



The GAA Pitch

An Pháirc CLG

INFRASTRUCTURE GUIDANCE NOTES



DO THE MATH

Grass pitches should not be expected to take more than 300 hours of use a year ... that's six hours a week year-round or about eight hours a week from February to October, a typical GAA 'season'.

If one Club adult team plays 12 home games and undertakes two one-and-a-half hour training sessions a week for 30 weeks, that's over 100 hours usage in a year. Reserves/seconds could add 25 hours to that total. A Ladies team will easily add the same again, bringing the total to 150 hours.

If an underage team plays ten home games and undertakes one one-and-a-half hour training session a week for 10 weeks, that's 25 hours usage in a year. Ranged across U6s; U8s; U10s; U12s; U13s; U14s; U16s; Minors; and U21s that can gross up to well over 200 hours in a year.

Add in Schools; Rounders; Hurling; Camogie; County needs; and other games and training sessions and many Ulster GAA Clubs now need to accommodate well over 400 hours of pitch usage a year.

Cramming that all onto one pitch is not the answer!

THE GAA PITCH DEVELOPMENT TEMPLATE

Developing a GAA pitch is one of the major projects any generation of GAA Club members is likely to undertake. It should not be done lightly and certainly no part of it should be left to chance. Good analysis and planning should underpin any such project, clubs should find the template below useful:

ISSUE	WHICH MEANS
Need for the pitch	<p>Plan, plan, plan:</p> <ul style="list-style-type: none"> • Why is the pitch needed? • Would less than full-size do? • Who will benefit from it? • Are there other options available, now or soon? • How often will it need to be available? • Does it need floodlights? <p>Above all go and talk to GAA colleagues who have been-there/done that and where possible, visit their facilities. You'll find they'll be only too glad to help and share experiences with you. Contact Ulster GAA for guidance re Clubs which have recently completed similar projects</p>
Assess your site	<p>Look closely at your pitch site in terms of:</p> <ul style="list-style-type: none"> • Size: is it big enough? • Expansion potential: 'think in terms of a hundred years rather than ten' • Access by people and vehicles • Previous uses: filled or contaminated land bring their own development difficulties • Wildlife issues • Planning issues • Flooding issues: look at these very carefully indeed! • Services: water and electricity • Relationship with the Club's other activities and facilities (e.g. changing rooms) • Its location relative to other potential users such as local schools • Potential for athletics provision/a walking-track

	<ul style="list-style-type: none"> • Equipment and materials storage needs (including cones etc for training) • What the neighbours think: talk to them and share your thoughts with them
Specify what you want	Scope out exactly what you want (pitch type; size; floodlights; fencing; etc) based on current and prospective needs: look too at 'added value' ... provision for athletics and/or a walking-track or maybe a play area associated with it
Approvals	You will almost certainly need Planning Permission and, if drainage is involved, consent to discharge drain-water: start following these up as early as possible.
Cost	Get a reasonably accurate cost of the project and start to look at a fund-raising strategy. Remember that grants inevitably come with their own conditions. The Club needs to have a clear view of (a) what the project will cost and (b) where the money will come from. Be sure to factor in the ongoing running costs of the new pitch once it's open.
Plan the work	Get expert advice in: if you're seeking grant aid you'll be required to do this anyway. It will cost money but it will be money very well spent. This support should ensure: The work is properly tendered You appoint a qualified, experienced contractor The work will be properly timed
Manage the contract	Traditionally Clubs did this work themselves. It's now a false economy not to employ a qualified project manager to oversee all the work on your behalf. Funders in any case will almost certainly insist on this.
Completion and sign-off	Most pitch jobs aren't over when you think they're over. There will be snagging lists; contract retention sums; maintenance requirements (for example, sand carpet pitches have to be maintained for a year after completion before they can be played on); and so on. This is technical business and is therefore best placed in the hands of a qualified project manager.
Maintenance	The work doesn't stop when the pitch opens. As highlighted elsewhere in this Note, proper pitch maintenance is essential. Make sure this is programmed and carried out.

