

Netball Australia Facility Guidelines

*Design, Construction and
Maintenance of Netball Facilities*



These guidelines have been prepared by Netball Australia to help clubs, associations, local government, the education sector, contractors and the broader netball community to better understand the technical aspects of netball court design, construction and maintenance requirements.



In the spirit of Reconciliation, Netball Australia acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of this ancient unceded land where we live, work and play netball on.

We honour the continuing cultures, languages, and heritage of Aboriginal and Torres Strait Islander peoples whose cultural, spiritual and ancestral connections to the lands, sky, and waters has endured since time immemorial.

We pay our respects to Elders past and present, and we acknowledge and value the significant and continuing contributions Aboriginal and Torres Strait Islander peoples make within our community.

Netball Australia is committed to Reconciliation. We acknowledge the need to reflect on our shared history in order to build a vision for a reconciled and prosperous future for all within our sport. One built on mutual respect, equity, authentic collaboration, and genuine truth-telling.

PRODUCED BY 2MH CONSULTING ON BEHALF OF NETBALL AUSTRALIA FOR THE DESIGN, CONSTRUCTION AND MAINTENANCE OF NETBALL FACILITIES © 2026



THIS GUIDE IS DESIGNED TO BE VIEWED ON-SCREEN, WITH A HELPFUL PAGE MENU AND PAGE ARROWS FOR NAVIGATION INCLUDED ABOVE.

***Note:** Drop-down Page Menu only works on desktop computers.
Use Page Arrows and Contents page for links when using Mobile devices.
The NA Logo on each page takes you directly to the Contents page.*



This symbol denotes all internal & external links



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Introduction

There are many reference documents in circulation throughout the industry. However, many are now outdated, contradict one another, are difficult to understand or do not specifically relate to the sport of netball. There have been many changes to past recommendations and standards over recent years. The aim of these Technical Guidelines is to encapsulate the most current standards, recommendations, design principles and construction techniques in an easily accessible reference document.

It is important to note that these guidelines are not intended to replace professional site-specific advice from the likes of engineers, design consultants, architects and registered court builders. Nor are these technical guidelines meant to be used as a 'do it yourself' manual for prospective court owners, clubs, associations or other organisations in lieu of engaging professional design consultants and project managers. Rather, it provides a framework that will permit individuals within the netball community to communicate with service providers and make informed decisions on the options offered.

Netball Australia,  **2MH Consulting** and other contributors to these Technical Guidelines (noted in the acknowledgements) cannot be held liable for any loss or damage incurred as a result of any person who relies upon the information contained within this publication. Advice should always be sought from qualified design and consulting professionals with specific expertise relating to the proposed netball works. Members of the netball community are encouraged to study and refer to these guidelines at the earliest conceptual stage of a project so that they can proceed with the project in an informed manner.

NOTE: *It is incumbent on the user to confirm dimensions and overall design with the national/international sporting body.*



Hierarchy

Netball Facility Hierarchy

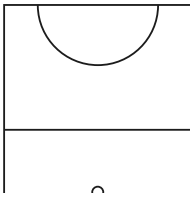
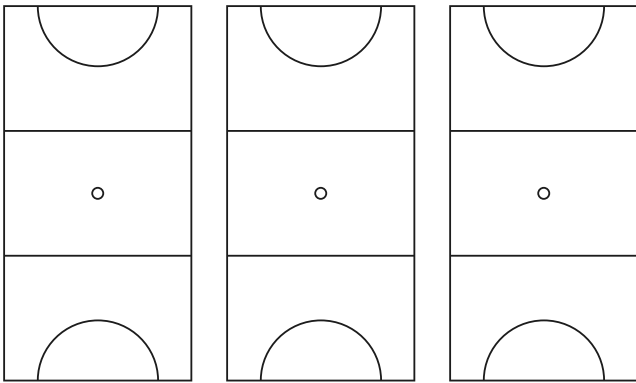
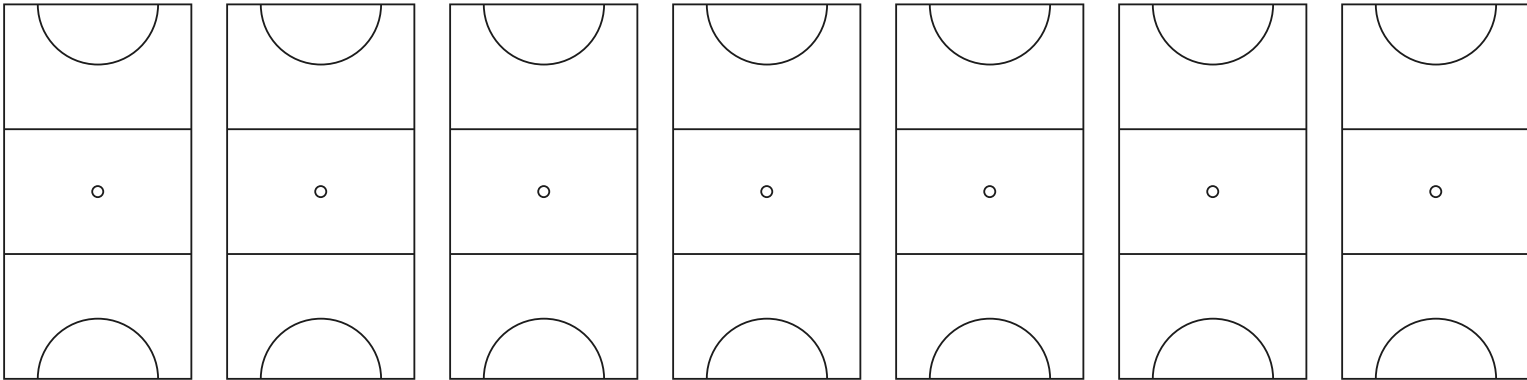
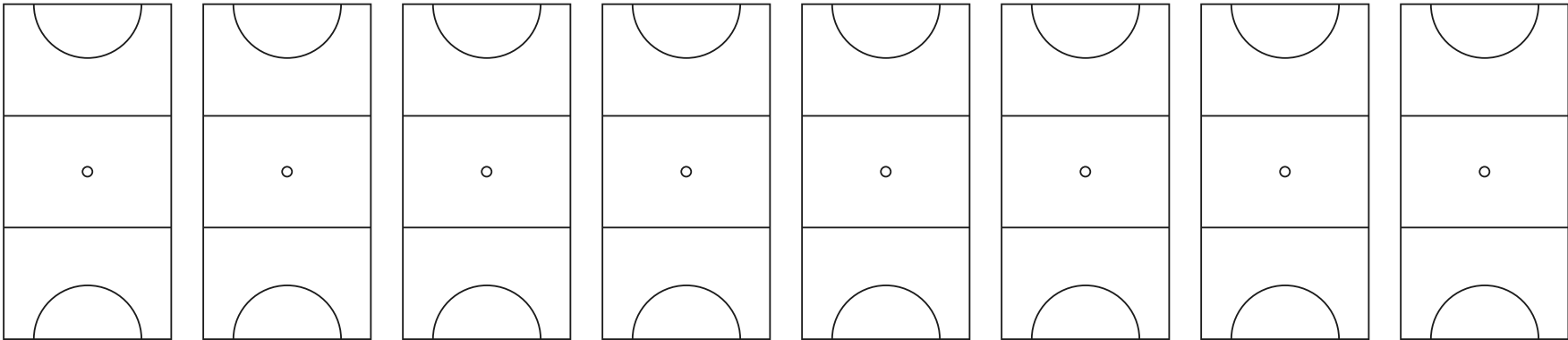
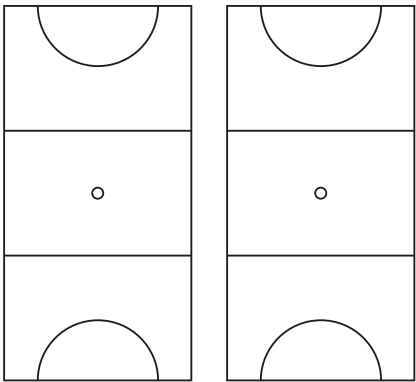
The following tables present the facility hierarchy and standards for netball venues. It nominates a five (5) level hierarchy – Community/Warm Up, Local, District, Regional and Elite, and describes the facility components that should be considered for provision at each level of the hierarchy.

Appendix 2: provides a summary of preferred built structures: minimum floor areas and dimensions for change rooms, shelters and other built structures at each level of the hierarchy.

NOTE: The components within this table are to be used as a guide. NA understands that budget, site constraints & user needs will dictate the inclusion or exclusion of some of the supporting infrastructure components on a site by site basis. The aim should be to include as many as possible.

Appendix 3: provides concept plans for Local, District and Regional level pavilions at outdoor netball facilities.

NOTE: These plans are to be used as a guide. NA understands that pavilions will need to be designed to suit specific site conditions and circumstances.

COMMUNITY/ WARMUP ½ COURT OR MODIFIED LAYOUT	
LOCAL 1-3 COURTS	
SUB-REGIONAL/ DISTRICT 4-7 COURTS	
REGIONAL 8+ COURTS	
ELITE 2+ INDOOR COURTS	

STANDARD REQUIREMENTS
APPENDIX 2

Facility hierarchy
& Recommended Components

Hierarchy

Item	Community/Warmup	Local	Sub-Regional/District	Regional	Elite	Additional Info
NUMBER OF COURTS	½ court/modified layout	1–3 courts	4–7 courts	8+ courts	2+ indoor courts	
USAGE/ACTIVITIES	Parks & public spaces Suitable for: - Non officiated use - Community use	- Modified games and programs - Junior participation and skill development - Home and Away League Clubs - Clubs and Associations - Training and Competition - Community use - Regional Victorian Netball League	- As per Local facility - Schools Championships - National Titles	- As per Local and Sub Regional facility - Association Championships - State Titles	- National Netball Championships - Super Netball Reserves - Suncorp Super Netbal	
COURT SPECIFICATIONS	Non-compliant modified spaces	Compliant	Compliant	Compliant	Compliant	Ensure you provide an additional 1.2m-1.8m circulation space between all seating and shelters and the court run-off zones for spectator movement wherever possible.
SURFACE TYPE	Acrylic, asphalt, low pile synthetic grass/carpet, grass	Acrylic, asphalt (outdoor), sprung timber (indoor)	Acrylic, asphalt (outdoor), sprung timber (indoor)	Acrylic, asphalt (outdoor), sprung timber (indoor)	Sprung Timber	Double sprung timber floors for National Championships, Super Netball Reserves, Suncorp Super Netball and International Events.
MULTI-LINED	Yes	Yes	Yes	Yes	No	Certain competitions have specific rules which restrict the use of multi-line courts. Multi-lined exceptions apply for State Leagues.
GOAL POSTS	3.05m height 60mm-100mm diameter NetSetGO adjustable to 2.4m height is optional	3.05m height 60mm-100mm diameter NetSetGO adjustable to 2.4m height is optional	3.05m height 60mm-100mm diameter NetSetGO adjustable to 2.4m height is optional	3.05m height 60mm-100mm diameter NetSetGO adjustable to 2.4m height is optional	3.05m height 60mm-100mm diameter	Goal ring connection is to be strengthened for courts that are available for unmanaged community/public use.
GOAL POST PADDING	3m high to full length and diameter of post. 2.4m length for NetSetGO is optional	3m high to full length and diameter of post. 2.4m length for NetSetGO is optional	3m high to full length and diameter of post. 2.4m length for NetSetGO is optional	3m high to full length and diameter of post. 2.4m length for NetSetGO is optional	3m high to full length and diameter of post.	Maximum 50mm thick high density foam core.
LIGHTING	Optional	Indoor Lux: 300 training, 500 competition Outdoor Lux: 100 training, 200 competition	Indoor Lux: 300 training, 500 competition Outdoor Lux: 100 training, 200 competition	Indoor Lux: 300 training, 500 competition Outdoor Lux: 100 training, 200 competition	Indoor Lux: 750	Facilities catering for colour television broadcast will require a higher lux average, therefore, specialist lighting advice should be sought.
FENCING	Optional (Safety/ball control fencing is recommended).	Optional (Safety/ball control fencing is recommended).	Optional (Safety/ball control fencing is recommended).	Optional (Safety/ball control fencing is recommended).	N/A	Specific recommendations are provided where fencing is considered such as a 2.4m height behind goals.  See 'Fencing' section



Facility hierarchy
& Recommended
Components

Hierarchy

Item	Local	Sub-Regional/District	Regional	Elite	Additional Info
TEAM BENCHES	Recommend 2 team benches per court to accommodate min. of 10 people each. Recommend 6m length bench or tiered seating with 2 x 3m length benches, plus space for a wheelchair/standing area required (0.915m width min.) Optional based on user-group, facility size, etc. If benches/shelters are to be installed they should be as per these guidelines. Refer to league requirements.	As per local facility	As per local facility	N/A	For outdoor courts at Local, Sub Regional and Regional facilities, team shelters can be combined with officials and spectator shelters to provide one large multipurpose shelter.
TEAM SHELTERS (OUTDOOR FACILITIES ONLY)	For outdoor courts only: 2 shelters per court or ideally one long combined shelter for team and officials benches. Allow a min 4.5m long x 2m depth space for each team bench area (assumes tiered seating and includes space for a wheelchair/standing area min. 0.915m width x 1.525m* depth area).	As per local facility	As per local facility	N/A	Ideally locate benches and shelters to western sideline area. Benches and shelters must be positioned outside of required run-off zones. For outdoor courts at Local, Sub-Regional and Regional facilities official's shelters can be combined with team and spectator shelters to provide one large multipurpose shelter. Benches and shelters at Regional venues may need to be larger for State and National titles to accommodate min. 15 people per bench plus space for wheelchairs. Officials bench to be located at the midline of the court between the two team benches. Note: – Nominal 0.6m allocated per person when calculating bench length recommendations. – *1.525m deep area required for a wheelchair if entering from the side. If entering from the front or rear is possible this can be reduced to 1.22m depth.
OFFICIALS BENCH	1 bench per court to accommodate min. of 2 people. Recommend min. 1.2m length bench plus 0.915m for a wheelchair/standing area.	As per local facility	As per local facility	1 bench per court to accommodate min of 5 people. Recommend min. 3m length plus space for a wheelchair/standing area (0.915m width x *1.525m depth min.)	For outdoor courts at Local, Sub-Regional and Regional facilities official's shelters can be combined with team and spectator shelters to provide one large multipurpose shelter. Officials bench to be located at the midline of the court between the two team benches. Note: – Nominal 0.6m allocated per person when calculating bench length recommendations. – *1.525m deep area required for a wheelchair if entering from the side. If entering from the front or rear is possible this can be reduced to 1.22m depth.
OFFICIALS SHELTER (OUTDOOR FACILITIES ONLY)	For outdoor courts only: 1 shelter per court or ideally one long shelter combined with the team benches (centre officials bench between the team benches) Prefer min. 2.5m length x 1.6m depth (includes space for seating plus a wheelchair/standing area min. 0.915m width x 1.525m* depth area).	As per local facility	As per local facility	N/A	

