

SOUTH AFRICAN



**CIVIL AVIATION
AUTHORITY**

Technical Guidance Material for Voluntary Registration of Aerodromes Advisory Circular

Subject: TECHNICAL GUIDANCE MATERIAL FOR VOLUNTARY REGISTRATION OF AERODROMES

Date: 04 OCTOBER 2017

APPLICABILITY

This technical guidance material is applicable to aerodromes that wish to voluntarily register with the SACAA.

PURPOSE

This advisory circular aims to provide technical guidance to aerodrome operator that wish to register their aerodromes and thereby enhance a basic level of safety standards under the duty of care at such aerodromes.

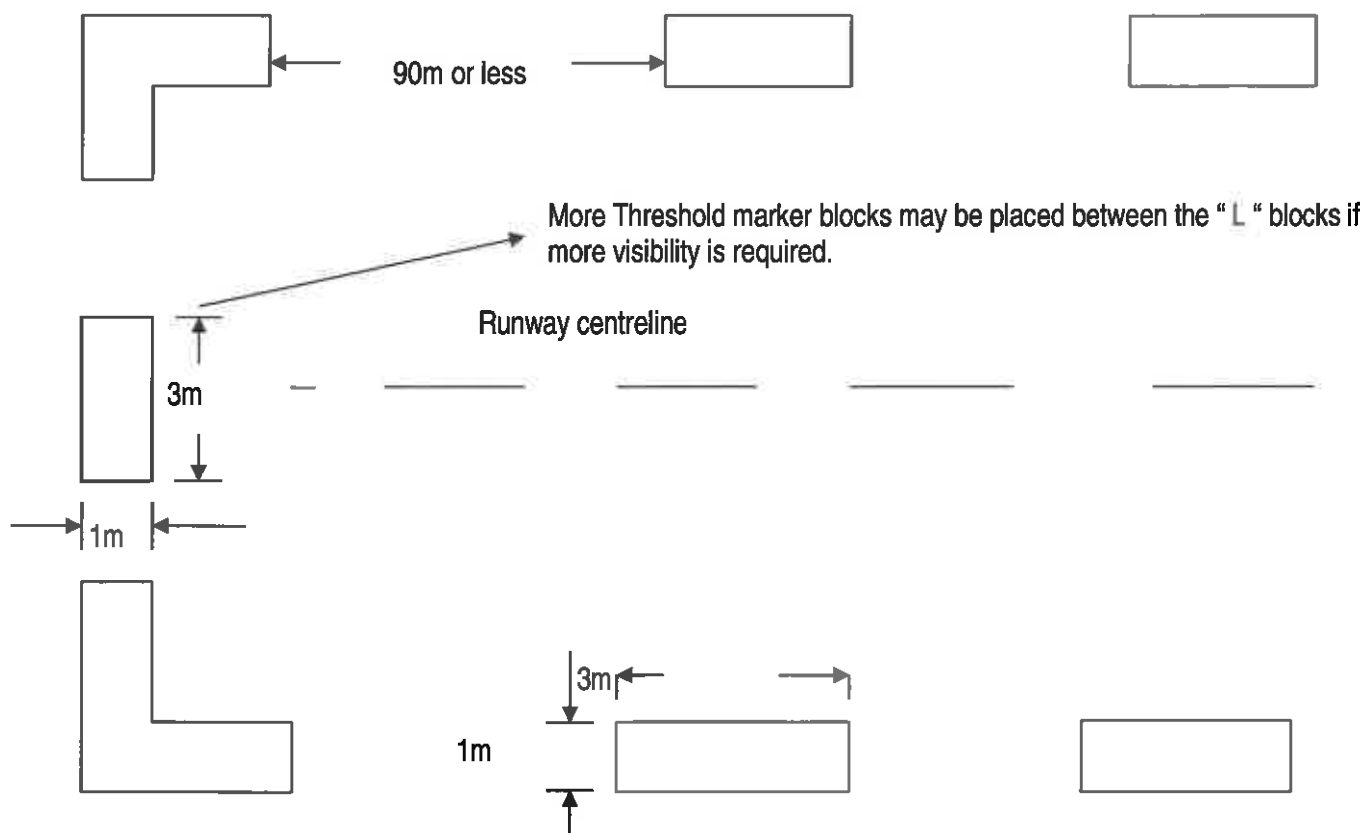
RECOMMENDATIONS

1. Runways, taxiways and apron(s)

- 1.1 The length of the runway provided, should be adequate for the aircraft type intended to use the runway.
- 1.2 The runway needs to be capable of supporting the heaviest aircraft likely to use it, manufacturers' recommendations are to be applied.
- 1.3 The runway surface condition is very important, particularly for light aeroplanes, and should be kept as serviceable and well drained as possible. Hard surfaces should be regularly checked for debris while natural surfaces such as grass should be mown, rolled and kept debris free.
- 1.4 The runway should, wherever possible, be designed such that trees, power lines, high ground or other obstacles do not obstruct its approach and take-off paths.
- 1.5 The width of the runway should be adequate for the aircraft type according to manufacturer's recommendations but not less than twice the width of the main landing gear of the largest or widest aircraft using the runway.

- 1.6 The shoulders and surface of the runway should be maintained in a serviceable condition and be able to carry the weight of the largest aircraft planned for the aerodrome. No furrows, loose stones or obstacles, etc. should be present.