GAA PITCH SIZES

There is no set constant size for a GAA pitch but for all official games at above U15 level GAA pitches should be between:

- 130m and 145m long
- 80m and 90m wide

Rule 1.1, Rules of Specification, of the GAA's Official Guide allows Counties to reduce, via their Bye-Laws, the dimensions of pitches used for Under 15s and younger age groups. There should also be at least a further 4m between the pitch side-line/end-line and any surrounding fence. That means that to provide minimum and maximum GAA pitches the following land takes are needed:

- Maximum size pitch: 155m x 100m ... or 15,500 sq. m ... or 1.55 hectares or 3.70 acres
- Minimum size pitch: 140m x 90m ... or 12,600 sq. m ... or 1.26 hectares ... or 3.11 acres

- It goes without saying that these land takes are the rectangular areas that are needed: when securing land for a GAA pitch significantly more than the 3.11/3.70 acres of playing area may be involved. Similarly, it can often be useful to provide a pitch area that is wider than the maximum 90m: this extra space can be used to set out meaningful playing/training areas across the pitch.

In the Six Counties, to be eligible for grant aid a pitch (in any sport) has to be two-thirds minimum size: that means that to be eligible for Sport NI grant aid a GAA 'training pitch' has to be at least 92.4m x 60m ... or 5,544 sq. m ... or 0.55 hectares or 1.4 acres.

GAA pitches are ideally oriented NW/SE or NE/SW. This allows best use of the sun for growing grass and drying the surface whilst minimising the impact of the setting sun on players, coaches and spectators.

Best practice is that pitches should be cambered, ie sloped gently from the centre towards each endline and towards each side-line. They should aim for a maximum centre-to-endline slope of 1:80/100 and a maximum centre-to-side-line slope of 1:40/50. These cambers will produce a maximum fall of 0.87m along the length of the pitch and one of 0.56m across its breadth. The slope helps to get rid of surface water after heavy rain but is not noticeable to the naked eye nor to players using the pitch. Also remember that surfaces sloping down towards your pitch will throw water down onto it.

TRADITIONAL PITCH DRAINAGE

Whilst different soil types require different drainage solutions, traditional pitch drainage usually takes this form:

- Drains running across the pitch, between 5m and 10m apart and at a fall of no more than 1:200
- Main drains running along the side of the pitch but outside the playing surface and including man-hole inspection chambers
- Drains/main drains should always empty out into a good, effective outfall
- Pitch drain trenches are usually 450/650mm deep with a 100mm perforated pipe at the bottom.
- The trenches are filled with 6/10mm aggregate to within 150/200mm of the top.
- A 50mm cap of blinding (rough sand/grit) placed on top of the aggregate fill.
- The trenches are topped out with soil: 150mm is usually needed to promote and sustain a healthy grass sward.

Many pitches complement their basic drains with a slit drains system. This involves:

- Cutting a series of slits at right angles to the drains and running through the drains' backfilled sections.
- Slits about 0.5/2.0m apart; 250/300mm deep; and 50mm wide.
- 6/8mm aggregate fill put into the slits.
- Heavy top dressings of sand (100+ tonnes) are needed on the pitch after the slit drains are put in.

The aim should be to produce a surface that can drain away at least 100mm of water an hour.

THE 'SAND CARPET' PITCH

Sand Carpet pitches include the traditional drainage lay-out described above but have a particular construction method. Essentially this involves:

- Stripping off the top-soil.
- Levelling out the sub-soil/strata lying under the top-soil.
- Putting back the top-soil evenly over the levelled out sub-soil/strata.
- Installing a drainage system as described above.
- Adding a top layer of up to 300mm of 'dead sand': in Ulster that's usually Lough Neagh sand.

Sand carpet pitches:

- Drain very well and are usually playable when traditional pitches are waterlogged.
- Can therefore accommodate more usage and be available in the autumn/winter/ early spring.
- Can get hard in times of drought and will need watering/irrigation.
- Require high levels and standards of maintenance.
- Because sand is lower in nutrients than soil will need higher levels of fertilising. Generally sand carpet pitches are more hard-wearing than normal or 'traditional' soil pitches and can therefore, with the correct maintenance, deliver much higher levels of usage.

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GRASS PITCHES: DO'S ... DON'TS ... AND THINGS TO BE AWARE OF

Avoid having trees near your pitch: leaves have to be swept up or else they create humus which damages the grass

As a rule of thumb, an Under 15 player is reckoned to do half the damage to a pitch that an adult does: in GAA we should take that with a pinch of salt given the numbers we typically have involved in blitzes; Go-Games; etc and the fact that we can have up to 72 Go-Games players using one of our full-size pitches at the same time

Avoid stockpiling top-soil for long periods and if you have to, limit the height to 2m and firm its surface so rain-water runs off

A pitch should be rested for two weeks after it is scarified

Sand soils lack the nutrient retention properties of clay soils. This means that nutrients are washed from the soil, away from the grass and therefore have to be replenished more frequently: that means fertilising.