INFRASTRUCTURE
& AMENITIES

Facility hierarchy
& Recommended
Components

Hierarchy

Item	Community/Warmup	Local	Sub-Regional/District	Regional	Elite	Additional Info
PLAYER AMENITIES TOILETS	Access to toilet facilities within a reasonable distance	Min 2 areas, min 14m ² each area Unisex facility – min 1 shower, 2WCs and 2HBs in each area	Min 2 areas, min 20m ² each area Unisex facility – min 2 showers, 3WCs, 3HBs in each area	As per sub-regional facility	2 areas, min 20m ² each area Unisex facility – min 2 showers, 3 WCs and 2HBs in each area	Amenities should be within 50m of the playing court/s.
PLAYER CHANGE ROOMS	–	Min 2 rooms, min 20m ² each room The 20m ² floor area is a minimum size and based on 14 players using a room at the one time.	Min 2 rooms, min 25m ² each room The 25m ² floor area is a minimum size and is based on 20 players using a room at the one time.	As per sub-regional facility	2 rooms – min 30m ² each room	If more than 14 players (Local) or 20 players (Sub Regional or Regional) will be regularly using a room at the one time, the floor area may need to be increased or an additional room(s) provided.
FIRST AID ROOM	–	1 room, min 10m ²	1 room, min 15m ²	1 room, min 20m ²	2 rooms, min 15m ² each room	A 1.5m wide door is recommended for ambulance trolley access
UMPIRES CHANGEROOMS AND AMENITIES	–	Min 3 unisex rooms: Min 2 changerooms: min 5m ² each (1WC, 1HB in each) Min 1 changeroom: min 5m ² each (1 shower)	Min 2 unisex rooms: Min 10m ² each (min 1 shower, 1WC, 1HB in each).	Min 2 unisex rooms: Min 12m ² each (min 1 shower, 2WCs, 1HB in each)	2 unisex rooms Min 15m ² each (min 1 shower, 2WCs, 1HB in each)	
UMPIRE DUTY ROOM	–	1 room, min 15m ²	1 room, min 30m ²	1 room, min 40m ²	1 room, min 15m ²	
PUBLIC TOILETS IN PAVILION/STADIUM	Access to toilet facilities within a reasonable distance	Guide: 2 rooms, min 12m ² each room Min 2WCs, 2HBs in each room	As per local facility	As per local facility	Guide: min 2 rooms, min 12m ² each room Min 2WCs, 2HBs in each room. More rooms and larger areas required for NNL and International Tournaments	Final floor area and number of fixtures to be determined by reference to the building code and consideration of the activities that will take place at the facility. Floor areas shown in this table and in Appendices B2 and B3 are based on size and capacity of the social room (refer to the Australian Building Code for site specific info).
ACCESSIBLE TOILET/ SHOWER/ BABY CHANGE AREA	–	1 area – unisex, min 8m ² 1WC, 1HB, 1 shower, 1 baby change table	As per local facility	As per local facility	As per local facility	Must be DDA compliant

PAVILION &
CAR PARKING

Facility hierarchy
& Recommended
Components

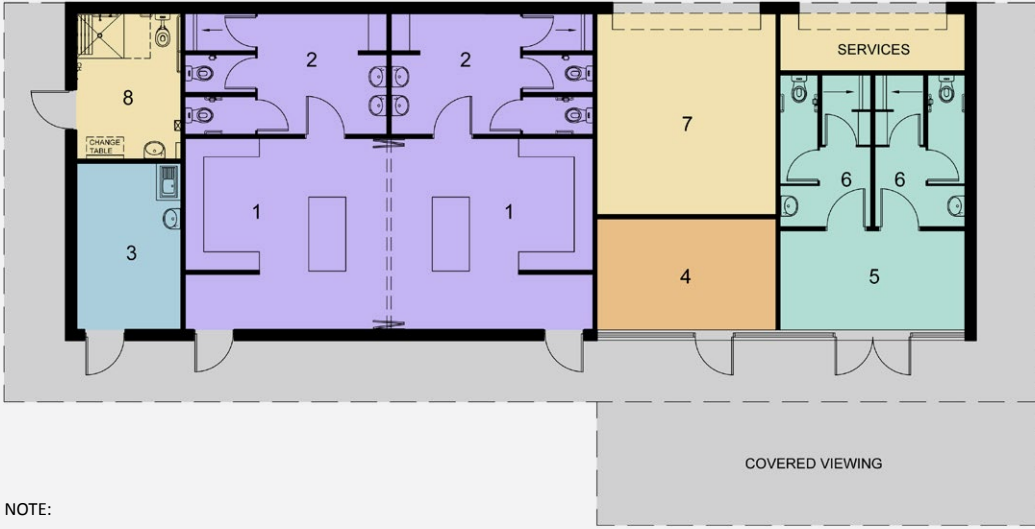
Hierarchy

Item	Local	Sub-Regional/District	Regional	Elite	Additional Info
SPECTATOR SHELTER (OUTDOOR COURTS ONLY)	Min 20m² per court	As per local facility	As per local facility	N/A	At Local, Sub Regional and Regional facilities, shelters can be combined with coaches and scorers shelters to provide one large multipurpose shelter.
SPECTATOR SEATING	Bench seating or suitable spaces to accommodate approx. 30 – 50 people per court.	As per local facility	As per local facility	State/Premier League – min 300 seats. Super Netball Reserves - min 500 seats. NNL and International tournaments – min 3,000 seats	For Local, Sub Regional and Regional facilities, spectator seating allowances will vary depending on standard of competition, anticipated crowd and site constraints. Finals and tournament venues may require additional permanent seating or the provision of sufficient space to accommodate portable event/grandstand seating.
ADMINISTRATION OFFICE	Min 1 office, min 12m²	Min 1 office, min 20m²	Min 1 office, min 25m²	Min 1 office, min 20m²	
TOURNAMENT OFFICE		Min 1 office, min 15m²	Min 1 office, min 20m²		
CANTEEN/KIOSK/ KITCHEN	Min 1 area, min 14m²	Min 1 area, min 20m²	Min 1 area, min 30m²	Min 1 area, min 30m² More than one area required for NNL and International venues.	If serving outdoor courts, can be part of another pavilion or a detached building. Should be within 150m of the netball playing court/s
MULTIPURPOSE/ SOCIAL/FUNCTION ROOM	Min 25m² Kitchenette/bar	Min 40m² Kitchenette/bar	Min 100m² Kitchenette/bar	Min 100m² Kitchenette/bar	If serving outdoor courts, can be part of another pavilion or a detached building. Should be within 150m of the playing court/s.
STORAGE	Indoor and/or outdoor – min 20m²	Indoor and/or outdoor – min 25m²	Indoor and/or outdoor – min 40m²	Indoor – min 20m² for State/Premier League venues. Much larger for NNL and International venues.	Must have suitable dimensions to store goal posts which are min. 3.40m long (3.05m above ground and 0.35m extension into the ground).
MEDIA ROOM				Min 1 room, min 20m²	
CAR PARKING	Guide: 20 spaces per court. In addition, 0.35 spaces for every person in excess of 30 people per court that may concurrently watch games. ensure adequate and safe parking for vehicles while accommodaing the needs of various users including those with varying abilities	As per Local facility	As per Local facility	As per Local facility	Guide: 20 spaces per court. In addition, 0.35 spaces for every person in excess of 30 people per court that may concurrently watch games. Consideration should be given to the netball activities held at the venue and their popularity in terms of spectator numbers.

NOTE: Additional facilities for large crowds: Additional facilities may be required if the venue is to be used occasionally for activities that attract larger than normal player numbers and crowds. Determinations will need to be made about the demand these activities will generate for parking, seating and amenities. Provision may need to be made for overflow car parking, additional seating, additional amenities and casual food vendors. The seating and amenities could be portable. Recommend Indoor and Elite facilities supporting infrastructure aligns with the number of courts, particularly in regard to room sizes, seating etc.

LOCAL/HOME & AWAY FIXTURED CLUB:

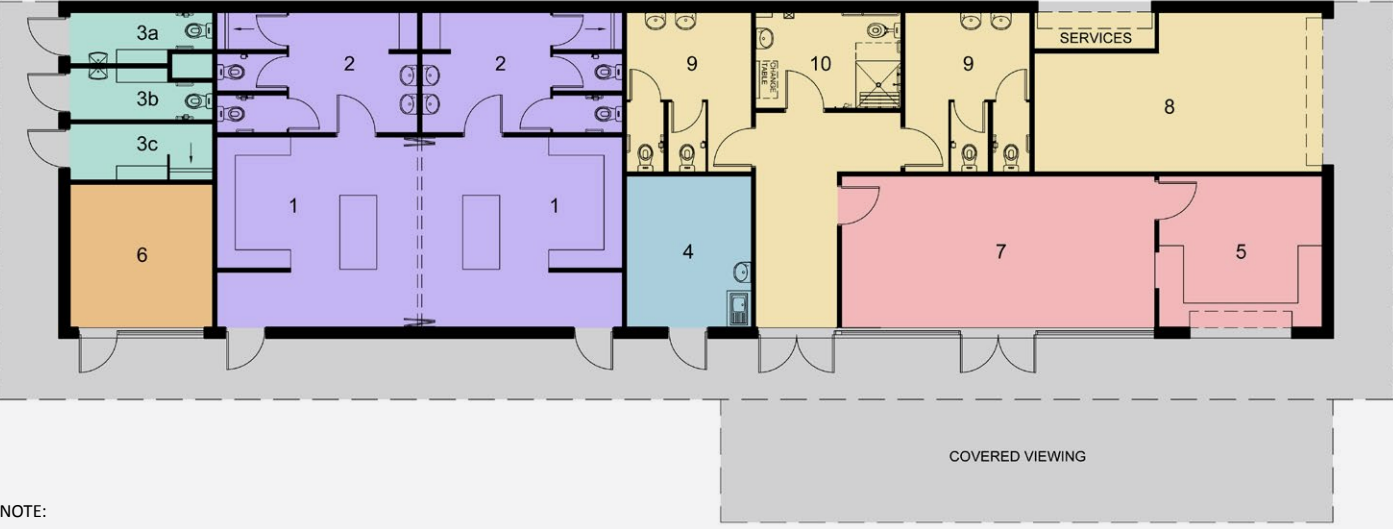
NO.	NAME	AREA / m²
1	Player change rooms	Min 20
2	Player amenities	Min 14
3	First aid room	Min 10
4	Administration office	Min 12
5	Umpires duty room	Min 15
6	Umpire change rooms & amenities	Min 16
7	Storage	Min 20
8	Accessible toilet / family change	Min 8



NOTE:
The plan is based on the following assumptions:
- A social/function room and canteen/kiosk are provided in a football/cricket pavilion or like facility within easy walking distance of the netball facility (<150m)
- Public toilet facilities are located within easy walking distance of the netball facility (<150m).

A functional design should always be designed considering the existing overall site facilities on a case by case basis.

LOCAL/ASSOCIATION:



NOTE:
The public toilets in the pavilion are not designed to cater for moderate to large numbers of players, officials and spectators. The floor area for the toilets is based on the assumption that there will be other public toilet facilities (permanent or temporary) located within easy walking distance (< 150m) of the netball facility.

A functional design should always be designed considering the existing overall site facilities on a case by case basis.

NO.	NAME	AREA / m²
1	Player change rooms	Min 20
2	Player amenities	Min 14
3	Umpire change rooms and amenities total	Min 15
3a	Toilet / change area	Min 5
3b	Toilet / change area	Min 5
3c	Shower / change area	Min 5
4	First aid room	Min 10
5	Canteen / kiosk / kitchen	Min 14
6	Administration office	Min 12
7	Multipurpose / social / function room	Min 25
8	Storage	Min 20
9	Public toilets	Min 12
10	Accessible toilet / family change	Min 8

SUB-REGIONAL/DISTRICT:

NO.	NAME	AREA / m²
1	Player change rooms	Min 25
2	Player amenities	Min 20
3	Umpire change rooms and amenities	Min 10
4	Umpires duty room	Min 30
5	First aid room	Min 15
6	Canteen / kiosk / kitchen	Min 20
7	Administration office	Min 20
8	Tournament office	Min 15
9	Multipurpose / social / function room	Min 40
10	Storage	Min 25
11	Public toilets	Min 12
12	Accessible toilet / family change	Min 8



NOTE:
The public toilets in the pavilion are not designed to cater for moderate to large numbers of players, officials and spectators. The floor area for the toilets is based on the assumption that there will be other public toilet facilities (permanent or temporary) located within easy walking distance (< 150m) of the netball facility.

A functional design should always be designed considering the existing overall site facilities on a case by case basis.

REGIONAL:



NOTE:
The public toilets in the pavilion are not designed to cater for moderate to large numbers of players, officials and spectators. The floor area for the toilets is based on the assumption that there will be other public toilet facilities (permanent or temporary) located within easy walking distance (< 150m) of the netball facility.

A functional design should always be designed considering the existing overall site facilities on a case by case basis.

NO.	NAME	AREA / m²
1	Player change rooms	Min 25
2	Player amenities	Min 20
3	Umpire change rooms and amenities	Min 12
4	Umpires duty room	Min 40
5	First aid room	Min 20
6	Canteen / kiosk / kitchen	Min 30
7	Administration office	Min 25
8	Tournament office	Min 20
9	Multipurpose / social / function room	Min 100
10	Storage	Min 40
11	Public toilets	Min 12
12	Accessible toilet / family change	Min 8

Compliance

Overview

It is very important that facilities are constructed so that they present a firm, even and consistent playing surface that is safe to play on.

It is equally important that the court dimensions and run-offs are compliant to the current rules and regulations to ensure the safety of the players and umpires.

The following information outlines a summary of requirements for a netball court in relation to compliance. This is a national netball standard that is fully endorsed by Netball Australia. State/Territory Member Organisations, Leagues & Associations may choose to not support certain levels of netball competition on non-conforming courts.

It is the responsibility of the Project Sponsors to ensure all components of the court build meet the current standards for the

level of netball expected on their court(s). It is imperative that these requirements are outlined on the design drawings and in the project tender specification/project brief provided to the contractor for pricing. The current standards required by Netball Australia are outlined throughout this section.

Netball Australia recommends that the Project Sponsors confirm that these are still current with the relevant State/ Territory Member Organisations at the time of the court design and/or build stage. Netball Australia recommends the Project Sponsors arrange a compliance inspection and approval check by an independent netball specialist endorsed by your states member organisation prior to project handover and project acquittal. The contractor should address any non-conformance issues prior to project handover and final payment.

NOTE: Most Local, State and Federal funding bodies now require the current standards and recommendations to be met as part of their funding requirements and project acquittal process.

Where an existing facility is being resurfaced and the current court layout does not meet the required run-off dimensions, and where there is no capacity to extend the footprint, the resurfacing works may proceed on the existing footprint. In such cases, all efforts should be made to take all reasonable steps to prevent or reduce risk, injury or damage within the constraints of the site.

In the event a facility owner wanted to enact this, a full risk assessment would need to be completed and approved by the relevant Member Organisation. [🔗 Please see contact details](#)