- 1.7 A strip width of 15 meters should be maintained on either side of the runway edge.
- 1.8 A strip length of 30 meters should be maintained before the threshold and beyond the runway end.
- 1.9 A wind direction indicator should be provided in a location visible from all thresholds and be positioned so as to indicate a representative direction and wind strength.
- 1.10 Locations close to trees or buildings or where terrain may cause an unrepresentative wind indication should be avoided.
- 1.11 Ensure the position of the wind direction indicator will not interfere with aircraft taking-off or landing.
- 1.12 The location of roads, buildings and other structures outside the aerodrome perimeter should be considered and the runways aligned to allow safe approaches and departures to be flown without hazarding people or vehicles using such roads, buildings and other structures.
- 1.13 Runway landing area markings may be provided on a registered aerodrome.
- 1.14 The usable parts of hard runways (if all of the hard area cannot be used) and of grass runways may be edged with white rectangular paint markings or marker boards, flush with the runway surface, each 3 metres long and 1 metre wide, at intervals of not more than 90 metres.

1.15 The dimensions and type shall be as described below:



Notes: Markers should not protrude more than 25 mm above runway surface and be of such strength that no damage will occur to any aircraft rolling over it.

1.16 A runway designation marking should be provided on a paved runway.

1.17 A runway designation marking should be provided on a grass/gravel runway, and it should be placed within the strip length area (paragraph 1.8 above) of the runway. The dimensions of the runway designation markings should be as described in figure 1.1 below.

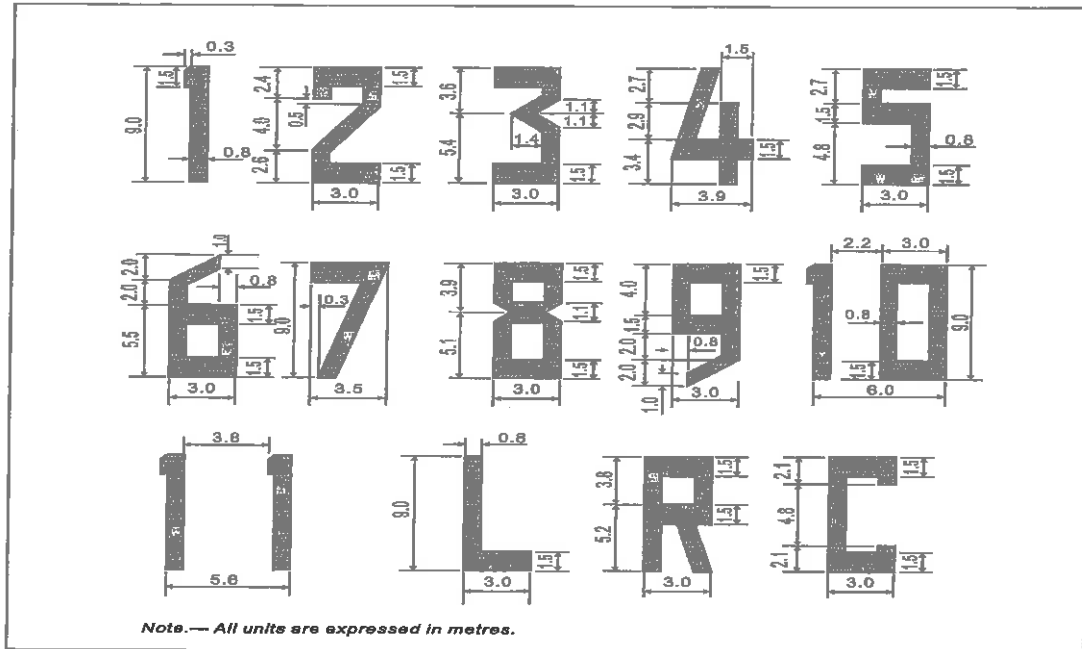


Figure 1.1: dimensions of numbers and letters.