Grass cuttings can no longer just be 'dumped' but need to be disposed of properly

Don't use weed-killer or creosote for lining a pitch: they burn the grass and encourage holes to appear in the soil/sand beneath

In the same way guard carefully against fuel spills

Do not use a frosted pitch: walking on frozen grass breaks the blades of grass and they can take a long time to recover. Driving a vehicle on a frosted pitch can do serious damage to the grass.

GAA GOAL POSTS

By Rule GAA goal posts must be at least 12m high and 6.5m apart, with the underside of the cross-bar 2.5m from the ground. It is not just stating the obvious to remind ourselves that heavily worn goal-mouths can result in the cross-bar being too far from the ground level.

Stanchions to hold goal-nets should slope downwards and extend at least 1.6m back from the main goal post at ground level.

Goal posts must be fit for purpose and manufactured from suitable materials. Virtually all GAA goal posts are now made of metal and should:

- Be of a circular hollow section of 114mm diameter for the first 5m, then reducing equally to an 89mm diameter and further reducing to a 76mm diameter if appropriate
- Have a 5mm wall thickness where the diameter is 114mm and a 3.2mm wall thickness where the diameter is 89mm or 76mm.

Include a cross bar of an 89mm diameter with a 4mm wall thickness

All edges should be rounded and free of sharpness and materials used should conform to EN 10219 S275J2H or EN 10219 S355J2H.

A strong anchorage at the base of the goal posts is essential and should involve:

A base construction of 1.2m x 0.75m x 1.0m deep or ground sockets of 1.2m deep.

The top of the base or the ground sockets stopping at least 100mm below ground level.

Because ground conditions can vary greatly from pitch to pitch, a Structural Engineer's advice/approval on the anchorage needed is recommended.

Goal posts should be painted with three coats of an external paint, with a built up of 300-micron thickness. Galvanising to comply with BS EN ISO 1461: 2009 is an alternative to the paint system.

Goalposts can be manufactured from circular aluminium. Expert advice is required for the design, grade and size of materials to be used. The advantages of the use of aluminium include:

- low maintenance
- smaller anchorage requirements

Not least because goal posts are almost always the most exposed part of any GAA Club's infrastructure, good maintenance is essential and regular inspections and recommended maintenance should be carried out.

GAA BALL CATCH NETS

Ball catch nets are now an established part of almost every GAA pitch. They are virtually always found behind the goals but also, increasingly, are needed to prevent balls from landing on other properties; on roads; and/or in waterways. A catch net's height and width will vary depending on the net's purpose and its surroundings.

A catch net 12m high and 25m long will provide good prevention from ball spillage behind the goals. Nets should be located at least 5m from the end line (the same as fencing, see below), and should be centred on the goals/scoring space.

The ball catch net should be constructed from suitable materials, firmly anchored in the ground and fit for purpose in all aspects. A 12m high x 25m long catch net will require:

- A main structure comprising two made-up galvanised circular hollow section posts of 168mm diameter (reducing to 139mm diameter at 7m high) and with a constant wall thickness of 5mm.
- Support provided to these posts in two directions, ie a diagonal support of 114mm x 3.6mm circular hollow section fixed to the back of the main post will form the support in one direction.
- This diagonal support should be fixed to a base plate 2.5m from the main post and at 7 metres from ground level.
- A 12mm thick galvanised wire rope fixed to the top of the main post and secured to a concrete base 6m from the main post in the direction of the pitch corner flag will form the support in the other direction.
- Eight x 6mm galvanised, tensioned wire ropes at 1.5m centres running the full 25m length will support the net in the wind: the wires should alternate on each side of the net (to combat changes in wind direction).
- The main net should be strapped to a tensioned 12mm galvanised wire rope, forming a rectangle to match the size of the net.
- Nets should be manufactured from 3mm diameter polypropylene water-resistant material, in 50mm x 50mm squares and with a border rope.
- The net material should comply to: 209-045-04 high tenacity UV stabilised polypropylene) Weight: 150 grams per m/sq. with a burst strength per mesh: 1.25KN).

