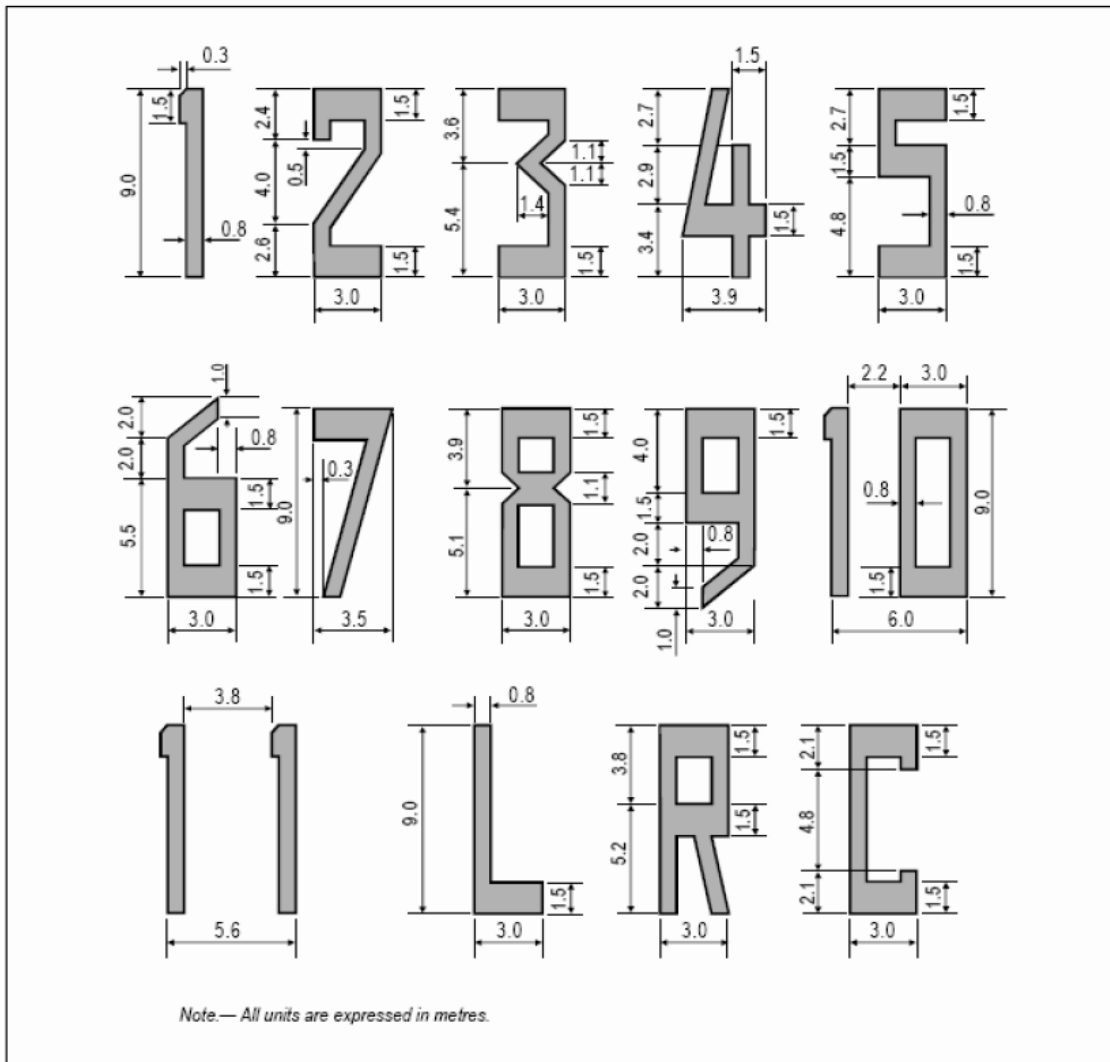


Figure 3: Letter and number dimensions

iv) Aerodrome Name Marker or Marking

Aerodrome name markers or markings shall be constructed in accordance with letters

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and number as recommended in Figure 3 above. The marking of the name may be done at the top of the terminal building if this exists or on the ground whilst markers are constructed on the ground, preferably at or near the apron.

b) Conspicuity of the Aerodrome Markers:

Markers shall be painted white to ensure conspicuity. Use of retroreflective paints is highly recommended to enhance conspicuity.

c) Wind Direction Indicator

The wind direction indicator is a mandatory requirement for aerodrome operations. A wind direction indicator shall be provided and installed at an appropriate location of the aerodrome to guide pilots during landing and take-off. The wind direction indicator shall be of black and white stripes and where the location of the aerodrome is hampered by poor visibility, orange is recommended. The shape of the wind direction indicator should be in the form of a truncated cone made of fabric and should have a length of not less than 3.6 m and a diameter, at the larger end, of not less than 0.9 m.

8. LEVEL OF RESCUE AND FIRE PROTECTION FOR AERODROMES HANDLING AIRCRAFT NOT EXCEEDING MTOW OF 5700 KG

The aerodrome operator should make necessary arrangements to ensure that the level of protection provided against possible fires at the aerodrome is commensurate with the characteristics of the critical aircraft for which the aerodrome is intended. The aerodrome operator should ensure that the level of protection against possible fires is maintained at all times during operation of the aerodrome.

9. NOTIFICATION TO AERONAUTICAL INFORMATION SERVICE (AIS)

According to the Civil Aviation (Aerodromes) Regulations 2017, an aerodrome operator has an obligation to report all information relating to the aerodrome and its facilities, and which is significant for the safe conduct of flights, to the users of the aerodrome. The following shall be reported to the AIS to safeguard operations at the aerodrome:

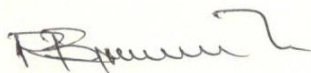
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- a) Changes to the physical facilities of the aerodrome;
- b) construction or maintenance work on or immediately adjacent to the manoeuvring area;
- c) unserviceable portions of any part of the manoeuvring area;
- d) the runway surface conditions when affected by water (damp, wet, water patches or flooded) as the case may be;
- e) parked aircraft or other objects on, or immediately adjacent to the taxiways;
- f) the presence of other temporary hazards;
- g) failure or irregular operation of any part of the aerodrome lighting system, or of the aerodrome main and secondary power supplies;
- h) Any other information of operational significance.

10. PERIODIC AND ROUTINE MAINTENANCE

Subsequent to grant of a licence, an aerodrome operator has an obligation to ensure operational safety of the aerodrome. To achieve this, continuous maintenance of the aerodrome facilities is required particularly the movement areas and the visual aids installed or constructed at the aerodrome. The operator shall develop and implement maintenance procedures commensurate with the degree of operation and environmental condition of the locality. For instance, higher frequency of maintenance will be required at aerodromes

where the number of aircraft movement is high or where the aerodrome is located at unfavourable soils conditions.



Tanzania Civil Aviation Authority