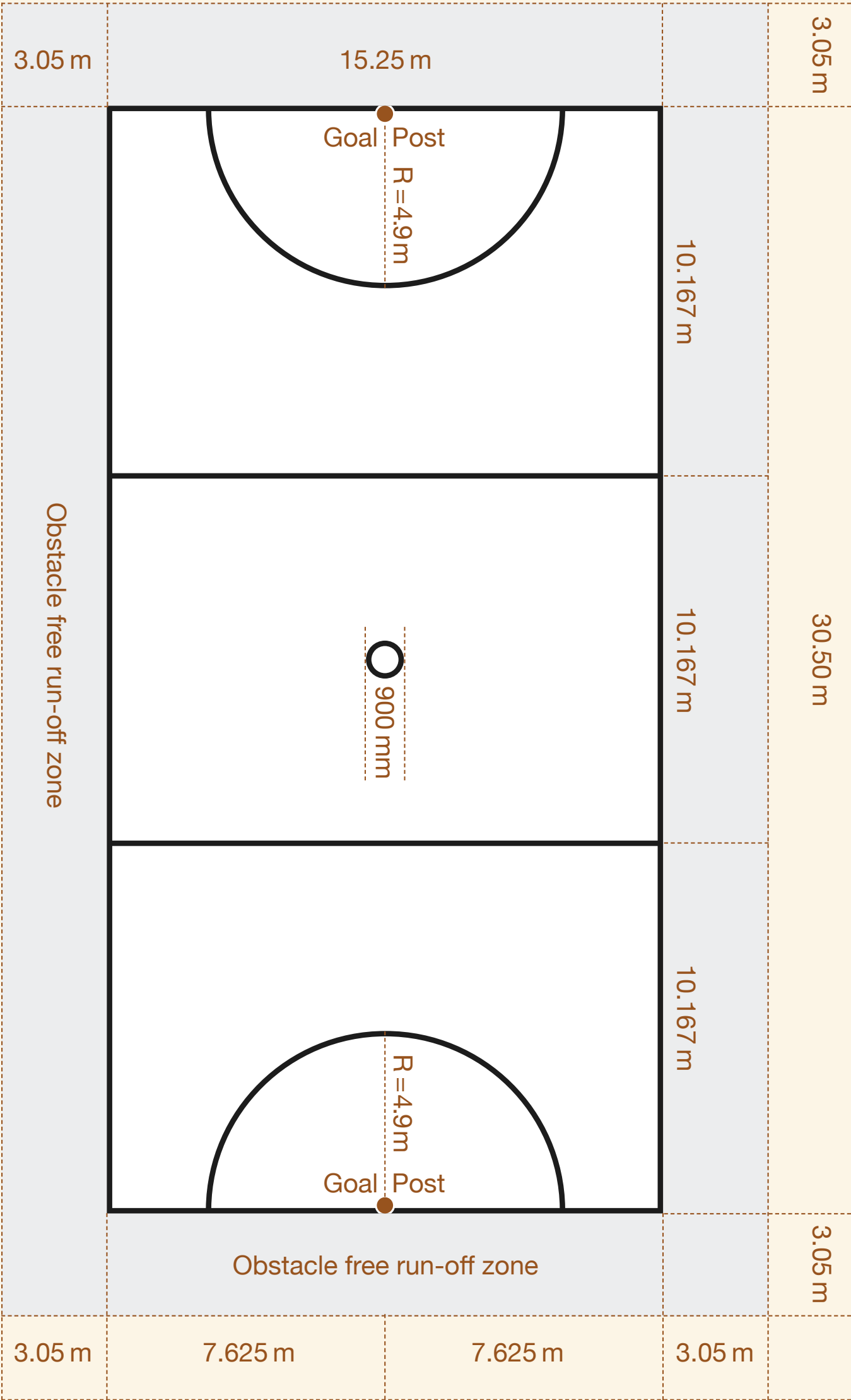
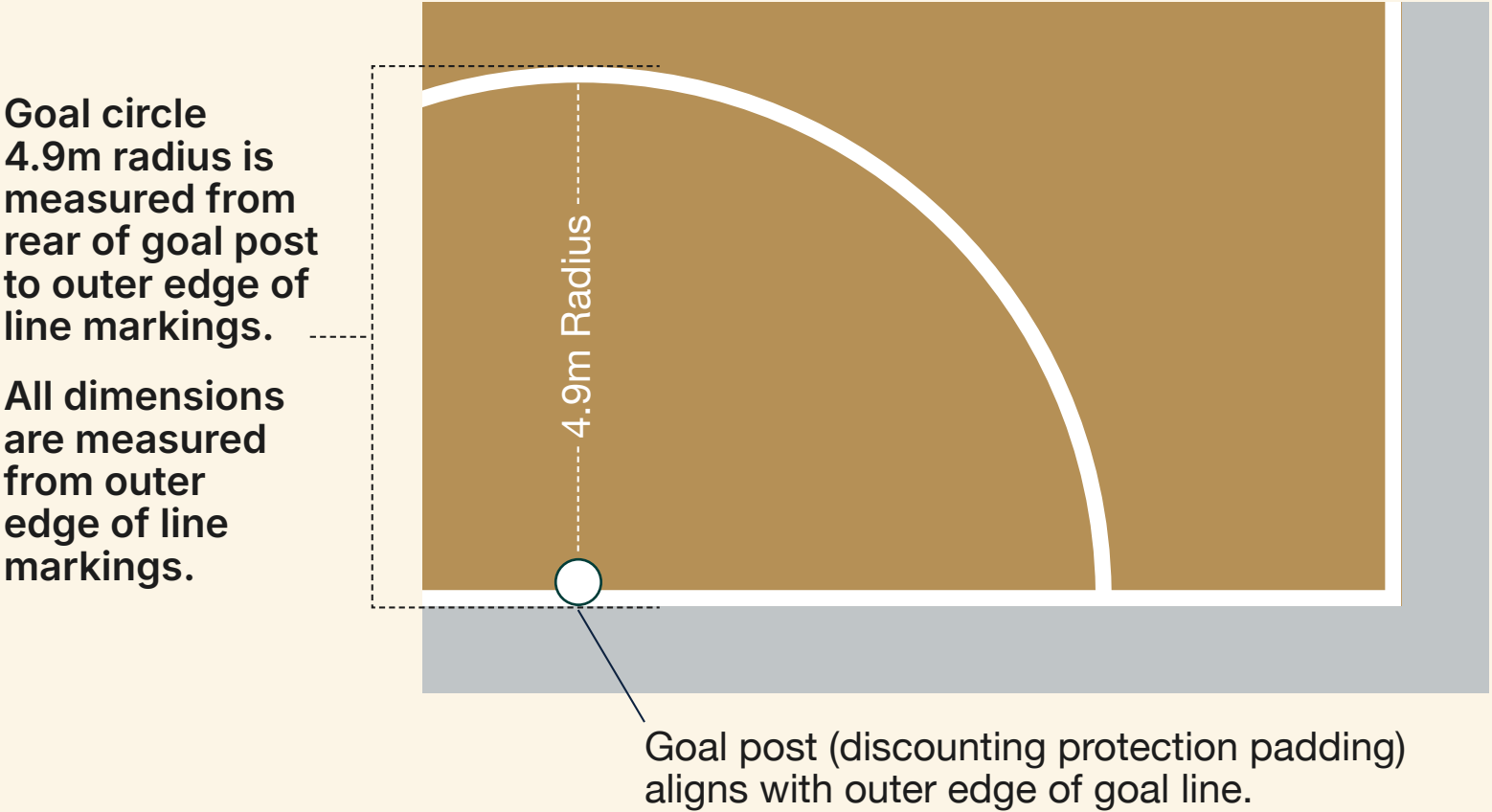
Compliance

Summary Details: Courts

Court dimensions
Length: 30.50m
Width: 15.25m
Court Thirds: 10.167m
Goal Circle Radius: 4.9m
Centre Circle: 900mm
All Line Widths: 50mm
Gradient: 1% cross fall in both directions or 1% fall diagonally on one single constant plane.
Ceiling Height (court & run-off zones): Minimum 7.5m. This includes indoor & outdoor facilities. NOTE: In some instances, a height of 8.3m if competition is elite level.
All lines must be a textured water-based acrylic, straight and have clean, crisp edges.
IMPORTANT: all above measurements are to the outside edge of lines. All lines form part of the court.

Run-off dimensions
Minimum obstacle free space required: On all sidelines and baselines: 3.05m Between multiple courts (includes sides and ends): 3.65m
Run-off zones must be free of all obstacles and be of the same surface type and consistent level as the court.
NOTE: This is an International Netball Federation rule introduced to ensure the safety of players & umpires.

Court condition
The court must:
Have a firm consistent surface on a constant plane without gradient change
Have a consistent surface type over both the court and run-off zones
* Not have construction joints within the playing area of the court.
Not pose a trip or slip hazard in either the court or run-off zones.
Comply with the current Slip Resistance Classification.  See 'Surface Types'.
Be fit for purpose.
* The designer/contractor must locate the construction joints outside the court's playing area, either halfway between the courts (middle of between court run-off) or totally outside of the run-off areas.



Compliance

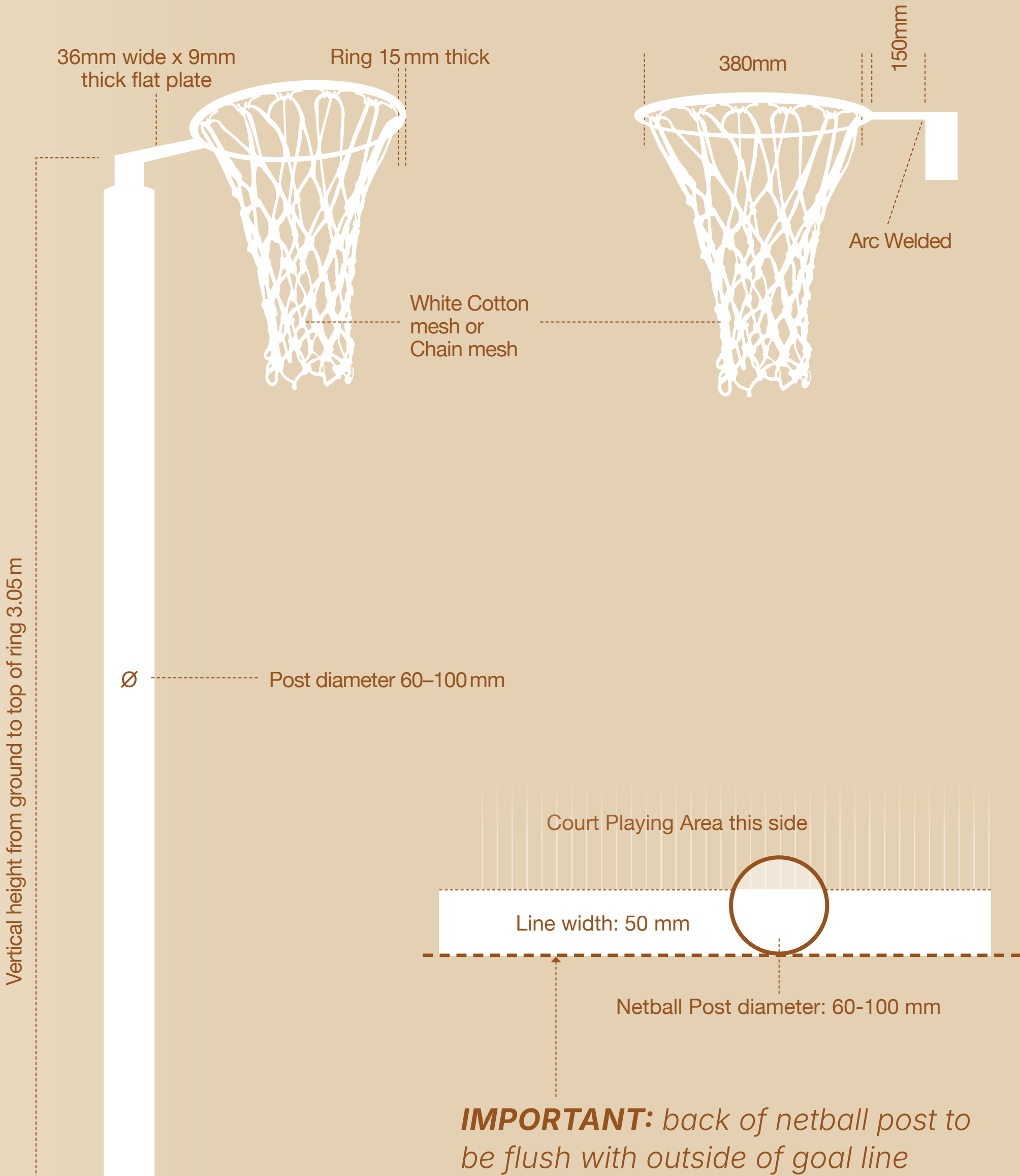
Summary Details: Goal Posts

Goal posts
Vertical Height: 3.05m (Full Size). Can be adjusted to 2.4m for modified netball (NetSetGO)
Post Diameter: 60mm min. to 100mm max.
Post colour: Painted white preferred

Goal Post Padding
Height: 3m high to full length of post. Can be 2.4m high for modified netball (NetSetGO)
Thickness: Maximum 50mm thick high-density foam core.

Rings
Internal Diameter: 380mm
Ring Thickness: 15mm
Length Connection to Post: 150mm
No arms from ring to post to allow for full post length 3m padding
Net: White Cotton mesh or Chain mesh, to be open at both ends
Steel loops/eyelets arc welded to the underside of the ring to allow net attachment preferred

 See the further information on Goal Posts



Summary Details: Lights

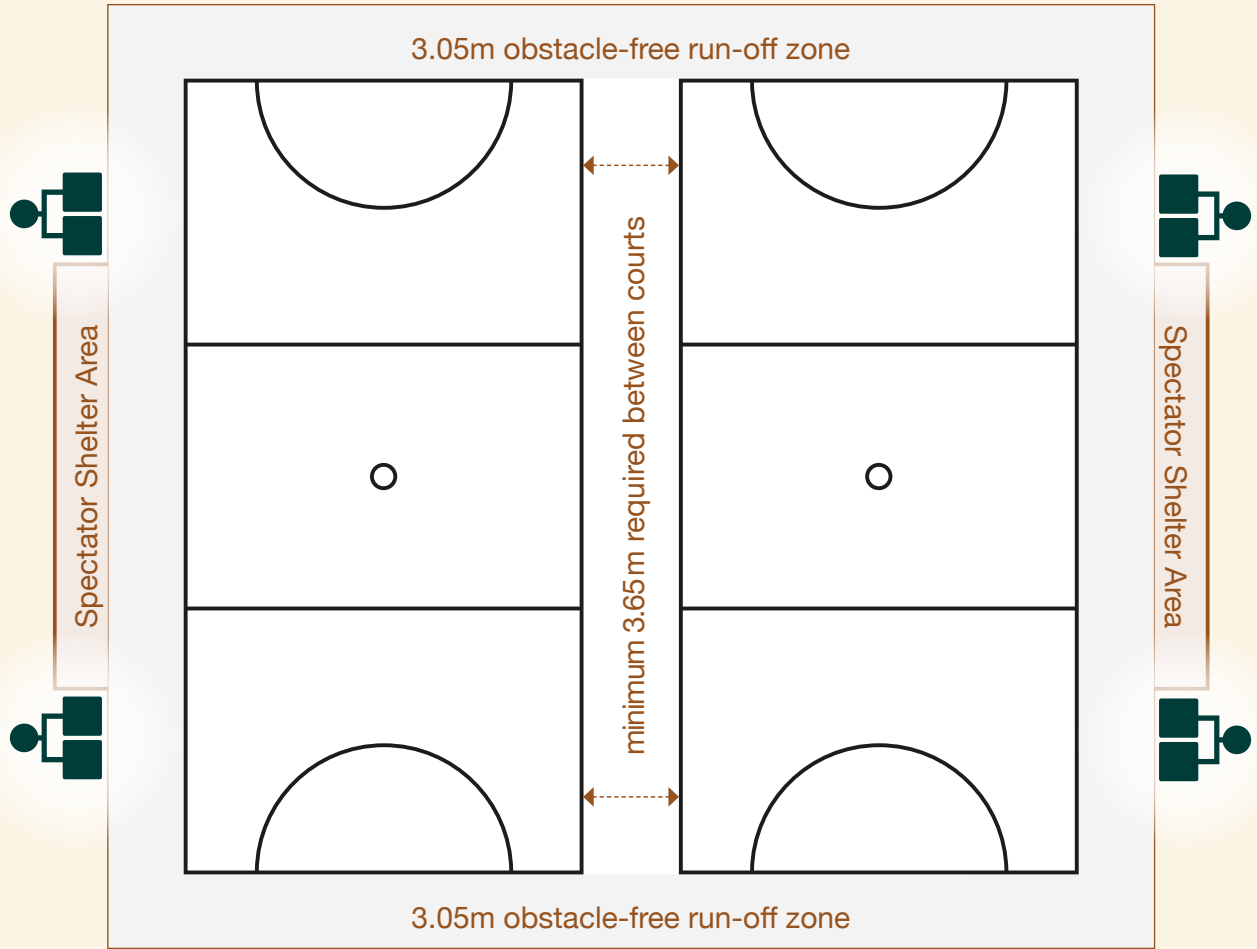
Lights	Examples
Outdoor netball courts:	200 lux lighting to competition standard (outdoor).
Class 2: 200 avg lux: Regional/Club/Local Comp	Level of play: Competition
Class 3: 100 avg lux: Low Level/Training	Average lux: 200
Indoor netball courts:	Number of poles: 2 or 4
Class 1: 750 avg lux: International/National	Number of luminaires: 2 per pole
Class 2: 500 avg lux: Regional/Club/Local Comp	Pole height: 10-12m
Class 3: 300 avg lux: Low level/Training	Floodlight: LED

All outdoor lighting systems should be professionally designed to ensure compliance to standards – AS2560.2.4 including luminosity & uniformity requirements.