1.18 A runway centerline should be provided on a paved runway.

2. Electrical and lighting

2.1 The majority of registered aerodromes will operate without lighting but there is no limitation on its employment.

2.2 The aerodrome runway lighting and approach slope guidance may be permanent or portable but should have the light characteristics as detailed below:

2.2.1 Runway edge lighting should be placed along, or within 3 meters of the outside edge of the runway with the lights spaced at intervals of $90 \text{ m} \pm 3 \text{ meters}$

2.2.2 Runway end and threshold lighting should consist of at least six lights evenly spaced at intervals of not more than 3 meters across the threshold and runway end respectively.

2.2.3 All elevated light fittings should be frangible, the strength of which should be no more than what can be collapsed by hand. A length of 20 mm PVC conduit is considered a suitable mounting;

2.2.4 Where lights are mounted in concrete, such concrete slabs should not protrude above the surrounding area;

2.2.5 In the case of displaced thresholds runway end/threshold lights may be installed as wing bar lights;

2.2.6 Taxiways should be identified at least on one edge or on the centerline, by the use lighting or reflective markers, as should the apron edges, if floodlighting does not adequately illuminate the apron. Reflective edge markers or centerline studs either together or separately may be used instead of taxiway edge lights;

2.2.7 Edge markers should not exceed 36 cm in height, centreline studs should not exceed 2 cm in height. Reflective edge markers should be yellow unless they are used to supplement normal taxiway edge lighting or aprons, in which case they should be blue. Centerline studs should be green.

3. Obstacles

3.1 Terrain and obstacles will affect runway design: however, the following should be borne in mind:

3.1.1 Anything that, because of its height or position, could be a hazard to an aeroplane landing or taking off, and which cannot be removed, should be conspicuous and marked accordingly.

3.2 No obstacle (trees, power lines or high grounds) should be allowed to penetrate a 1:25 approach slope from the edge of the strip length and a 1:7 transverse slope measured from the outer edge of the strip width.

3.3 Exceptions allowed are as follows:

3.3.1 For weight shift micro lights a runway end slope of 1:15 may be allowed; for VTOL aircraft an approach and departure slope will be determined by the SACAA based on aircraft performance characteristics.

3.4 No object should be left in a position where it can pose a danger to aircraft landing, taking off or taxiing unless special circumstances warrants it after approval by the Director: environment affairs and tourism (e.g. rare trees, etc.) and additional measures are employed to clearly identify such obstacles. Obstacle penetration should be limited to the limitations as reflected in paragraph 1.7.

4. Fuelling

4.1 It is generally accepted that most aerodromes in this category will not be offering fuel. In cases where fuel is being made available the following requirements should be met:

4.1.1 Fuel should be stored and handled in accordance with SABS Codes 089 and 0131.

4.1.2 Where fuel is stored in drums, all drums should be stored lying flat on their sides.

4.1.3 Measures shall be implemented to ensure that fuel contamination is not transferred to any aircraft.

4.1.4 Testing of fuel should be as per the fuel suppliers' procedures.

4.1.5 The standards and procedures as required by the OHSACT should apply to the fuelling area and storage facilities of fuels and lubricants.

5. Fencing and security

5.1 The purpose of fencing is to keep stray animals and humans out of the aerodrome area.

5.2 A suitable barrier should be provided or, in the absence thereof, a clearance procedure practiced to achieve the desired effect.

6. Emergency situations

6.1 The Aerodrome owner/operator should provide an emergency plan at a readily accessible and identified location in the vicinity of the aerodrome.

6.2 Such a plan shall at least contain the following details to cater for the most common emergencies:

- a) Who to contact;
- b) What to do;
- c) What services will respond; and
- d) Within what time the response will be effective.

