GUIDANCE NOTE 01
Pitches & Playing Fields
INTRODUCTION

Cricket playing fields and pitches are diverse across Australia and are fundamental to participating in the game of cricket. It is critical they are provided to the best quality and standard as possible and maximise the use, enjoyment and experience of players at all levels.

This Guidance Note provides information on recommended cricket pitch and playing field dimensions, boundary lengths and sizes, ground and pitch orientation and preferred playing surfaces for cricket pitches, infield and outfield.

Changing formats of the game, in particular the rise in popularity of T20 cricket has increased the demand for modified training and match day facilities to suit a diversity of uses. These changes, albeit positive for the growth of the sport, have increased the complexity of cricket field planning and development for peak sporting bodies, local government and commercial facility owners alike.

Example of multiple north-south orientated playing field
Image courtesy of insideEDGE Sport and Leisure Planning
PLAYING FIELD AND PITCH ORIENTATION

The orientation of cricket playing fields is an important planning consideration.

The time of day (early morning or late afternoon) and the time of year (winter or summer) has a bearing on optimum orientation. The aim however is to share between opposing participants the advantages and/or disadvantages of the sun’s direction and natural factors such as breezes.

Limits of orientation where a uniform direction for all facilities can be arranged is depicted in the diagram below with a cricket field being between 45 degrees west of north and 35 degrees east of north.¹

NOTE: It is important to recognise that local conditions may override these recommendations and each site and associated conditions should be treated individually.

It is recommended that cricket grounds and pitches are orientated in a north-south direction to minimise the effect of a setting sun on players, with a suggested optimum orientation of 10-15 degrees east of north.

PLAYING FIELD DIMENSIONS

Playing field dimensions for cricket vary dependent upon their location and primary use.

When planning and measuring playing field dimensions, distances should be taken from the middle point of the centre pitch (for single pitch grounds) or from the centre of both the east and west pitches where a turf table is present (refer diagrams over page).

Cricket Australia recommends that all new or redeveloped playing fields be developed to accommodate the maximum recommended sizes for senior play, creating opportunities to reduce boundaries (via rope or line marking) for all relevant forms and formats of play.

The following diagram and supporting table outline recommended playing field dimensions for varying levels of cricket competition and associated age groups.

Existing playing fields currently being used for cricket are not all expected to meet these recommended dimensions. However, all new fields being planned, realigned, developed or upgraded should use the following dimensions as a way to guide the desired levels of play for each playing field.

If existing playing fields do not meet minimum preferred playing field dimensions, Cricket Australia advises that relevant Clubs, Associations, Councils and land owners work together to seek a solution to ensure that play can be facilitated while maintaining the safety of players, spectators and other site users. Protection of property including residences and vehicles should also be a consideration in decision making.

Where multiple playing fields are provided within the one playing area, a minimum 2m buffer between boundaries is recommended to reduce potential conflicts between grounds and games being conducted concurrently.

Plan for the maximum boundary size and rope off/line mark boundaries within the playing area to achieve the greatest range of cricket participation options.

The following diagrams represent how to measure playing field dimensions for both single pitches and turf tables.

Measuring single pitch playing field dimensions
Measure boundary distance from the centre of the pitch.

Measuring multiple pitch or turf table playing field dimensions
Measure boundary distance from the centre of the pitch being used. This will require the overall playing field area to be slightly larger in order to meet minimum or recommended sizes for each pitch.
These dimensions correspond to the preferred playing field dimensions outlined in the following table:

<table>
<thead>
<tr>
<th>LEVEL OF COMPETITION</th>
<th>PREFERRED PLAYING FIELD DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN2CRICKET (AGES 5 TO 8)</td>
<td>MINIMUM</td>
</tr>
<tr>
<td>UNDER 10</td>
<td>RECOMMENDED</td>
</tr>
<tr>
<td>UNDER 12</td>
<td>MINIMUM</td>
</tr>
<tr>
<td>UNDER 14</td>
<td>RECOMMENDED</td>
</tr>
<tr>
<td>UNDER 16</td>
<td>MINIMUM</td>
</tr>
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<td>RECOMMENDED</td>
</tr>
<tr>
<td>OPEN AGE (PREMIER/REGIONAL)</td>
<td>MINIMUM</td>
</tr>
<tr>
<td>DOMESTIC MEN’S AND UNDERAGE NATIONAL MALE EVENTS</td>
<td>RECOMMENDED</td>
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<tr>
<td>DOMESTIC WOMEN’S AND UNDERAGE NATIONAL GIRLS EVENTS</td>
<td>MINIMUM</td>
</tr>
</tbody>
</table>

When designing and developing ovals, grounds and park precincts, buffer distances between cricket ground boundaries should be considered in relation to other park infrastructure including car parks, roadways, neighbouring properties, trails and playgrounds. Buffer distances of between 20m to 40m from boundaries are preferable to reduce risk and increase park user and property safety.