All circular hollow section members used should conform to EN 10219 S275J2H or EN 10219 S355J2H whilst galvanising should comply with BS EN ISO 1461: 2009.

The two main bases should be 2.6m x 1.2m x 1.5m deep approximately, with two reinforcing mesh panels.

The two secondary bases (to withstand the pull on the diagonal wire ropes) should be 750mm x 750mm x 600mm deep.

Again, because ground conditions can vary greatly from pitch to pitch, a Structural Engineer's advice/approval on the base sizes needed is recommended.

PITCH MAINTENANCE

Good maintenance is fundamental to the quality; use; and longevity of a GAA pitch. A notional annual maintenance calendar is set out below:

ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
Mowing (to 40mm or 1/1.25" for hurling and 75mm or 2/3" for football)				✓	✓	✓	✓	✓	✓	✓		
Scarifying				✓								
Fertilising			✓	✓			✓	✓				
Re-seeding				✓	✓			✓	✓	✓		
Top-dressing									✓	✓		
Weed/disease/pest control		✓	✓	✓	✓					✓	✓	✓
Irrigation					✓	✓	✓	✓	✓			
Sanding (100 tons per pitch)					✓	✓	✓	✓	✓			

A pitch maintenance Log Book (What has been done by Who; How; and When) should be maintained.

BASIC TERMS

Aeration increases the availability of air to soil and roots. Surface aeration involves the removal of thatch and debris at the base of the grass plant. Sub-surface aeration involves the creation of air-filled pathways between the surface and the soil below.

Scarification involves the mechanical raking of the pitch surface to remove underlying thatch or moss material.

Verti-draining involves machines opening holes or slits about 25mm wide and 300mm deep across the pitch surface. It de-compacts the soil and breaks any pans that may have formed in it. Verti-draining improves drainage (but is not a long-term solution); gets rid of surface water; and promotes grass growth. It is carried out once or twice a year only.

THE 3G PITCH

The 3G pitch is an increasingly common artificial playing surface which its promoters believe "feels like grass, looks like grass and plays like grass". It provides a more natural bounce of the ball than previous artificial surfaces and gives players a good underfoot grip. Friction burns to the skin are much less likely and the consistent impact absorbency of the surface is believed to reduce stress related injuries.

Pushing off; jumping; running; stopping; and tackling – all central to gaelic games - are all possible without additional risk of injury.

The key benefit of 3G is its usability. Whilst a grass pitch can accommodate about 300 hours of use a year a properly-maintained 3G pitch could readily accommodate 1,500 hours. Unlike a grass pitch,

especially in wet weather, one game/session can be scheduled after another on a 3G pitch. In the same way whilst summer heat/drought will harden a grass pitch, 3G will retain its impact absorbency ... though it will attract and retain heat more than grass will.

In practical terms of course, significant year-round use of a 3G pitch will require floodlighting.

One important capacity that a 3G pitch brings to GAA Clubs is its ability to earn an income through hire out to users. This is something that needs to be carefully considered as 3G is expensive to install (around £0.75m/€0.90m for a full-size GAA pitch) and to maintain.

The 3G pitch is laid down in a number of layers as follows:

	LAYER	WHAT IT IS
Top	Surface	Polyethylene fibre pile, 50/75mm long with a lower-level quartz sand layer added in and then topped with loose rubber granules: contrary to common opinion the 'carpet' is not stuck down but is held in place by the weight of the sand and granules.
	Shock – Pad	Rubber shock-pad providing 'give' underfoot
	Porous macadam	Receiving course of open-textured macadam which allows surface water to soak through quickly
	Membrane	
Base	Base	Consolidated but permeable base of frost-resistant crushed stone

Because it replicates so many aspects of a natural, grass playing surface it's important to remember that a 3G pitch needs to equally replicate all the safety requirements of grass pitches such as a 5m run-off strip beyond the side-line/endline.

MAINTAINING THE 3G PITCH

Again, contrary to common opinion, 3G pitches are not maintenance-free but actually require substantial structured and regular maintenance. Some estimates suggest that whilst a 3G pitch can deliver 35 hours of use a week it can also require eight hours of maintenance a week.