7. Further guidelines for safe housekeeping regarding common practice duties by the holder of a registration certificate

7.1 Responsible Person

7.1.1 The Responsible Person is the person held accountable for ensuring safety oversight and for maintaining the aerodrome(s) in a safe and serviceable condition and is officially identified to the Director of Civil Aviation upon application for registration;

7.2 The function of the Responsible Person is to notify the SACAA immediately if:

7.2.1 All or part of the runway or runway strip becomes unusable due to the surface becoming too soft to permit the landing or taking off of aircraft;

7.2.2 The surface of the runway is so slippery that it will affect the landing or taking off of aircraft;

7.2.3 The runway is unusable due to cracking or loose material on the surface;

7.2.4 An increase in the number of birds or wildlife present on or near the aerodrome poses a danger to the safety of aircraft;

7.2.5 Damage to the surface in the movement area affects the total runway length available;

7.2.6 Maintenance or repair work is to be carried out on the runway, together with dates and times of the maintenance or repair periods;

7.2.7 There is a failure of the aerodrome lighting system, including obstacle lighting;

7.2.8 An obstacle is discovered within the obstacle limitation surfaces of the applicable aerodrome;

7.2.9 Anything else occurs that affects the safety of aircraft using the aerodrome.

7.2.10 To inform the CAA of any change in status of the Responsible Person or his/her designation.

8. Access to Registered aerodromes

- 8.1 The Responsible Person shall exercise control over entry into a registered aerodrome by ensuring that unauthorised people, vehicles or animals are kept away from the movement area.
- 8.2 The control referred to in paragraph 8.1 shall be exercised according to procedures and criteria approved by such owner or designated person.

9. Safety inspections

- 9.1 The SACAA may conduct safety inspections on request by the owner to ensure that the aerodrome is in a satisfactory condition as required according to the following guidelines, :
 - 9.1.1 The runway inspection will be conducted to ensure that no holes or obstacles are on the landing surface and that the surface is in a condition suitable for the intended aircraft operation.
 - 9.1.2 To ensure that the runway is clear of animals and that a fence, suitable barrier or clearance procedure is present and effective.
 - 9.1.3 To ensure that no obstacles in the strip area or in the end zone.
 - 9.1.4 To ensure that obstacle protection surfaces are clear of new obstacles.
 - 9.1.5 To ensure that where runway lights are used, no two consecutive lights are out of service.
 - 9.1.6 To ensure that the wind direction indicator is visible and in good condition and free to rotate in wind.
 - 9.1.7 To ensure that taxiways are clear of obstacles and holes.
 - 9.1.8 To ensure that designated parking areas are free of debris, parking chocks or any other dangerous objects.

10. Category Z Aerodrome Register


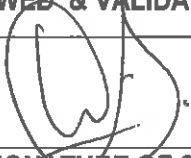

- 10.1 The SACAA shall maintain an online register of all registered aerodromes and access to the aeronautical information regarding these aerodromes shall be via the SACAA website.
- 10.2 The register shall contain the following particulars:
 - 10.2.1 The full name and, if any, the trade name of the holder of the registration;
 - 10.2.2 The postal address of the holder of the registration;
 - 10.2.3 The name and the location of the aerodrome for which the registration was issued;
 - 10.2.4 The reference number of the registration issued to the holder;
 - 10.2.5 The date on which the registration was issued;
 - 10.2.6 Runway(s) orientation, surface, length and width;

10.2.7 Details of services available during hours of operation.

10.2.8 Any specific information the owner wishes to publish i.e. public or private landing allowed, specific restrictions the owner wishes to impose, known obstacles etc.

11. Cost

11.1 Registration of voluntary registered aerodromes is free, but if an on site visit is required by the owner / operator, please feel free to request a quote from Hlatshwayobs@caa.co.za

DEVELOPED BY: BASIL HLATSHWAYO		
	BASIL HLATSHWAYO	04 OCTOBER 2017
SIGNATURE OF MANAGER: AERODROME SAFETY & CAT Z	NAME IN BLOCK LETTERS	DATE
REVIEWED & VALIDATED BY:		
	NELSON NKABITI	04 OCTOBER 2017
SIGNATURE OF SENIOR MANAGER: AERODROMES & FACILITIES	NAME IN BLOCK LETTERS	DATE
APPROVED BY:		
	GAWIE BESTBIER	04 OCTOBER 2017
SIGNATURE OF EXECUTIVE: AVIATION INFRASTRUCTURE	NAME IN BLOCK LETTERS	DATE

END

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