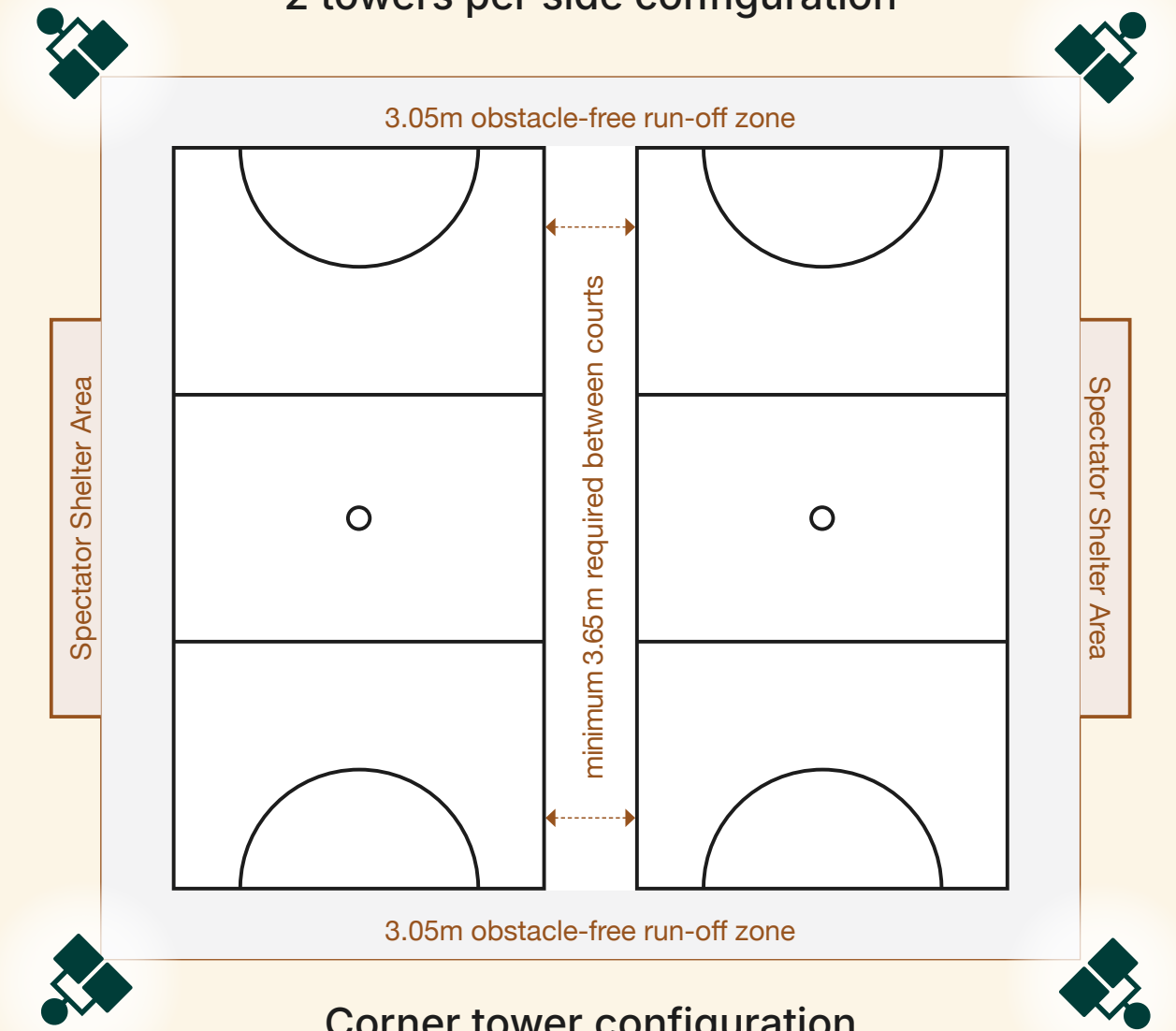
For further information, see the Netball Lighting Fact Sheet

 See also further information within this Guide

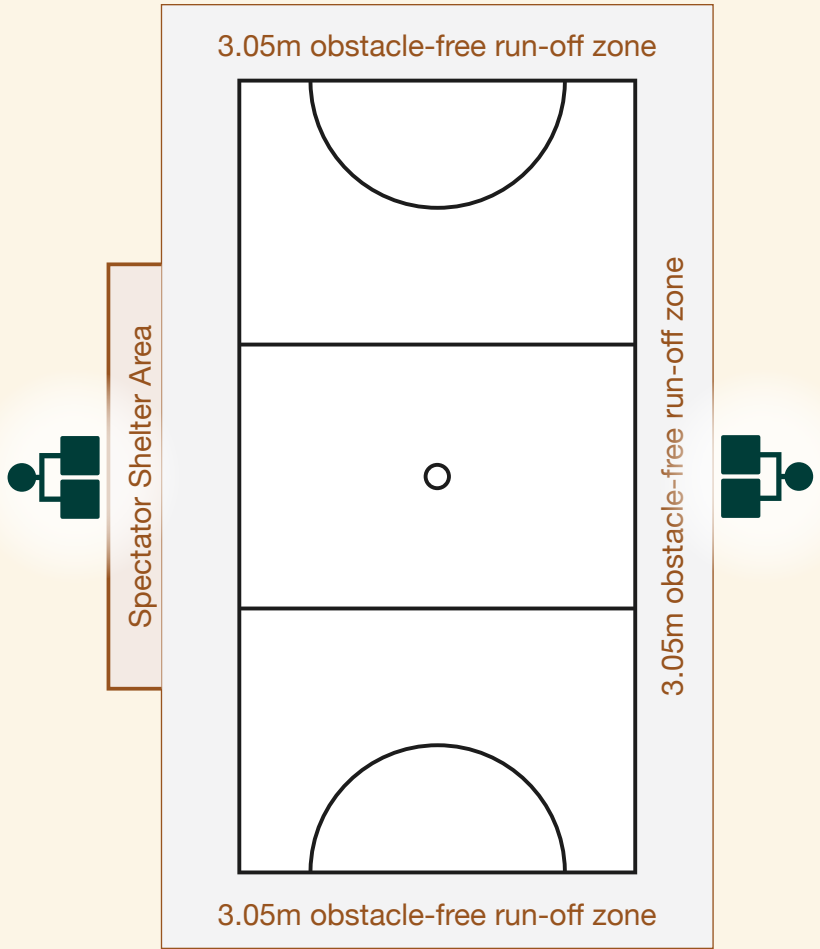
NOTE: Facilities catering for Colour Television (CTV) broadcast will require higher lux averages than those stated above. Therefore, specialist lighting advice should be sought on a case-by-case basis. A side lighting system is generally used for outdoor courts. Side lighting gives better control of spill light outside the playing area & is more economical for one or two courts. Lighting to the goal ends of the court is not recommended because of glare when shooting for goal. Lighting impacts the environment. Design to AS4282 to minimise spill & obtrusive light.



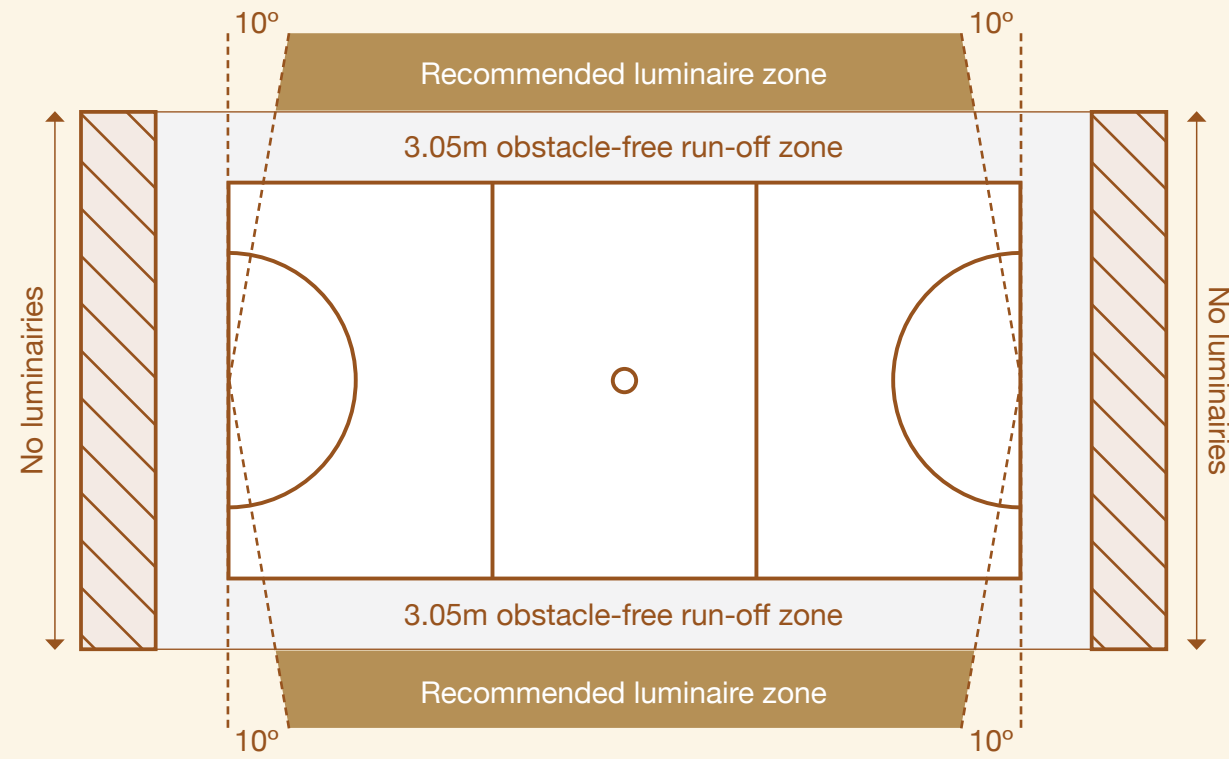
2 towers per side configuration



Corner tower configuration



1 tower per side configuration



Recommended luminaire zone including no luminaire zone.

NOTE: Examples provided here are of the three most common lighting layouts. Side (2 poles per side), side (1 pole per side) & corner layout. Including the No Go Zone diagram. The examples are a layout guide only (not detailed design). All facilities must have a project specific lighting design completed as light tower location, luminaire type and luminaire tilt need to be considered and computations completed to ensure compliance to AS2560.2.4 Lighting Standard and AS/NZS 4282:2019 Obtrusive Lighting Standard.

Compliance

Court Dimensions & Run-Offs in Detail

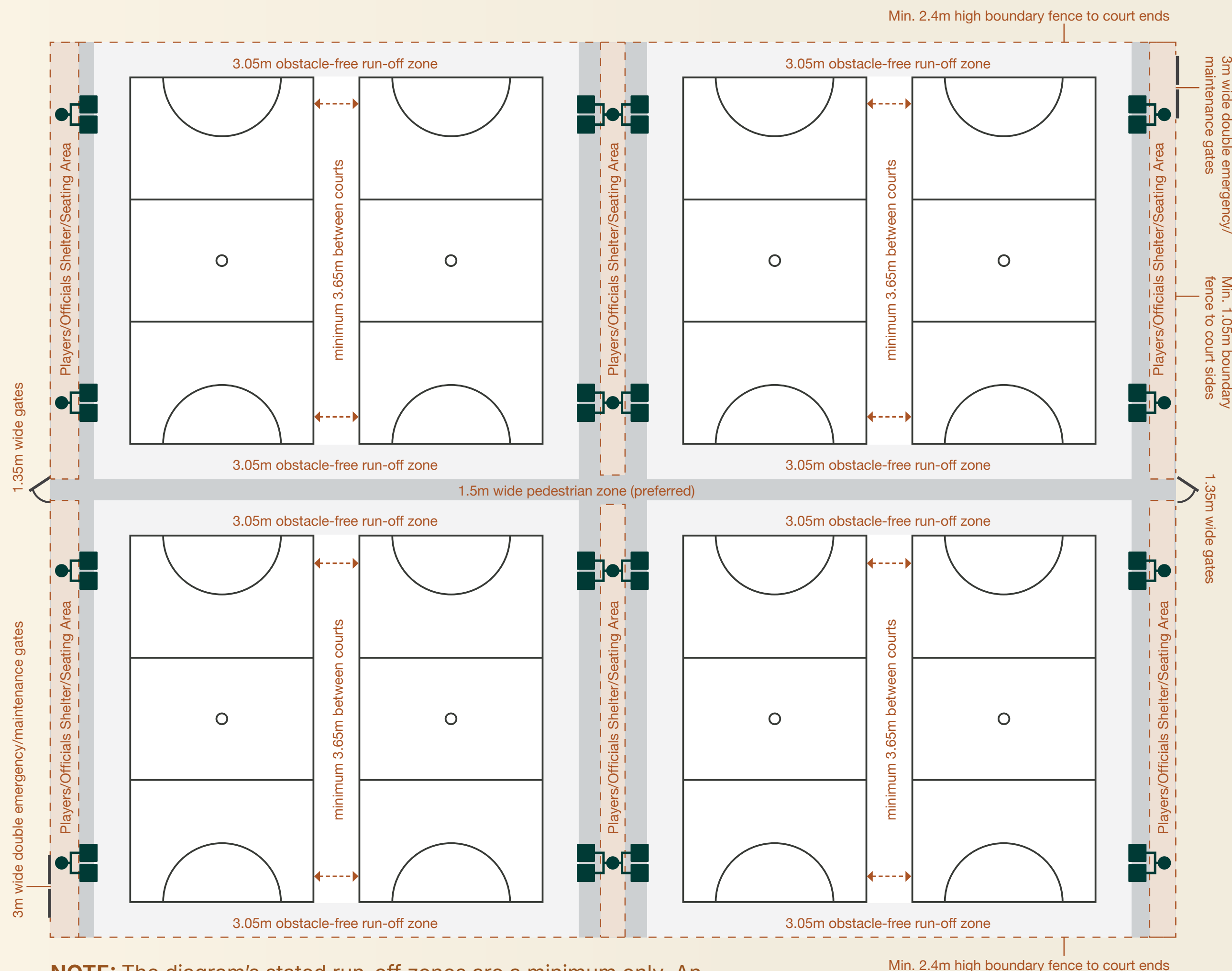
The court measurements and run-offs, outlined to the right, form part of the current Official Rules of Netball as provided by World Netball (2024), which Netball Australia is a member of.

Netball Australia and State/Territory Member Organisations follow the facility specifications outlined in the Official Rules of Netball.

All run-off zones must be clear of spectators and obstacles such as seating, light towers, fencing, drainage infrastructure and shelters (including the veranda/ roof overhang). Unlike sports such as basketball and football, netball umpires officiate outside the court boundaries. To ensure the umpires can safely run around the outside of the court as well as providing a run-off space for players, courts must have these clear run-off zones around the court perimeter.

All run-off zones must be of the same consistent surface and level to the courts playing area without gradient or surface type changes or trip hazards.

NOTE: a +/- 2mm sharp gradient change (step) can be considered a trip hazard.



NOTE: The diagram's stated run-off zones are a minimum only. An additional construction tolerance should be added to each (approx. 100mm) in the detailed design stage to ensure compliant court dimensions and run-off zones are achievable during the construction and line-marking works.

NOTE: EXISTING FACILITIES

Many older facilities constructed before the current standards were in place have not yet been upgraded to compliant standards. This is mainly due to limited funding budgets and/or site constraints.

Netball Australia understand that there are many older non-compliant facilities. However, minimizing risk to users is paramount, so safety precautions must be adopted to ensure any permanent structures such as light towers and large shelters that are within the courts run-off closer than 3050mm recommended from the court sideline or goal line should be fitted with safety padding. These facilities should plan and budget to upgrade their court(s) to bring their facility in line with the current standards when possible. Outdoor seating and small structures should be relocated outside the run-off zones, as the cost should be minimal in most cases. It is expected that all new or redeveloped netball courts comply with the current standards.

Compliance Further Information



Further advice is provided in the Design section of these Facility Guidelines.