It usually takes 2/3 months for a new pitch to reach its optimum level of performance. During this time, it should be lightly groomed using soft/medium bristle brushes. Sand and granules should be added as needed. The pitch should not be heavily brushed.

After that, a 3G pitch maintenance programme is likely to involve:

WHAT	HOW OFTEN
Cleaning (leaves; litter; chewing gum; mud; etc) so as not to allow debris to infiltrate the surface pile and infill	Daily if possible
Brushing (to straighten the pile; keep infill loose; help drainage; and inhibit moss/algae): brush it lightly after every 8/10 hours of play and aggressively after every 40 hours	Weekly
Grooming and distribution of infill (which over time moves away from high usage parts of the pitch): apply algacide and moss-killer	As required, usually 2/3 times a year
De-compaction of the infill	Annually
Rejuvenation (i.e. to compensate for the fact that the pile will have worn down to 30/40mm and the sand/granules will have become compacted and polluted)	After 5/6 years
Replacement of the surface pile	Every ten years

A maintenance log book should always be kept for the pitch.

Because 3G pitches can accommodate plenty of playing use people often think they can take whatever is thrown at them. This is not the case. Even a simple thing like people walking onto 3G with muddy shoes will pollute the pile and infill and encourage algae and moss to grow which in turn make the pitch slippery and dangerous. Entrances to the pitch (ideally there should be one only) should be controlled and be fitted with walk on/off mats; footwear brushes; and litter bins. If at all possible 3G pitches should be accessed via properly-surfaced paths and not via muddy areas.

Signs banning the following should be clearly visible:

- Smoking
- Chewing gum
- Cans; bottles; and glasses
- Taking food/drinks onto the pitch
- Dirty/muddy footwear
- Footwear with metal blades or studs
- Vehicles (unless to do with maintenance) and bicycles
- Dogs (or any animal)

WINTER USAGE

A capacity for winter use is another benefit of 3G. Snow and ice won't harm it and whilst it's not recommended to use a pitch when it's freezing, if absolutely necessary the pitch can be salted using vacuum-dried salt (but not rock salt). 3G can be played on if there is a light cover of snow but

studded footwear should be worn. Heavy snow should be removed using wooden (not metal) snow shovels or scrapers but care is needed not to pull out the pile fibres.

Finally, because it's essentially a 'big mat' a 3G pitch can literally be lifted off the ground by flood water. Clubs therefore need to be very careful about where they might locate such a pitch.

DUG OUTS

Team dug-outs are now an essential part of any GAA pitch, including pitches that are used for training only.

Traditionally built from masonry, dug-outs are now made from a range of materials, including modern transparent substances. Before proceeding with installing dug-outs, Clubs should look carefully at what would be the best location for them. Issues to consider are:

- The direction of the prevailing winds and the setting sun.
- Whether 'Home' and 'Away' dug-outs should be physically separated.
- How a water and electricity supply might be provided.
- What space is available and where. A GAA team dug-out should aim to accommodate (at least) 12 people sitting down: as in a changing room, there should be 500mm (by 450mm deep) of bench space per person. A 12-person dug-out will therefore be 6 metres long; should be 2 metres high (to allow people to stand up and to avoid players colliding with them: and 1 metre deep (to provide reasonable protection and shelter).

For pitches which are heavily used for underage games and training, Clubs might want to consider providing even larger dug-outs (to accommodate 'inactive' players during blitzes etc).

Two 12-person dug-outs plus accommodation for six match officials/others will require a dug-out area of 15 metres by 1 metre, parallel with the field of play.

Other guidance re dug-outs includes:

- The front of the dugout should be at least 5m back from the pitch sideline.
- Floor levels should be slightly above ground level to avoid drainage/water problems.
- Floors should be non-slip.
- Perspex/similar material dugouts don't totally block the views of people behind them.
- Dug-out roofs and walls throw off rainwater: this needs to be drained away.
- A 'private, closed-off corner' should be considered for women players who may have to change playing gear.
- It can be appropriate to include a locker in the dug-out to store cones and training gear

PITCH FENCING

The core purpose of pitch fencing is to demarcate the boundaries between players and spectators. It is not there to fence people in or out. Walls should never be used to provide GAA pitch boundaries.

The basic principles for good fencing are:

- Site the fence at least 4m back from the pitch side-line or end-line.
- Leave another 5m between the fence and any spectator terracing or stand.
- Set the fence height at 1.5m.
- Use metal fencing (usually a metal frame with chain-link wire or mesh) if at all possible (Ireland's climate does not take kindly to wood).