Additional design elements including mounding, vegetation planting and fencing and their appropriateness to local conditions, settings and aesthetics should all be considered during venue design stages to assist in reducing and alleviating potential risk.
INFIELD, OUTFIELD AND CLOSE-INFIELD DIMENSIONS

Ground users and maintenance personnel should refer to their local cricket association or competition rules for local requirements or specific restrictions regarding the use of close-infield and infield markings.

A painted oval is made by drawing a semi-circle of 27.4m radius from the centre of each pitch with respect to the breadth of the pitch and joining them with lines parallel, 27.4m to the length of the pitch. This line, commonly known as the circle divides the field into an infield and outfield.

Two circles of radius no closer than 10m centred from the middle stump at each end of pitch and often marked by dots, define the close-infield. The infield, outfield and the close-infield are used to enforce field restrictions and/or safety zones for some game formats and age groups. Distances are variable and Local Cricket Associations or competition administrators may provide alternative distances within their local rules.
CRICKET PITCH DIMENSIONS

The following cricket pitch dimensions identify the recommended sizes for community cricket pitches.

Turf cricket pitches

The dimensions of a turf pitch are **20.12m long (from stump to stump), plus a minimum of 1.22m behind the stumps** to accommodate the return crease and bowler approach area. The width of a turf pitch is **3.05m wide**. The overall dimensions of a turf pitch will vary according to the level of cricket competition being played.

Synthetic cricket pitches

The dimensions of a synthetic cricket pitch should be in the range of **25.0m to 28.0m long and 2.4m to 2.8m wide**. Providing a pitch of adequate width is particularly important for junior development (promotes greater enjoyment if juniors are able to land the ball on the pitch) and also encourages the art of spin bowling with players able to pitch the ball wide on the pitch and spin it into or away from the batter.

**in2Cricket, T20 Blast and modified pitches**

in2Cricket or other modified game pitches can be flexible in surface, including synthetic (permanent or roll out surfaces), concrete pitches or mown areas of ground outfields.

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**Guidance Note 01**

**Pitches & Playing Fields**

**SECTION 2**

**LEVEL OF COMPETITION**

<table>
<thead>
<tr>
<th>PREFERRED PITCH TYPE AND DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PITCH TYPE</strong></td>
</tr>
<tr>
<td>IN2CRICKET (AGES 5 TO 8)</td>
</tr>
<tr>
<td>T20 BLAST (AGES 8 TO 12)</td>
</tr>
<tr>
<td>UNDER 10</td>
</tr>
<tr>
<td>UNDER 12</td>
</tr>
<tr>
<td>UNDER 14</td>
</tr>
<tr>
<td>UNDER 16</td>
</tr>
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</tr>
<tr>
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</tr>
<tr>
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</tr>
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<td>DOMESTIC CRICKET AND UNDERAGE NATIONAL EVENTS</td>
</tr>
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At venues where only cricket is played, plan for the maximum size for a synthetic cricket pitch being 2.8m wide x 28m long or for turf venues provide the maximum number of turf pitches for the relevant hierarchy and level of play.

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2.4 to 2.8m

25m to 28m

SYNTHETIC PITCH

TURF PITCH

20.12m

3.05m

22.56m
The bowling crease
The bowling crease is the line through the centre of the three stumps at the relevant end. It is 2.64m in length with stumps in the centre.¹

The popping crease
The popping crease is in front of and parallel to the bowling crease. It is 1.22m from the bowling crease. The popping crease is marked to a minimum of 1.83m on either side of the centre of the middle stumps and is unlimited in length.²

The return crease
The return crease is at right angles to the popping crease at a distance of 1.32m either side from the middle of the stumps. The return crease must extend to a minimum 2.44m behind the popping crease but may be unlimited in length.³

SYNTHETIC CRICKET PITCHES

Synthetic cricket pitches comprise of a concrete pavement with a short pile height synthetic grass pitch glued to the pavement. The cricket pitch should be a rigid pavement consisting of a concrete base and underlying crushed rock sub-base designed to cater for the subgrade conditions.