Compliance

Alternative Programs/Markings

Summary of Modified Netball Line Marking and Goal Heights			
	LINE MARKING ALTERATIONS	GOAL POST HEIGHTS	FACT SHEET
WOOLWORTHS NETSETGO	N/A	2.4m height goal post/ring	ModifiedRulesSummary
FAST FIVE	Inner goal circle line is 2.5m from the back of the goal post/goal line within the goal circle.	3.05m height goal post/ring	Fast5-Rules
SUPERSHOT	Inner goal circle line is 3m from the back of the goal post/goal line within the goal circle, allowing for a 1.9m wide supershot area between 3m and 4.9m.	3.05m height goal post/ring	
ROLLING SUBS	A 1m long line or box, located a min. 2m from the court sideline in front of the home and away team benches.	3.05m height goal post/ring	Substitution information Designated Substitution Zones
TACTICAL SUBS	N/A	3.05m height goal post/ring	Tactical Changes Designated Substitution Zones



Process

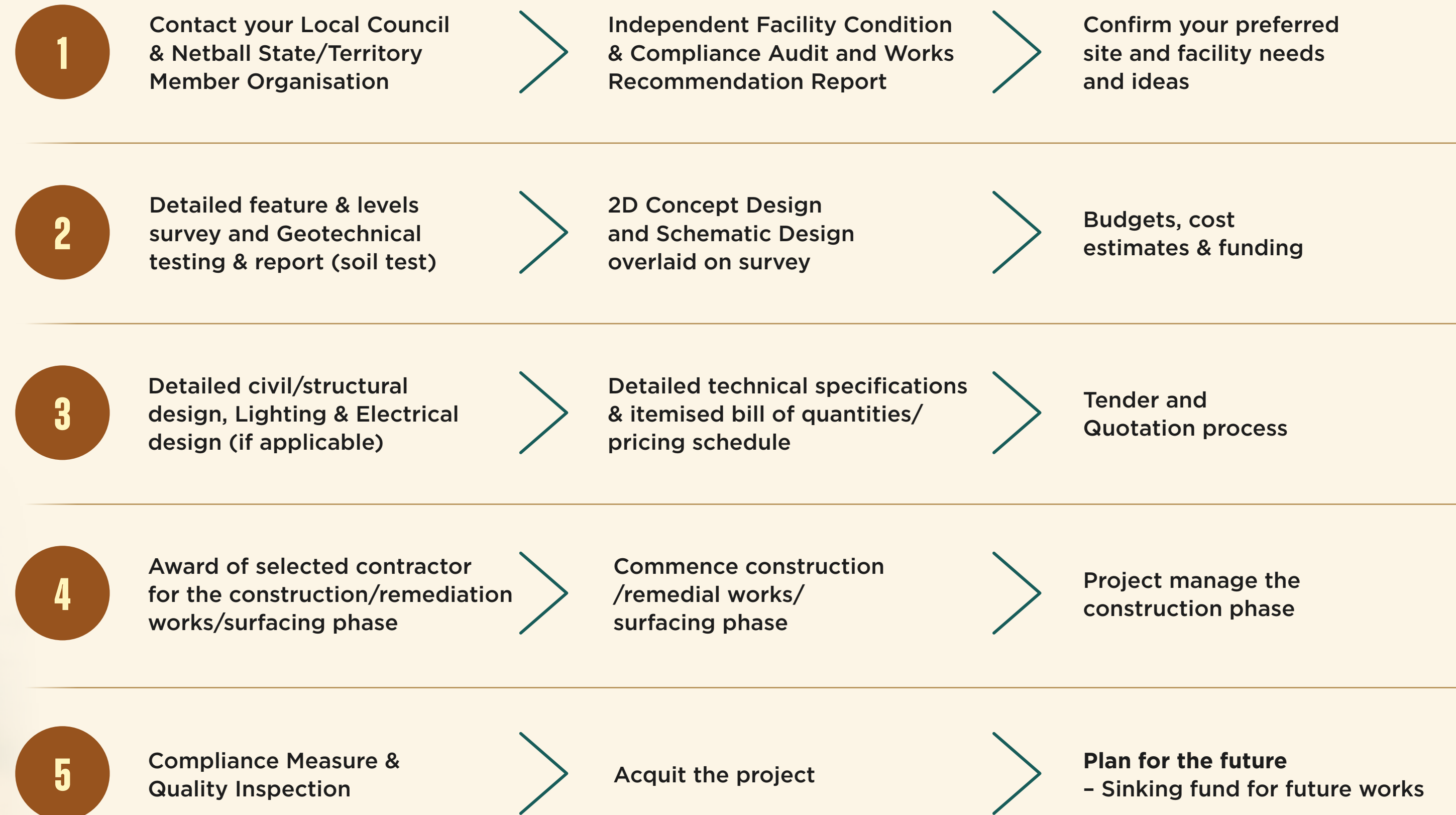
Steps in the Netball Court Project Journey

Project Process

Not all projects are the same. Small remedial works or partial rebuilds & resurfacing projects may not need to cover every item in the process on this page. However, the general process is the same and this general guide should still be referenced to ensure a sound project delivery no matter what the size.

A strong relationship and liaison with the landowner (ie local Council) throughout the process, is vital in the success of a project.

Stage From investigations to project completion and beyond



Whom to Consult With

Local Council

If you are part of a Club, Association or League then you should consult with your local Council about your project first.

They are aware of the various funding opportunities and most funding bodies require you to have the support of your local Council in order to receive funding.

Netball Member Organisation

Councils, Clubs, Associations and Leagues should contact their State/ Territory Member Organisation at the very start of the project journey.

We strongly recommend that you liaise with your relevant State/Territory Member Organisation throughout the project. The relevant State/ Territory Member Organisation may provide initial basic technical advice, where it is possible, to affiliate Clubs and Associations in their relevant state.

NOTE: The local State/ Territory Member Organisation should be the first port of call for Clubs, Associations, Leagues and Councils – from project concept through to project completion.

Works recommendations and more detailed advice can be provided on a fee for service basis through independent service providers.

Services range from:

Site inspections

Facility condition & compliance audit reports

Project cost estimates

Concept designs

Preparation of technical specifications

Detailed design drawings

Management of the tendering processes

Full project management & project sign off including compliance checks.

Member Organisation contacts



NETBALL ACT

Northbourne Ave, Dickson ACT 2602
PO Box 423, Dickson ACT 2602
T: 02 6241 4088
E: play@netballact.com.au
W: act.netball.com.au



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Inspection

Independent Facility Condition & Compliance Audit and Works Recommendation Report

There are several factors that will determine if a court requires simple repairs, resurface or full reconstruction. An independent assessment of your project is an important step in achieving a successful outcome. A facility condition and compliance audit will assist in determining the following:

- The condition of the existing court base, pavement and court surface. Will crack repairs, resurface, re-sheeting or partial rebuild suffice, or is a full reconstruction required?
- The constraints, issues and design possibilities of your greenfield site or existing facility
- There are many possible reasons for pavement failures, including but not limited to: insufficient pavement design and construction, poor drainage and/or tree root invasion. These identified issues will need to be addressed and corrected to ensure a long-term outcome once your redevelopment works are complete
- Is the facility compliant? All court dimensions, run-off zones and goal post heights are measured and compared to the current standards required for netball courts

- The condition of the supporting infrastructure: The goal posts and light, shelters, storage, seating etc are assessed for potential risks or upgrade recommendations
- Shelters, seating, parking, change room/toilets and accessibility provisions: It is important to identify where the facility can improve in regard to these amenities
- Recommendations for work required: To improve the playability and functionality of the netball court facility. Short-term and longer-term recommendations can be provided for planning & budgeting purposes.
- When resurfacing or reconstructing a court, it is important to consider addressing compliance and any factors that have contributed to a courts need for remediation. Most of the time this can mean simple, inexpensive solutions such as resetting the goal post locations to achieve compliance, installing drains or lopping tree branches etc prior to resurfacing.

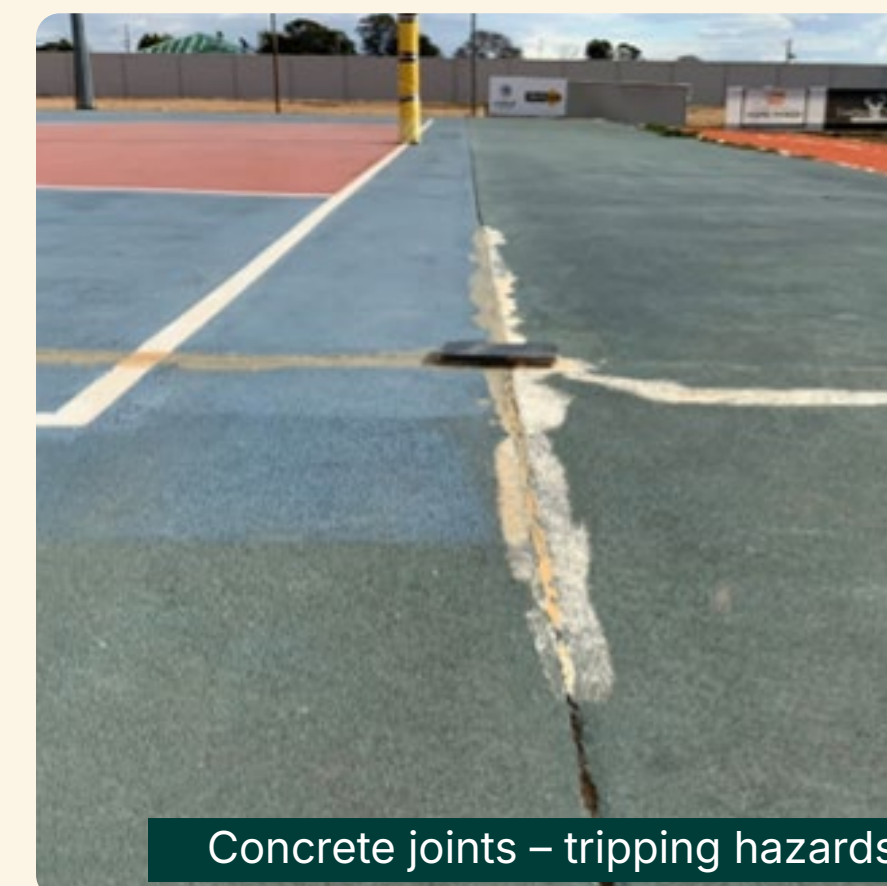
NOTE: Take the time to invest in a facility audit. Identifying the issues and works required in a holistic way can reduce project risk and greatly improve project outcomes.



Asphalt cracking



Non-compliant court



Concrete joints – tripping hazards



Construction joints through court

Selection

Selecting a Site

Site Selection Overview

On many occasions the available land set aside by Councils for recreational activities is leftover land that is not suitable for the construction of buildings and/or housing.

A mandatory investigation of the soil type, and drainage conditions of the existing or proposed site is crucial. This will determine whether the land is suitable for the construction of new netball courts and what type of pavement construction is required.

Netball courts should be positioned in relation to the service they are to provide to the community. For example a football/netball club court would most often be positioned near the football amenities and existing supporting infrastructure.

Larger Association court facilities are best placed where the number of courts can increase as demand increases. It should be accessible and safe for the community it services and ideally provide space for increased pavement sizes to accommodate walkways between courts, marshalling/warm up areas, shelters and lighting. Many large netball facilities are well positioned near indoor sports stadiums to take advantage of the existing change/toilet facilities and car parking.

All netball facilities should be well supported with toilet/change room amenities, car parking and accessible path connections.

There are two major benefits to doing this:

- 1 Visibility between the football oval and clubrooms and the netball court are recommended to facilitate a cohesive relationship between the two sports
- 2 Financial benefit to the project; new toilet or change facilities, additional car parking or shelters can add many dollars to a project.

Site Preference

Preference should be given to a site that provides the following:

- Adaptability to the surrounding area with good supporting infrastructure already in place
- Compactable soil - avoid highly reactive clays where possible
- No large trees within a reasonable distance (approx. 15-20m) from the proposed courts, or else root barriers or selected removal will be required (removal can be costly and require Council permits)
- No overhead electrical wires or major underground services infrastructure, such as: mains sewer, mains water, Fibre Optic Cable – build over permits may not be possible for certain underground assets
- Scope to construct the court and surrounding areas so that the court drains freely and does not allow water to enter or pond around the pavement area.
- Sufficient space to build full sized courts with correct clear runoff zones and space for walkways, shelters and marshalling/warm up areas
- Provide good machinery access and a reasonably level ground. Sites with large gradient/level changes can be built on but the construction costs can be much greater with extensive earthworks and retaining wall works required.

Sites to Avoid

Sites should be avoided if they:

- Contain uncontrolled fill
- Have a high-water table or are prone to flooding
- Have poor drainage
- Have a poor soil rating
- Have a history of having unsuitable fill material; including buried waste, tree stumps
- Cannot accommodate compliant courts and future growth predictions
- Cannot service the expected traffic flows, power supply demand or car park and toilet requirements.

A thorough site inspection and site history can provide valuable information, but a comprehensive geotechnical report will determine the most accurate design recommendations to ensure a long-lasting pavement. This will minimise premature base failures.

NOTE: On no account should the design or construction process commence without appropriate soil testing and reporting. The likelihood of premature pavement failure can increase greatly if this vital step is ignored. Fixing a failed court can end up costing more than the original construction cost.



See 'Site Investigations' in these guidelines.

Concept

Concept Design

Once the site is selected engaging an industry expert to develop a concept design plan is recommended.

This will ensure that all future needs are met. This can clearly illustrate the proposed works and confirm that the project is viable on the proposed site. Potential stakeholder communications and funding applications can be greatly improved by including this type of information. It also minimises any confusion regarding the nature and scope of the proposed project.

The concept design should ensure current standards for court dimensions and minimum run-offs and accessible pedestrian access/ walkways and supporting infrastructure such as, players, scorer's and spectator seating, benches and shelters, storage shed, scoreboards and amenities are accommodated. Where possible it should also depict spoon/grated drainage, pits, tree root barriers etc. A concept design can be drawn over a scaled aerial photograph or for a more accurate plan a feature survey should be used. It is important to highlight any

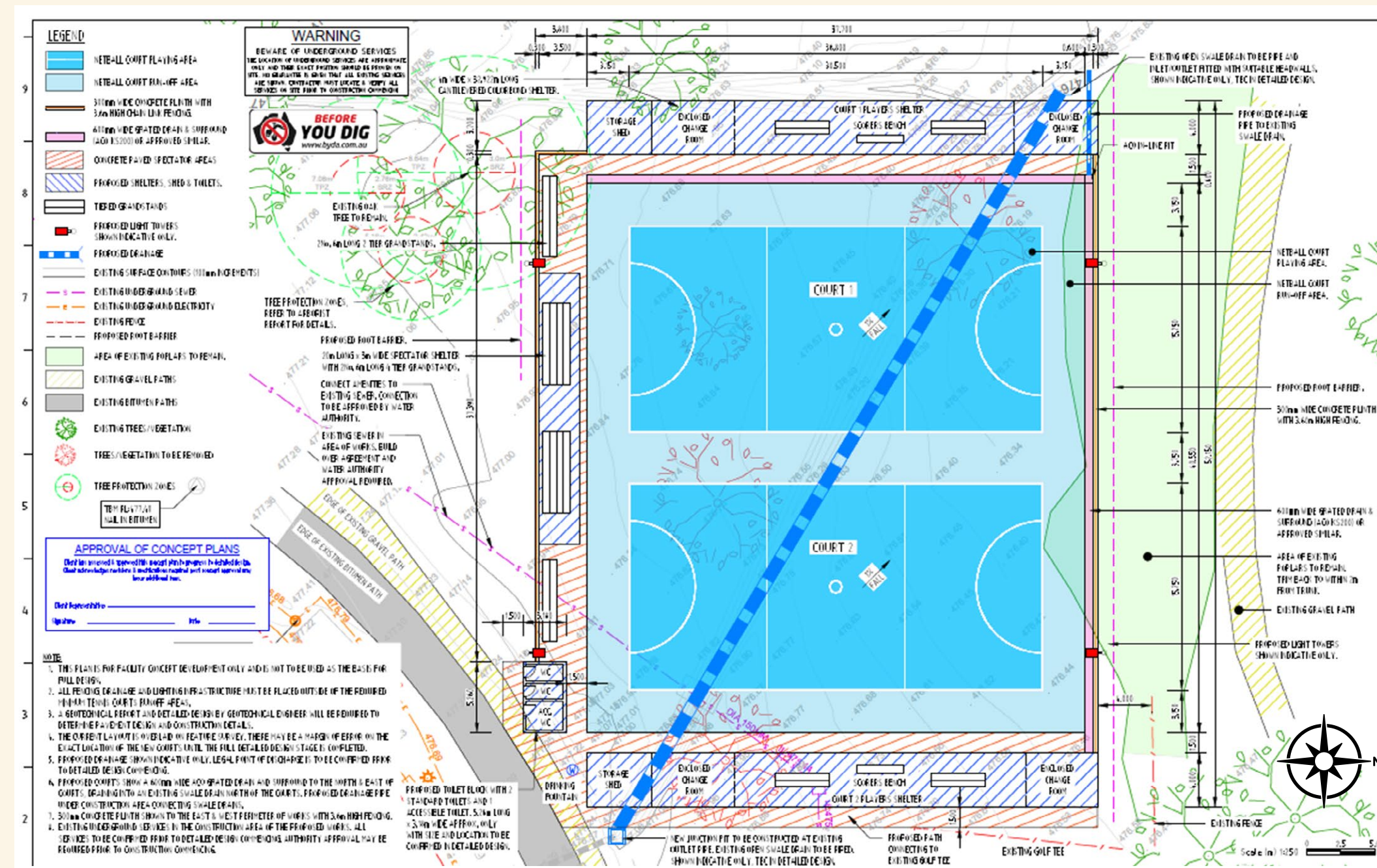
underground services that may require build over permits, approvals or realignment on the concept plan - see existing underground sewer pipe on the concept example on the page. Underground services can add significant cost to a project. The courts should be orientated north/south wherever possible.



See for Court Layout



See for Court Orientation



Example of Concept Design



Capital

Budget & Funding

Budget Overview

Obtain enough funding to build the courts right the first time!