- Do not have any sharp edges or points in it
- Make sure the metal is galvanised and/or well-painted/powder-coated.
- Set the fence in a concrete base at least 500mm wide and 150mm deep.
- Work out where gates should be placed (to provide access for players/mentors; maintenance equipment; and emergency vehicles).
- For 3G pitches, gates are the key means of controlling/reducing the amount of ‘pollution’ that can unknowingly be carried onto the pitch surface.
- Because of their greater levels of more intensive use, 3G pitches sometimes need higher fencing: many 3G pitches use a 3.5m fence, rising to 5m behind the goals.

FLOODLIGHTING

In recent years floodlights have become a growing part of the GAA Club physical fabric. Some of the basic considerations Clubs should be aware of here are:

- Floodlights inevitably increase the usage of pitches ... and at the more difficult times of the year: as a rule of thumb, always floodlight your second/training pitch before considering it for your main pitch.
- Basically, the higher the floodlighting columns, the better the lighting on the pitch: the more the lamps point straight down onto the pitch, the less light is lost.
- Poor lighting presents a risk as players then struggle to judge distances and the whereabouts of other players etc.
- Clubs should aim for columns of at least 21m in height.
- GAA pitches usually require eight such columns, four along each side.
- The columns should be sited beyond the 5m run-off around the pitch.
- Lamps require maintenance; replacement; and re-focusing (each lamp targets a particular area of the pitch): access to the top of the columns is therefore a requirement
- ‘Self-lowering’ columns are therefore to be preferred.

Floodlights require Planning Approval ... and Roads Authorities will be concerned to ensure that light does not spill onto adjacent roads, blinding drivers.

Clubs should aim for a floodlit illumination level of 250/350 Lux. This will allow the safe playing of ‘proper’ GAA games ... though hurling ideally requires at least 500 Lux. Most floodlit GAA County grounds provide 850 Lux, the level needed for colour TV coverage.

Power can be provided through the mains supply or via a generator. Mains supply should ideally be via a ‘3 Phase’ supply as this prevents dimming of the lights if there are local surges in demand from the grid.

SCOREBOARDS

Once a luxury and found only at major GAA grounds, scoreboards are now an established feature of nearly every GAA Club pitch. Traditionally they were manually-operated, with numbered boards being changed every time the score changed. These types of scoreboards almost always involve health and safety issues for their operators (largely to do with the use of ladders) and have been almost totally replaced by electronic versions.

Clubs should not use scoreboards that involve unsecured/unguarded ladders.

Various types of electronic score-boards are available. They range from a basic ‘2 x 3-digits’ to show the scores with ‘manually-lettered’ boards showing the teams’ names to full ‘16+ digit’ fully-

electronic boards; these will not only show the teams' names and their scores but can also be used to display messages (including advertising) to spectators. An added advantage of electronic scoreboards is that their digits/letters can be lit up and will therefore be much clearer and more visible.

Electronic score-boards are operated by remote control hand-held radio devices, mostly with an operating range of up to 150m. A lap-top is needed to operate those versions which carry messages.

There are no 'hard-and-fast' rules about GAA score-boards but good practice suggests:

- The score-board should always be placed where it has maximum visibility for most people: this is usually – but not always – at one corner of the ground.
- It should be at least 2m above ground level (to avoid being blocked by spectators).
- Digits and letters 30cm high are normally visible up to 170m away (25m further than a full-size GAA pitch).
- 45cm high digits should be visible 250m away.
- A 240 v electricity supply is usually required to run an electronic score-board.
- Score-boards usually take up at least 2.5m x 1m x 100 mm of space ... and should be sited accordingly.
- For obvious reasons they should not be placed behind or close to goals: pitch corners are usually the best location ... but not at a western end where the sun will set behind it.
- Electronic score-boards can typically weigh over 100 kg and need to be supported accordingly.
- Many score-boards are also used to host fixed advertising (often of the person/ business who sponsored the score-board itself): this needs to be reflected in its siting; its height above ground; and in the way it is supported above ground level.
- Most electronic score-board manufacturers recommend a brief monthly use/testing of their score-boards during the closed season.
- Most manufacturers also offer vandal proof covers.