The concrete surface is finished smooth (not polished) for the laying and gluing of the synthetic grass pitch. The synthetic grass surface should be a short pile height synthetic grass (9-11mm) and be laid over the total length and width in two halves with holes for the stump boxes.

Suggestions for installing a synthetic cricket pitch:

- Test existing subgrade material and design rigid pavement to cater for existing ground conditions.
- Mark out area for construction of concrete slab for size.
- Excavate area to depth of rigid pavement and dispose of excavated material.
- Laser level area.
- Supply and lay crushed rock base layer (minimum 50mm) to area and compact and laser level (note: crushed rock layer to extend a minimum of 150mm beyond the edge of the concrete pavement).
- Box off area in preparation for pouring of concrete.
- Supply and place reinforced chainmesh to area (generally centrally located within thickness of slab).
- Supply and pour 25 MPA concrete to required depth of 100mm to area and smooth finish surface for laying of synthetic cricket grass material.

Independent research conducted by Cricket Victoria in association with 11 Metropolitan Melbourne Councils concluded that Cricket’s endorsed 9mm-11mm synthetic surface type provides the most consistent playing surface. The bounce and pace of this pitch type is more predictable and promotes skill development and player safety.

The research further found that other types of cricket pitch surfaces (e.g. those with a longer pile and/or supplied with crumbled rubber) tested have greater variation in pace and bounce which often arises from their design and also from how well they are maintained. Generally, the tested pitches other than the style of pitch endorsed by Cricket Victoria are slower and have a higher (or “trampoline” type) bounce.

Cricket Australia recommends using a 9mm-11mm synthetic pitch pile as it provides a more positive experience for all players. Due to different skill sets being required for different surfaces, if players (juniors in particular) are constantly playing on surfaces with different bounce and pace characteristics, their skill development, safety and confidence will likely be negatively affected.

Synthetic cricket pitches require regular maintenance to ensure their quality, playability and integrity is maintained. Regular sweeping is required and pitches should be water blasted every two years (minimum) to promote and refresh the synthetic pile.

Synthetic pitch pile heights (IMPORTANT): Synthetic grass cricket pitch surfaces should range from 9mm-11mm pile height without any sand or crumbled rubber filling.

SYNTHETIC CRICKET PITCH EXTENSIONS

To assist with the maintenance of synthetic cricket pitches, pitch surrounds and to provide safe and consistent run-ups for bowlers, the installation of synthetic grass surrounds to synthetic pitches could be considered.

Consideration of pitch extensions should include an assessment of the run-up conditions, identification of potential risks and hazards to players and consultation with land managers and other ground users to identify other possible impacts.

Extensions may include a 5m-10m extension at both ends of the pitch and 0.5m-2.0m extension on the sides of the pitch, which should abut the synthetic grass pitch and be anchored at the edges to avoid tripping hazards.

Any consideration of pitch extensions should be undertaken in consultation with winter sport users and as a minimum must meet AFL – Cricket Australia performance requirements for artificial turf.
Avoid ‘winged’ styled synthetic pitches where possible as these present potential maintenance and trip hazards and can increase capital costs.

Any synthetic grass pitch surround or extension is likely to impact on winter sport usage and user groups must be consulted prior to installation. All installations must meet AFL-Cricket Australia approved performance requirements for artificial turf.

**SYNTHETIC CRICKET PITCH COVERING**

Synthetic cricket pitches may need to be covered during the winter season to both protect the surface and for the safety of winter sport participants. Two options are recommended for synthetic cricket pitch covering, both of which should be conducted with consideration given to Occupational Health and Safety and risk management issues and playability for non-cricket users. Winter use of playing fields and the compatibility of synthetic pitch covering methods with winter sporting codes needs to be considered when deciding on the most appropriate pitch covering option.