One of the biggest mistakes Clubs, Associations and Councils make is not estimating a large enough budget to build the court(s) properly. Important design components such as pavement type and construction standards, drainage and tree root barrier work quite often drop off a project or are altered simply because the Club/Council did not budget correctly in the planning and funding stage. The courts can fail quickly when this happens, and subsequent rectification costs can balloon rapidly.

Poor drainage and tree root damage contribute to the vast majority of premature pavement failures.

NOTE: *it can cost more to fix a failed court than what the court cost to build in the first place!*

If the budget doesn't exist to build the court with the proper provisions, then don't build it – wait a little longer, get the right amount of money together and build it properly or alternatively, stage the project.

Cost Estimates

Obtain an independent cost estimate for the project early in the process to ensure accurate costings are considered in the search for funds. This should allow the construction of a quality, long-lasting netball court for each specific site.

Must have items to consider in your cost estimate & budget:

- Costs for site investigations, including feature & title surveys and soil testing (geotechnical).
- Concept design works.
- Include a minimum 10% design and construction cost contingency.

 **See Contingency on the next page for more information.**

- Allow a nominal sum for feasibility study, permits and fees.
- Surrounding ground shaping and drainage work.
- Demolition of existing infrastructure (if required) and/or preparation of the site.
- Court base construction including, subgrade, crushed rock & pavement layers:

MUST ensure sufficient budget to allow a sound pavement to be constructed for your sites soil type or else the court will fail.

MUST allow a large enough pavement to accommodate compliant court dimensions & run-off zones.

 **See 'Compliance' of these guidelines**

- Tree root barriers to all external pavement boundaries to help protect the pavement from tree root invasion and

moisture changes caused by existing trees and any future tree plantings.

- Concrete plinths and spoon drains to support the entire pavement perimeter (especially for asphalt pavements). Install agi drains and a number of large drainage pits to carry storm and ground water well away from the pavement area.
- Independent project management to ensure the project is designed and delivered according to the site investigations, design and specifications.



Capital

Budget & Funding

Cost Estimates *Continued*

Items to also include, if relevant to the project:

- Circulation space for pedestrian access and shelter / seating areas between courts (in addition to the minimum run-off areas) for larger multiple court facilities – 1.5m wide additional space is preferred where possible.
-  See 'Inclusivity, Accessibility & Signage' in these guidelines.
- Accessible pedestrian connections to the court from the car park and change/clubroom facilities
- Acrylic surface – Ensure the entire court and run-off areas have a consistent surface in order to be compliant. Preference is to surface to the outside edge of pavement or in a straight line to the face of any fencing
- Fencing – Low level is more welcoming and preferred if court security is not an issue
- Court and pedestrian/access lighting
- Supporting utilities including power supply to the site (Power supply upgrades can be very costly if they are required)
- Marshalling/Warm up pavement area(s) with a number of goal posts (ideal at large multiple court facilities)
- Change room/clubhouse/toilet facilities (dependent upon venue size and usage)

- Car park facilities (size dependent upon the number of courts and predicted usage)
- Construction of supporting infrastructure including seating, shelter, drinking fountain(s)
- Accessible storage room/shed for maintenance, game day and training equipment
- Landscaping to improve aesthetics and provide a welcoming environment. This will also reduce court maintenance issues such as loose stones, dirt and dust on the court surface
- Any site-specific issues that may result in potential liability insurance issues should be allowed for.

IMPORTANT: If the need for an asphalt or concrete base is not yet known, a geotechnical (soil test) report at this stage will be needed. This will determine the site's suitability for an asphalt or concrete pavement and therefore the predicted costs. Alternatively, budgeting for a worst-case scenario (concrete base with stabilised subgrade) is recommended.

Contingency

Whether on a tight budget or not, a contingency allowance should always be set aside in addition to the quotation price accepted.

This will provide a buffer for the unexpected or accidentally forgotten items or unforeseen subgrade issues that can crop up throughout construction projects.

A safe allowance is normally around 10% of the accepted contract price, however, lesser amounts can be used where there is minimal "in-ground" works required or the design and/or specification documents produced are considered to be of a high-quality standard. If the geotechnical report indicates a poor soil type or excessive ground moisture, then a larger contingency may be required as the likelihood of identifying soft spots/unstable ground during the sub-grade construction stage may increase.

Funding

There are numerous funding opportunities available. However, funding for netball court projects is highly sought-after in a highly competitive grants market. Clubs, Associations and Leagues are advised to follow the advice in these Technical Guidelines.

 See 'Project Process' in these guidelines.

Many funding bodies require Council support for the project and quite often require the Club, Association or League to submit the application through their local Council (auspice).

Your relevant State/Territory Member Organisation may also be able to point you in the right direction and offer support and assistance where possible.

 See 'Member Organisation Contacts' in these guidelines.

Investigate

Site Investigations

Thorough site investigations are critical to every redevelopment project; whether it be reconstructing an existing court or starting from scratch on a greenfield site.

Sound investigations may save you many thousands of dollars or even a life! Before any detailed design works can proceed, the following are essential:

- Geotechnical report/Soil report
- Title survey
- Service detections
- Feature survey.

Geotechnical Report/Soil Report

No major construction works should ever be planned without a site-specific soil report from a geotechnical engineer.

Before the design and construction stages commence there is the need to ascertain the site's soil type. It is essential that a Geotechnical Engineer conducts soil tests on the project site and provides a report with sports pavement recommendations. Light tower footing recommendations should also be provided, if applicable.

This specialist consultant will undertake site investigations by means of drilling bore holes and taking soil samples in and around the proposed court site to ascertain the existing soil type and condition. The results of these samples and tests are then used to determine the structural requirements of the netball court; excavation depth, sub-grade treatment, sub-base and base detail

for construction (depth of excavation, crushed rock layer depths and pavement type and thickness).

NOTE: Light tower construction requires a deeper soil test (approx. 3–5m depth) than a pavement only construction (approx. 2m depth), so it is important to let the civil engineer and/or geotechnical company know if you intend to install light towers.

The civil engineer will determine how the subgrade should be prepared and design a pavement structure based on their site inspection and review of the geotechnical report. Stabilisation of the subgrade with lime and cement may be required and one, two or even three layers of Fine Crushed Rock (granular material) may be required at the sub-base stage in the court construction. The number of layers and their depths will be dependent on the soil type and the type of base (asphalt or concrete) proposed. There is no 'one pavement design that fits all'.

NOTE: Each site will be different. Therefore, don't ever presume that the depth of the sub-base material and type of base used at a neighbouring town's netball club will be ok for your netball court project.

The results of the soil tests are classified based on the expected movement of the soil; this is generally related to the capacity of the soil to shrink and swell.

The typical classifications are:

CLASS 'A': Little or no ground movement

CLASS 'S': Slightly reactive site

CLASS 'M': Moderately reactive site

CLASS 'H': Highly reactive site

CLASS 'E': Extremely reactive site

CLASS 'P': Problem site.

The geotechnical report should also advise the following:

- The depth of the topsoil/existing court pavement.
- If there is any fill and if so whether it is likely to compact adequately or able to be reused.
- If there are any signs of decomposing vegetation, rock, rubble and/or rubbish within the subgrade.
- If the soil profile is excessively moist and/or over a perched water table.
- The depth to which a solid and firm sub-grade is likely to be found.

Soil types and ground conditions can vary greatly from site to site; sometimes it can even vary within the one site. Therefore, it is critical that soil testing is carried out on every netball court construction project.

NOTE: NEVER assume that you know what the soil type/condition/classification is for a particular site.

Investigate

Site Investigations

Title Survey

A title survey should be undertaken to determine the actual title boundaries in which the courts can be built. Title boundaries can have a major impact on designs, and it is important to note that many physical boundaries (fences) are not accurate. Title boundaries within a reserve can also impact power supply requirements.

NOTE: Never assume that a fence or visible boundary markers are accurate. It can be very costly to find out that the courts have been built over someone else's land after the fact.

Services Detection

Service Detections should be undertaken to determine what underground services are present. This is required before any geotechnical drilling can take place and will also identify what services may be affected by the court build.

Some underground service providers do not allow their assets to be built over. A query to 'Before You Dig Australia' (BYDA) is an absolute must (telephone 1100 or query online at www.1100.com.au) but never assume that this will tell you everything. Some services are not known to BYDA and many private or reserve land parcels are not included in the BYDA documents. You should always engage a professional service detection company to scan the site and mark out all underground services. An accurate plan with the services plotted should be provided as markers can wear or wash away quickly

in heavy rain. Services should be taken very seriously as some (such as power) can have life threatening consequences if they are accidentally hit during soil test drilling or construction. The location of underground services may also save many thousands of dollars. Never assume that there are no underground services at a greenfield (clear) site. Often there are no visible markers to alert prospective designers or court builders.

Feature Survey

A feature and levels survey should be undertaken to produce a topographical/feature survey of the site. Feature surveys are used as a base for the concept and detailed design stages. This allows the designers to plot the courts/pavement areas and the supporting infrastructure (eg shelters & light towers) accurately.

A feature survey shows the following:

- Existing levels over the site
- Existing path of overland water flow so that this can be considered and incorporated into the civil and drainage design
- The extent of earthworks (cut and fill) that will be required to create a platform for the netball court construction
- The exact location of any existing features on the site – such as trees, fences, buildings, concrete pathways, power supply lines and water meters. It is important to know if any existing features will impact on the proposed construction works (the courts may need to be designed around certain features or some features may need to be removed, demolished or relocated)

- The existing services as identified and marked during the service detections works (as noted above)
- The title boundaries as identified and marked during the title survey works.



Design

Detailed Design

To achieve a desirable long-term outcome, a sound design process should be followed.

Design Overview

To achieve a desirable long-term outcome, a sound design process should be followed. The following design considerations for a netball court facility are recommended:

- **Determine the current and future needs of your facility**, especially in high growth corridors to support projected population and the sports growth – consulting with the club, association, community, your member organisation and local government to determine future usage requirements is recommended; How many courts are required? How will the facility interact with the surrounding infrastructure? Identify any gaps where additional infrastructure is required (i.e.: paths, car parking, change rooms, shelters, seating).
- **Ensure appropriate investigations are undertaken such as soil testing, feature survey, title survey & engineering advice** – These coupled with the concept design plan will assist in determining the appropriate base for the courts (i.e. asphalt/concrete), appropriate subgrade treatment, crushed rock layer numbers and overall depth, positioning, and overall success of the project.

 **See 'Site Investigations'**

- **Engage an industry expert to develop a concept design plan** to ensure all future needs are met. Ensure current standards for court dimensions and minimum run-offs and accessible pedestrian access/walkways are accommodated. The courts should be orientated north/south wherever possible

 **See 'Court Orientation' in this guide**

- **Liaise with your State/Territory Member Organisation** (i.e. Netball Victoria in Victoria) from the project scoping stage through to the construction stages and project completion.

 **See 'Member Organisation Contacts' in these guidelines**

- **Ensure the courts are compliant** – Netball courts must be 30.5m long x 15.25m wide and have a minimum 3.05m run-off clear zone to the outside of each sideline and goal line and have a minimum 3.65m between courts. They must be of the same surface and level as the court. This is a World Netball rule introduced to ensure the safety of players and umpires. An additional 50-100mm to all run-offs is recommended to ensure compliance, as it's extremely difficult to build a court to the exact compliant dimensions without it.
- **Ensure court works are designed specifically for each site** to ensure all facets of the facility upgrade are considered. Soil type, existing drainage issues, water catchments and previous pavement failures in and around the site should be considered in any design work. Ensure the pavement is designed to allow compliance to the current standards for court dimensions and run-offs for netball.

 **See "Compliance" sections for more information on the last 2 points.**

- **An independent design and specification package should be prepared wherever possible** – An independent engineer will utilise industry best design principles and consider the soil & site conditions when

designing the court. If a design and construct method is considered, research is important. There are some very reputable design and construct companies in the industry that can offer a great result, but this can be an area where you get what you pay for, so don't base your decision on cost alone.

- **Ensure the court/pavement has adequate fall (1:100)** – Either in both directions or diagonally across the courts on a single constant plane. This should fall to a formed drainage system such as concrete spoon drains to allow storm water to outfall efficiently and away from the pavement area. In multiple outdoor court facilities, grated/spoon drains should be provided between every second court, as a minimum, to prevent unplayable conditions on the lower courts in rain events. Ensure all drainage infrastructure (including spoon drains and pits) is outside of the required minimum run-off zones.

 **See 'Compliance'**

Where fencing is installed, perimeter drainage infrastructure should be positioned outside the fencing wherever possible.

- **Ensure the court's perimeter drainage is also designed** to allow stormwater to drain efficiently away from the pavement areas. Spoon drains should be installed at the base of retaining walls and earthen swales should be provided around the court pavement to minimise water ingress onto and under the pavement from the surrounding areas. Perimeter agi-drains should be installed to protect the pavements subgrade and sub-base from moisture variations to avoid major pavement damage (such as cracking and collapsing).

Design

Detailed Design

Design Overview Continued

- **Tree root barriers should be installed to all boundaries** where existing and future plantings may occur within 10- 15m of the pavement. This will minimise tree root damage in the future. Avoid planting near courts as moisture variations and tree root invasion in the subgrade around and under the pavement can cause significant damage to the pavement.
- **The court's surface should not hold water.** The surface tolerance is +/- 3mm maximum deviation when measured in any direction under a 3-metre straight edge. There should be no obvious water ponding areas across the pavement. Low areas hold water and collect silt, making the court slippery underfoot and creating ongoing maintenance issues. Ponding areas are also unpredictable underfoot and prevent the foot from contacting firmly with the court surface when in play. This can result in an unplayable court in wet conditions – this should be avoided at all costs as netball is often played in wet conditions.
- **Ensure goal posts are specified correctly** as per  **'Goal Posts'** in these guidelines; they need to be 3050mm high and fitted with full-length high-density foam padding.
- **Provide clear direction regarding line marking**
 - Ensure all dimensions and run-offs are compliant with the current standards for competition. All lines must be 50mm wide with clean sharp edges and be a textured water-based acrylic.

 See 'Line Marking'

- **Address accessibility throughout the site** to ensure compliance with the Disability Discrimination Act (DDA). Netball facilities should be inclusive and accessible to all members of the community. Path connections and/or ramps should be provided between the court(s) and the car park, changeroom, toilet and pavilion facilities (A brief guide to the Disability Discrimination Act is available online [here](#) .

 See 'Inclusive facilities' section

- **Consider installing seating and shelters** to the sideline boundaries of the court to accommodate and support the players, coaches, scorers and spectators. These must be outside the required run-off zones (including shelter veranda/overhangs).
- **Install a drinking fountain** with bottle filler in close proximity to the court facility (if possible).
- **Fencing is not essential for netball, however it is encouraged.** If it is included, it should comply with the current standards AS1725- 2010 Part 1, 2 or 5 (depending on height). Fencing should allow gates for emergency/maintenance access and sufficient pedestrian access gates for practical reasons. Preference is for 1.05m high black powder coated chainmesh fencing with top and bottom rails to sidelines and a minimum 2.4m height to court ends to improve game day functionality whilst maintaining a welcoming feel. If security or safety is an issue, 3m high fencing would suffice. Where high fencing is used, consider placing circulation space/paths/spectator viewing areas inside the fence.

 See 'Fencing'

- **Lighting should adhere to the current standards for sports lighting standard AS2560.2.4** (see NA Netball Lighting Fact Sheet). Ensure the lighting infrastructure is designed and installed outside the required clear run-off zones. The design, layout and illuminance (lux) ratings should be suitable for the type of facility and level of play expected. Lighting should also be non-obtrusive to nearby residences and meet future growth/needs.



Design

Detailed Design

Base Choice (Asphalt or Concrete?)

As noted previously, a geotechnical report is required to determine whether an asphalt or concrete base will be required. Some facility managers or Councils may prefer to opt for a longer lasting concrete base regardless of the geotechnical report recommendations if budget permits or if pavement failures are known in the area.

Asphalt is an affordable option if the site has one or more of these factors present:

- Good stable subgrade/soil with little shrink/swell characteristics
- A compactible subgrade
- Is not in a problematic drainage or flood prone area
- Multiple courts being constructed
- Easy access to an asphalt plant
- Access to an asphalt that is free of pyrites or other ferrous (iron) material.

 **See 'Surface Types'**

A reinforced concrete base may be the better long-term alternative if:

- The soil type and/or condition is poor
- The soil report indicates high reactivity
- The site has poor drainage
- The site is flood prone.

Even though concrete has a greater up-front cost, a concrete base is most likely the only choice if the soil classification is poor. Getting expert advice at this stage is vitally important, as the right base design will often deliver superior long-term outcomes. It may also lower the project's whole-of-life cost when future repairs and rectification works are taken into account. Concrete will also have a much greater life expectancy than asphalt when designed and constructed well, so the costs can be favourable when looking long term.

It is important to note that concrete bases require construction joints and saw-cuts which will be designed specifically for each project. Construction joints should not be designed within the playing area of the court. They should be designed between courts and/or the court structurally designed without a construction joint (single court) as these often create trip hazards and require ongoing maintenance.

Once again, we reiterate the importance of a thorough geotechnical/soil report before the design and construction processes start. Sites with problematic soil types require expert civil engineering advice and design work. There are a number of concrete slab options available, so it is recommended that a qualified civil and structural engineer be engaged to determine which is appropriate for your specific site. Budgets must be determined based on this advice early in the planning and design process, as the cost can vary greatly between an asphalt and concrete base.

NOTE: Budgets should not determine the base design. Courts constructed with under designed or insufficient bases are likely to fail within a short time frame.

Budget and lifecycle costs should be considered in addition to the geotechnical report and engineers' recommendations when selecting a base type. Asphalt pavements may have a cheaper capital cost however, they can have a shorter predicted lifespan and higher ongoing maintenance cost than concrete pavements.

 **For more information, see NA Maintenance Fact Sheet and 'Lifecycle Costing' in these guidelines.**



Design

Detailed Design

Court Layout

It is recommended that netball courts are designed in relation to the service that they provide to the individual site and user group. For example:

Competition courts, including multiple court and association facilities would benefit from including the following:

- Adequate change room/toilet facilities in close proximity
- Access to potable water
- Adequate shade provision
- Adequate seating, dependent on the level of competition and expected spectator numbers
- Adequate scorers and coaches' shelters, if possible (to the sidelines - outside of the required clear run-off zones)
- Adequate spectator shelter, seating and viewing areas (outside of the required clear run-off zones)
- Sufficient pedestrian/spectator access walkways (outside of the required clear run-off zones). These should be positioned between and to the ends of courts in high movement corridors (an additional 1.5m is preferred in addition to the required run-off zones if considered).



See 'Compliance - Court Dimensions & Run-Offs in Detail.'

- Warm up/marshalling area with a firm pavement
- Accessible path connections between the courts and the courts' supporting infrastructure, such as car parks and clubrooms/changerooms.
- Electronic scoreboard for each court to enable viewing from the team/scorer's benches and spectator areas if possible. This is most relevant for home and away fixtured competitions.

In addition, if the court is part of a football reserve and it services a home and away fixture level of competition, it may be beneficial if the court(s):

- Is positioned as close to the football ground and clubroom/pavilion amenities as possible
- Is positioned as close to the car park facilities as possible with firm & stable path connections to assist access
- Provides sightlines between the football ground and the netball court to encourage a cohesive connection to the football community. This encourages spectator/ player cross overs between the two sports
- Provides scorers', coaches' and spectator shelters positioned on the court sides (outside the required clear run-off zone).

Refer to the 'Inclusive Facilities Fact Sheet'

NOTE: These are recommendations only (not a standard) provided for club/association/council consideration. Stakeholders can benefit from consulting with the user groups. This will assist in determining the most suitable layout and supporting infrastructure required for the particular venue and use.



Design

Detailed Design

Court Orientation

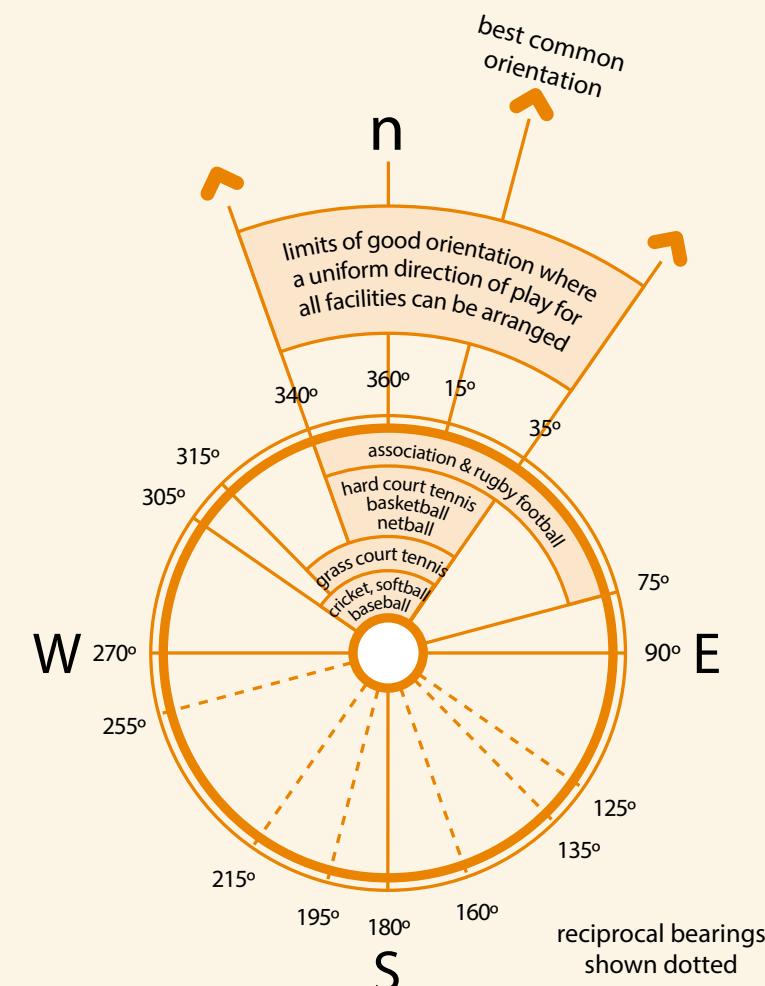
A north-south court orientation is preferred to minimise the effects of the sun's glare.

The time of day for play (early morning or late afternoon) as well as the time of year the sport is played (winter or summer) may have a bearing on optimal orientation. The aim, however, is to determine the advantages and/or disadvantages of the sun's direction and other natural factors. It is generally recommended that playing areas are orientated in a north-south direction to minimise the effect of a setting sun on players. The best common orientation is 15° east of north.

You can alter this by various degrees to increase player comfort or site constraints. There is an allowable limit within the current standards, netball allows between 20° west of north and 35° east of north. This is outlined on Page 6 of the 'Sports Dimensions Guide for Playing Areas July 2008' produced by the Department of Sport and Recreation Western Australia.

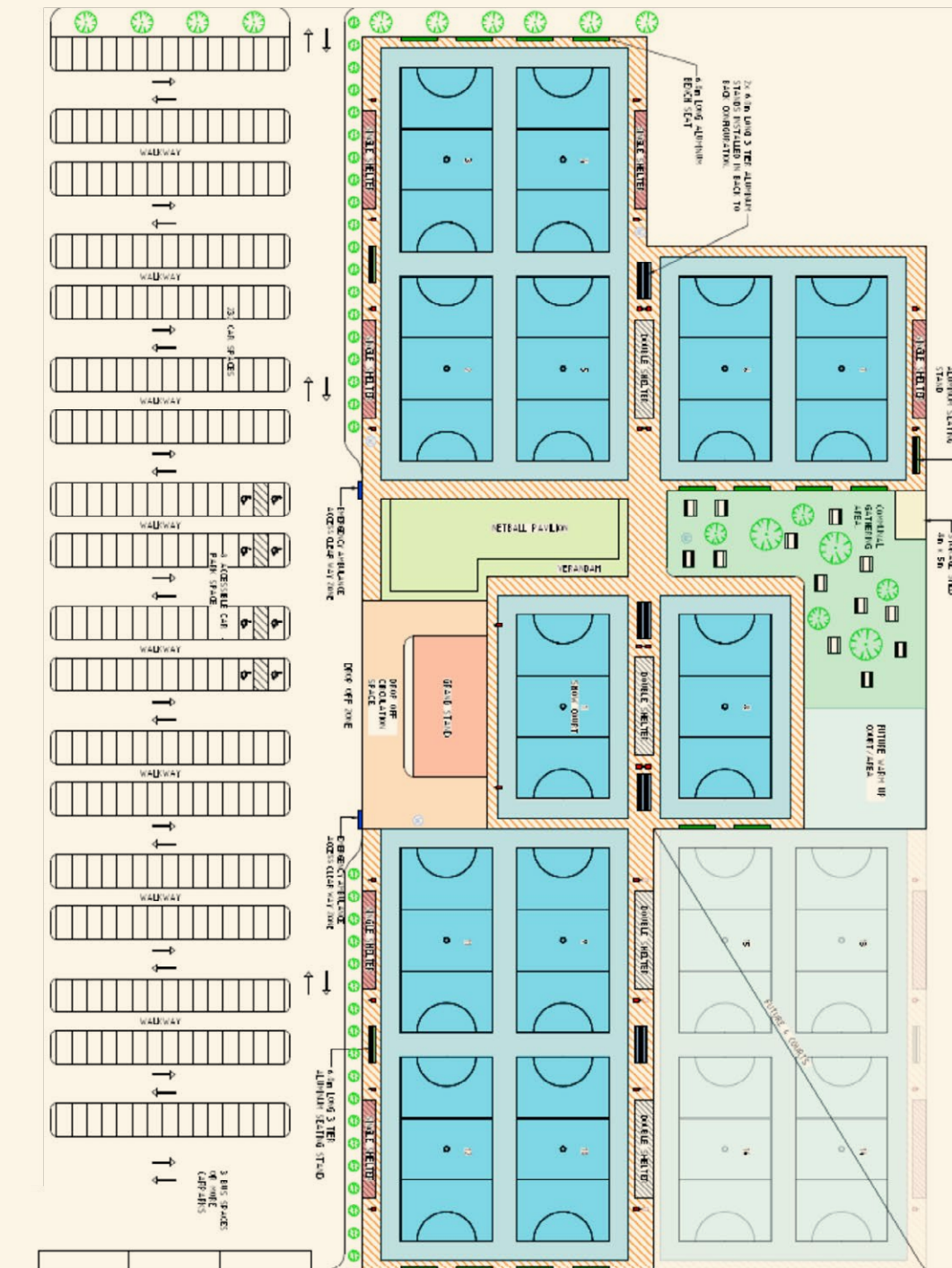
It should, however, be noted that there are some existing and new netball courts designed with an east/west orientation. Although this is not ideal, it may be required where a north/south orientation within the noted tolerance is not possible due to site constraints.

All netball facilities should consider the current and future needs of the site and the intended type of competition. The facility should be safe, practical and fit for purpose.

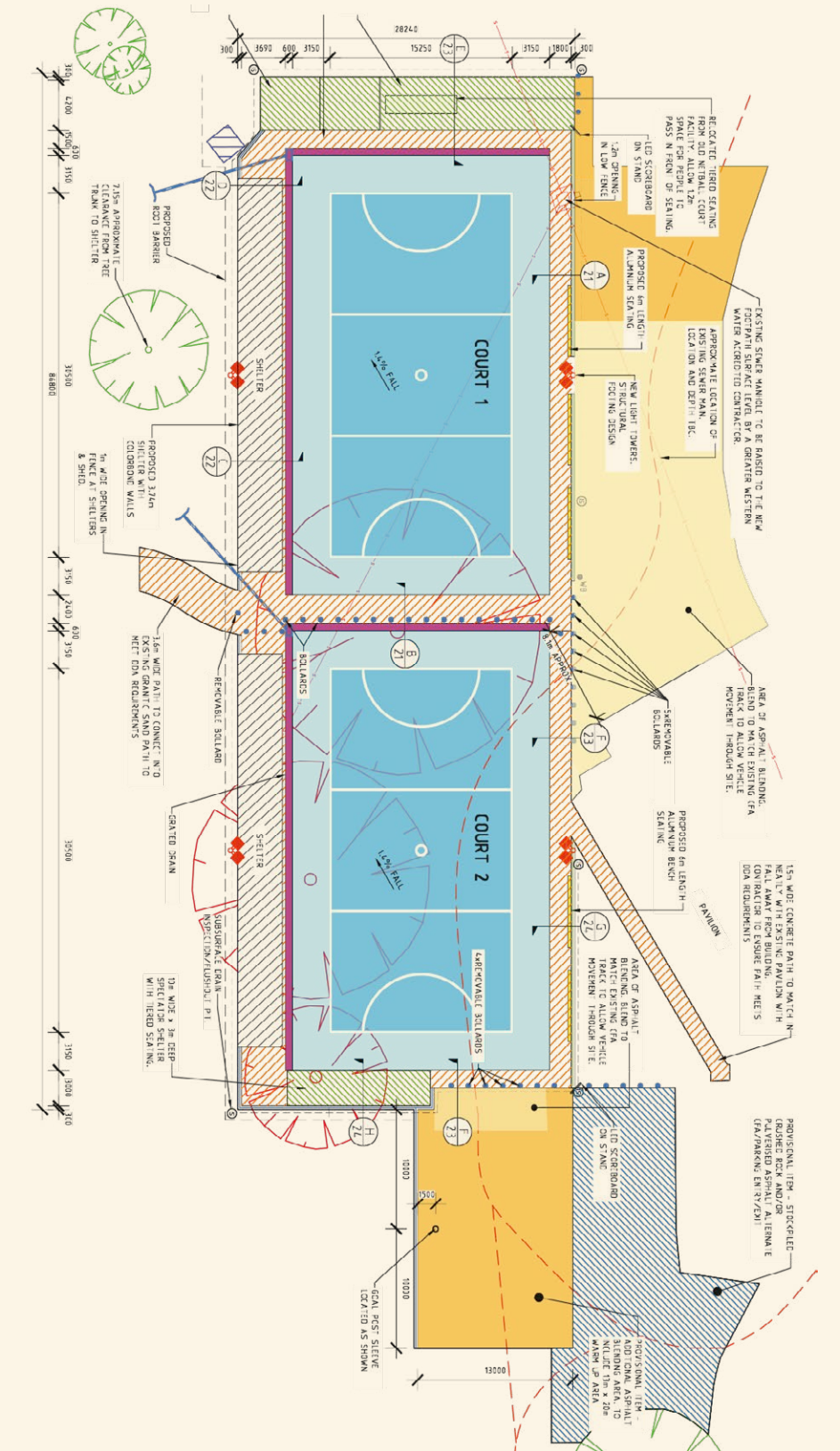


The following association and home and away league club facilities example plans include the following considerations:

- Accessible pathways with connections between courts, players shelters, spectator areas, amenities and carpark areas
- Compliant courts
- Communal passive spaces with seating away from courts
- Shelters and seating
- Pavilion and amenities centrally located
- Additional circulation space
- Sports lighting for all courts
- Provision for future needs
- Carparking provision



Example Association Size Netball Facility



Example Home And Away League/Club Size Netball Facility

Design

Detailed Design

Court Surface

The selection of a netball court surface is critical to the overall playability & enjoyment of the netball court. It must be ‘fit for purpose’ and outdoor courts should be safe for all weather netball play.

Hard court surfaces are preferred for netball competition and training. Transitioning existing grass or synthetic grass/carpet courts to hard court surfaces will increase court capacity and improve user safety and experience.

Court Surface Types & Slip Resistance Testing

In Australia there are generally five (5) types of netball surfaces in use:

The 5 types of netball surfaces

- 1 Timber sprung floor courts (Netball Australia's preferred indoor surface)
- 2 Acrylic surfaced hard courts – non-cushioned (basic) and cushioned types (Netball Australia's preferred outdoor surface)
- 3 Asphalt hard courts (Netball Australia's preferred outdoor surface)
- 4 Natural grass courts (not recommended in wet conditions or for new facilities)
- 5 Synthetic grass courts (not recommended in wet conditions or for new facilities)

As stated above, the timber sprung flooring system is recommended for indoor courts, and asphalt or acrylic systems (either on an asphalt or concrete base with acrylic surface) that offer good slip resistance in wet conditions are recommended for outdoor courts.

 **Contact your ‘Member Organisation’ here for the suitability of the surface in your state.**

Testing

Achieving a temperature correction value (TCV) for a mean British Pendulum Number (BPN) of at least 75 for wet slip resistance testing - in line with AS 4663:2004 Slip Resistance measurement of existing pedestrian surfaces is required for new netball court acrylic surfaces.