<table>
<thead>
<tr>
<th>COVER METHOD</th>
<th>IMPACTS AND CONSIDERATIONS</th>
<th>TYPICAL INSTALLATION EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYNTHETIC PITCH COVERS</td>
<td>Synthetic pitch covers can be placed over pitches during the winter season. When using synthetic pitch covers it is important to ensure that covers used meet AFL-Cricket Australia approved synthetic turf product performance and testing standards. Synthetic covers require the brooming in of rubber granules when laid and the vacuuming of them out prior to lifting them off. Storage of covers over the off-season is a key consideration. Issues can arise if these covers are stored whilst still wet as the moisture is unable to escape and can damage the cover. Achieving integration of synthetic surface and natural grass interface can be challenging. Installation and removal of synthetic pitch covers can be labour intensive and Work Health and Safety provisions should be adhered to.</td>
<td><img src="image" alt="Synthetic pitch covers example" /></td>
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<tr>
<td>COVER WITH SOIL</td>
<td>This is the most common method of community level synthetic cricket pitch covering during the off season and is generally managed by the relevant Council or cricket club. Heavy duty industrial plastic should be laid over the synthetic pitch surface prior to soil being spread. Issues with using soil include the potential injury to untrained club volunteers attempting to cover/uncover cricket pitches and potential injury risk due to change in surface level around the pitch. Damage to pitch as a result of machinery/tools tearing sections of the synthetic grass are also common and an uneven and raised surface surrounding the pitch can result in either an unpredictable deviation of the ball once in play or a ‘swimming pool’ effect whereby rainfall is unable to escape the pitch and can impact on the ability to commence play.</td>
<td><img src="image" alt="Cover with soil example" /></td>
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TURF CRICKET PITCHES

The overall dimensions of a turf table and number of individual pitches will vary according to the level of cricket competition being played. The Cricket Australia facility hierarchy recommends the following levels of provision.

Domestic/Underage national
10 pitches to accommodate a combination of domestic cricket matches, carnivals and regular weekly fixtures.

Premier/Regional
8-10 pitches dependent upon whether the venue is used for a range of State, Regional, Country, Metropolitan and/or Junior Association representative matches, in addition to regular weekly competition fixtures.

Community Club (home or satellite grounds)
5-6 pitches to accommodate weekly Country, Metropolitan and/or Junior Association fixtures. Turf management practices and affordability of preparation is likely to impact on the number of pitches that are able to be provided at this level of venue.

The slope of a turf pitch should not exceed 1% and follow the slope pattern of the oval. If the oval is centre sloped, the pitch square should also slope from the centre. The amount of fall should therefore not exceed 30mm across a 3.05m strip or 200mm along its length, being as flat as possible at the centre. The pitch square should be about 75mm above the level of outfield to allow for surface drainage off the pitch.¹

DUAL TURF AND SYNTHETIC PITCHES

Dual turf and synthetic cricket pitch configurations are becoming more common in community cricket, particularly for landlocked communities with little green space to develop additional grounds.

Dual turf-synthetic pitch arrangements maximise facility usage whereby grounds previously used solely for turf competitions in the afternoon, can also be utilised for junior matches in the morning and weekday evenings. This enables not only optimum usage of the ground and a greater return on investment for landowners, but also promotes greater connectivity between junior and senior cricket and strengthens the player development pathway.

The flexibility of both turf and synthetic pitches allows use for centre pitch practice (match simulation) during mid week training sessions as well as a pre-match warm up facility for bowlers.

NATURAL PLAYING FIELD SURFACES

Ideally, cricket playing fields should fall in all directions from the centre pitch area, but failing this, they should have a single phase slope of 1% in any convenient direction. If the oval is on very well drained soil, no slope is required. From a playability and water conservation perspective, preferred playing surfaces are generally warm season grasses. Determining the most appropriate species for local conditions and climate should involve consultation with turf management specialists and be considerate of soil conditions, drainage and irrigation requirements, usage and ground maintenance service provision levels.

Artificial turf playing field surfaces

In 2007 the AFL and Cricket Australia endorsed the playing of community level Australian Rules Football and Cricket on synthetic surface playing fields.

The approved synthetic surface types were subjected to a series of stringent laboratory tests and criteria developed by the University of Ballarat which related to durability, joint strength, resistance to weathering, ball roll and bounce, hardness, critical fall height, traction and abrasion. The benefits of the testing and certification process are as followed:

- Ensuring surfaces have the same playing characteristics as natural turf
- Ensuring quality and durability of the product
- Maximising playing comfort and safety.

Since the development of the synthetic turf standards, the AFL and Cricket Australia have established a licensing program that ensures the quality of products being manufactured from a performance and longevity perspective and that the products comply with safety and insurance requirements. For more information on synthetic surfaces for AFL/Cricket please refer to Guidance Note: 05.