NOTE: A BPN of at least 75 has been a national standard for netball in Australia since 2015 and is also in line with Netball England slip resistance requirements. In the absence of a netball specific standard, testing should be in line with the most relevant Australian Standard (ie: AS4663:2013 Slip Resistance measurement of existing pedestrian surfaces, for existing surfaces).

There are known acrylic surfacing companies that are meeting this standard and above, being a BPN of 75 or greater, and therefore clubs, associations and councils are encouraged to ensure this slip resistance value as a minimum is achieved. If testing reveals a slightly lower BPN has been achieved, contact your state/territory MO for advice.



Design

Detailed Design

Testing Continued

Testing should occur within the following parameters for the most accurate test results:

- Test the courts at approx. 23 degrees or lower. Timing of the testing is critical to ensure a true reading.
- Test the courts approx. 4 weeks after acrylic installation to ensure the surfactant has washed and 'baked' out of the acrylic (this is a product within the acrylic that assists with installation). If 3-4 decent rain events have not occurred in this time period, then gently wash down several times with a garden hose, CFA hose or the like before testing/playing. The courts are likely to look like detergent is bubbling when they first get wet which means the court surface is very slippery.

Clubs, associations, leagues and councils should ensure the contractor provides a warranty that stipulates their approved product's slip resistance value and the number of years they guarantee the slip resistance properties will achieve this for. The product's value stipulated by the contractor should be in line with the required BPN average of at least 75.

NOTE: It is important that the preferred slip resistance standard requirements be stipulated in the project brief/specification. This should be the contractor's responsibility to achieve and treated as a true project cost.

Testing by a company accredited by the National Association of Testing Authorities (NATA) is recommended.

- NATA accredited slip resistance testing companies are available throughout Australia.
- A minimum of five (5) individual locations on each playing court should be slip resistance tested using slider 55 and shall achieve Pendulum Classification BPN of at least 75 as a minimum. As netball is played in both dry and wet weather, testing should be completed in both wet and dry conditions.
- Indoor courts are not playable when they are wet, and, therefore, it is logical that they should be tested in dry conditions.
- Outdoor courts should be playable in both wet and dry conditions, and, therefore, should be tested for both wet and dry conditions.
- This slip resistance testing is not appropriate for all court surfaces. For example, some testing equipment will not report on synthetic grass or natural grass courts. These types of surfaces offer minimal slip resistance in dry and wet conditions. Therefore, it is recommended that competition and/or game simulation play are avoided on these surfaces in wet conditions.



Design

Detailed Design

Surface colour

Netball Australia does not have a preferred acrylic court colour. It is totally up to the manager/end user to decide. However, there are some important facts to consider:

- Multiuse courts should have only one surface colour on both the playing area and run-off areas of the court to minimize line confusion.

Please refer the Netball-Tennis Facility Fact Sheet.

- The colour chosen must clearly contrast with the line marking colour to ensure they are easily seen.
- Dark colours can be warmer underfoot. Therefore, in hot climates a lighter colour may be a good option.
- Light colours will mark easier, so public access settings may want to consider a darker colour.
- Many of the acrylic sports surface manufacturers have an interactive colour visualizing chart on their websites that can help you decide on your colour selection.



Surface types

When selecting a surface, it is essential that councils, clubs or associations consider all elements including the advantages and disadvantages of the different surfaces/products before choosing the ideal surface. The recommended court surfaces are outlined as follows:

Outdoor Courts

Acrylic Surfaced Hard Courts – non-cushion

This acrylic is simply 3-4 acrylic coatings (combination of filler & topcoats) applied on concrete or asphalt pavements:

Advantages

Affordable sports surface with excellent slip resistance in wet/dry conditions.

Disadvantages

Needs resurfacing every 7-10 years (depending on use) to maintain optimum slip resistance, playability and base protection. Slip resistance, playability and longevity is subject to brand and/or quality of the acrylic surfacing product used. Acrylic hard courts are very common and widely used; it is by far the most popular surface for outdoor netball due to its affordability. A non-cushion (basic) acrylic sports surface will reflect damage (such as cracks & pyrite damage) in the asphalt or concrete base it is installed on.

Outdoor Courts

Asphalt Surfaced Hard Courts – a bare asphalt base

Advantages

Affordable as there is no additional acrylic surfacing required. It has good slip resistance in wet and dry conditions when maintained and not aged.

Disadvantages

The asphalt will break down prematurely without the protection of a protective surface, such as acrylic. Therefore, the renewal rate of the base can be greater and more costly. Small stones may dislodge from an aged asphalt surface making it slippery. Regular, removal may be required as the court ages. A slippery asphalt court is likely to need an asphalt re-sheet or an acrylic surface to extend the courts lifespan and improve playability at a similar timeline as an acrylic resurface.

NOTE: Only proven acrylics that meet the slip resistance standards and backed with a manufacturer's warranty should be considered by clubs, associations, leagues and councils.

Design

Detailed Design

Acrylic Hard Court (Non-Cushion)

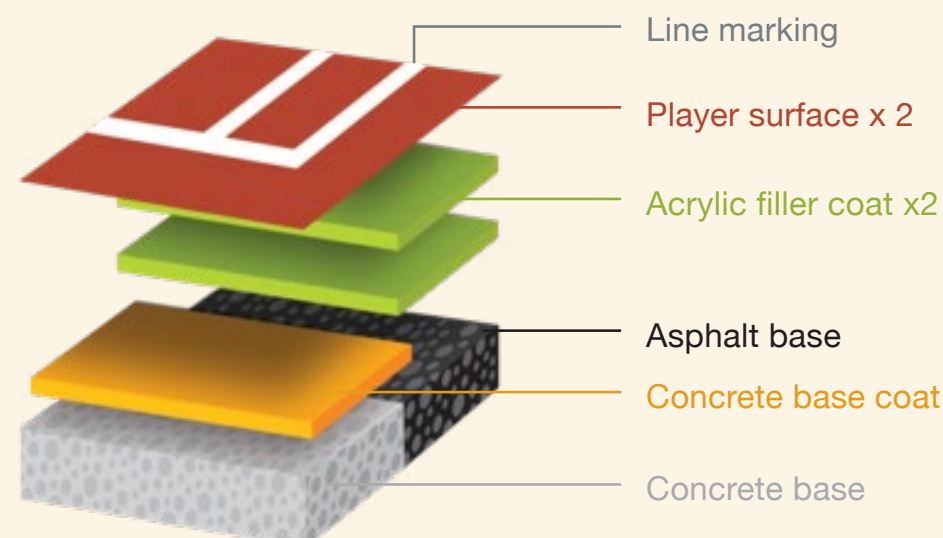
Acrylic hard courts are generally 3–4 coats depending on the base (asphalt or concrete). When a bare concrete or asphalt surface needs to be coated, it is important to identify the condition of the court pavement and acrylic surface to ascertain the court repair work and number of coats required before surfacing. This will help during the budgeting process.

As a basic rule of thumb, clubs and associations should apply the following:

Asphalt base: 3 to 4 coat system depending on if it's a tight dense finish or open and bony weathered asphalt

Concrete base: 3 to 4 coat system depending on new or weathered concrete

Existing acrylic recoat: 2 coat system.



NOTE: Installation of an Acrylic surface on a concrete base can be fraught with danger if the concrete is not protected from water/moisture under and/or on top of the court base. Concrete pavements can draw water up from the subgrade and result in the acrylic surface peeling off (delamination). This is likely to occur if a plastic membrane has not been installed directly under the concrete or the top of the pavement has not been sealed with a special acrylic sealant product. Acrylic products vary from supplier to supplier, so make sure it is suitable for a concrete pavement and ensure the concrete is protected from ground moisture/water ingress.

The quality of the acrylic product can vary greatly between brands. The quality of the installer can also dictate the quality and longevity of the surface. Research into the product supplier and the installer is highly recommended. Asking the supplier and installer for a list of nearby courts that can be inspected will be beneficial. Talk to Clubs and/or Associations that have installed the same acrylic surface before engaging a company is recommended.

NOTE: Ask for an acrylic surface to be supplied and installed 'fit for purpose' for dry and wet weather netball competition play for outdoor courts that meet the slip resistance standards.

- Even the best acrylic products require regular maintenance to keep them in optimal playing condition. They should be fit for purpose at all times and be clean and free of silt, water ponding and algae.
- Even the best acrylic products require resurfacing every 7-10 years, depending on the amount of use and whether the surface has been maintained adequately. Each facility should budget accordingly.

 See 'Lifecycle costing' and 'Sinking fund'

- Acrylics come in a wide variety of colours - colour charts are available from the manufacturers. Generally, the darker colours absorb more heat than the lighter colours. As the surface can become hot, this should be kept in mind when choosing the colour for your court.
- The acrylic product usually consists of a binder [latex, acrylic, or a combination of these materials], colour pigments, fillers, extenders, additives and preservatives. The better-quality coatings will generally have an acrylic binder, a high proportion of solids, fade resistance, colour stability, good coverage, and mildew and fungus resistance.
- Some or all of the acrylic coatings should contain silica sand. The particular grading and particle shape of the sand content and the amount of sand incorporated in the surface and line colour coating will dictate the texture and therefore the performance, longevity and level of slip resistance of the surface.
- Acrylic surfaces have excellent playing characteristics, with good traction. This surface provides an all-weather surface for year-round play with relatively low maintenance.

Design

Detailed Design

Outdoor Surface Advantages & Disadvantages

A netball club/association focused on the development and well-being of their players may choose either an asphalt or acrylic surface system.

The previously stated outdoor surface systems are designed for minimal maintenance. However, routine maintenance is still required.

Many netball courts are in large, open areas with no shade and in unfenced public parks and sports reserves which are vulnerable to abuse and vandalism. Therefore, consideration should be given to a sports surface that suits the facility's location and type of use (managed or public access).

Only proven acrylics backed with a manufacturer's warranty should be chosen by the clubs or associations. Low maintenance, longevity, ease of repair and cost effectiveness are the main points to identify.



Line Marking

All netball line marking should have the following:

- 50mm wide lines
- Textured water-based acrylic paint suitable for wet weather netball use (in no circumstance should oil-based road or traffic paint be used as they are thick, slippery and cause asphalt damage)
- Line marking paints that are approved for application on asphalt sports pavements and acrylic sports surfaces.
- A finish that has the same texture and level as the surrounding court surface so that it is predictable and stable underfoot
- Straight lines with clean, crisp edges – taping the lines will produce sharp lines and is recommended

It is also important that:

- New asphalt needs to cure for a minimum of 14-21 days before line marking or acrylic surfacing can commence.
- New concrete needs to cure for a minimum of 28 days before acrylic surfacing can commence.
- The paint is applied in thin layers to a clean & dry surface – heavy coats will result in cracking and curling along the edges.

NOTE: The method of line marking will vary between each applicator. One approach uses a string line and masking tape machine, while the other uses a special gravity fed line-marking machine. The masking tape method will enable two coats to be applied; this can offer superior durability. Both methods should produce a sharp defined line with no fogging or overspray at the edges.

When using the masking tape approach, it is recommended that the non-slip textured water-based line-marking paint is applied with a paintbrush or a 50mm wide roller. Care should be taken to ensure the paint does not 'bleed' under the tape (which results in messy and unsightly lines). Line-marking airless spray units and aerosol cans are not recommended. The use of these methods results in overspray and rough edges, leaving a poor-quality finish.

NOTE: The lifespan of the line marking will depend on the degree of use and maintenance regime. For well installed line marking expect to receive the same lifespan as an acrylic surface ie: 7-10 years. As per the acrylic recommendations, only engage a sports acrylic surface installation expert to re-install lines.

Design

Detailed Design

Line Marking Colour

White is the preferred line marking colour for netball courts. However, the choice of line-marking colour is usually decided by the user group(s) and/or facility manager.

There are no international standard colour schemes for netball court markings. Most sports require white lines for major competitions and the Official Rules of Netball state that white is preferred. Where netball courts are the only sport marked on the pavement, white is usually adopted.

In multi-sport court facilities, there are some varied industry practices available to help determine which sport has which line marking colour, such as:

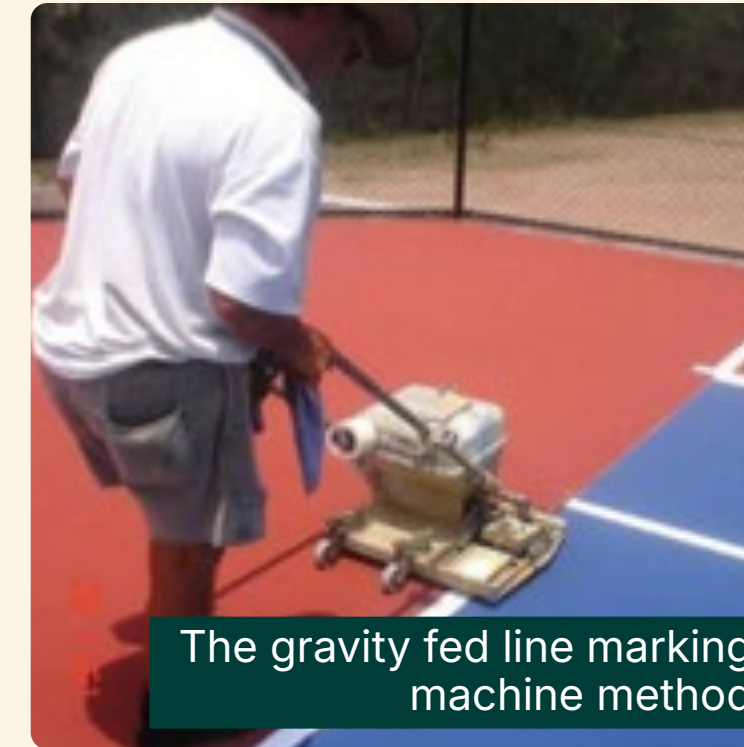
- The most frequently used sports are usually marked out in white, followed by yellow, blue & red
- The faster the ball game the lighter the line marking colour.

Further information is outlined on page 8 of the 'Sports Dimensions Guide for Playing Areas' July 2008 produced by the Department of Sport and Recreation Western Australia.

NOTE: These are industry practices only – not a standard.



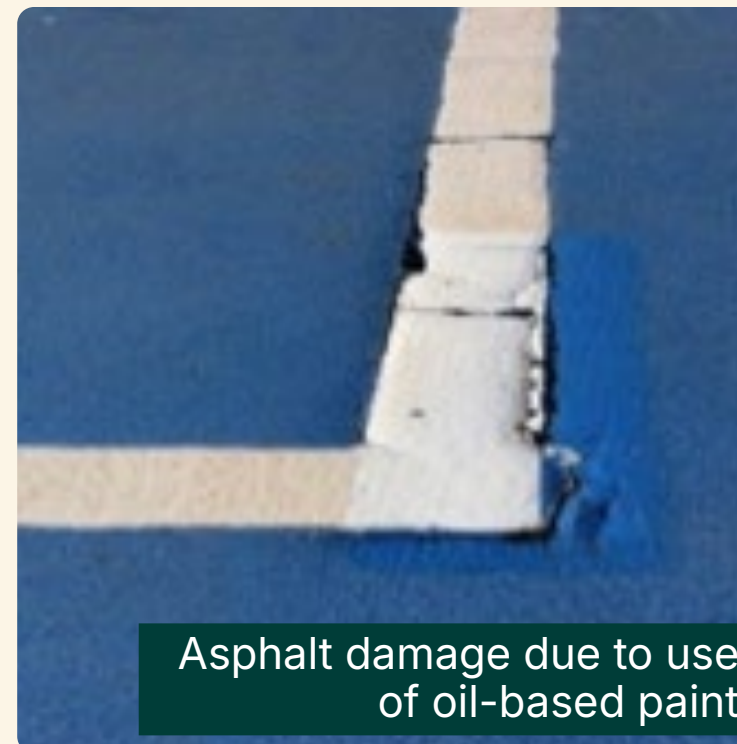
The masking tape method



The gravity fed line marking machine method



Spray unit used resulting in unsightly overspray



Asphalt damage due to use of oil-based paint



Line marking allowed to 'bleed' under the tape



Well installed line marking – crisp & sharp edges

Design

Detailed Design

Goal Posts and Padding

In addition to the  goal post specification 'Compliance' of these guidelines, the following items should be considered:

Goal Posts

- The contractor must ensure the exact 3050mm goal post height from the courts finished surface level to the top of the goal ring is achieved, measured at the front of the ring
- Painted white preferred
- Must be fitted with full length padding for training and match play.



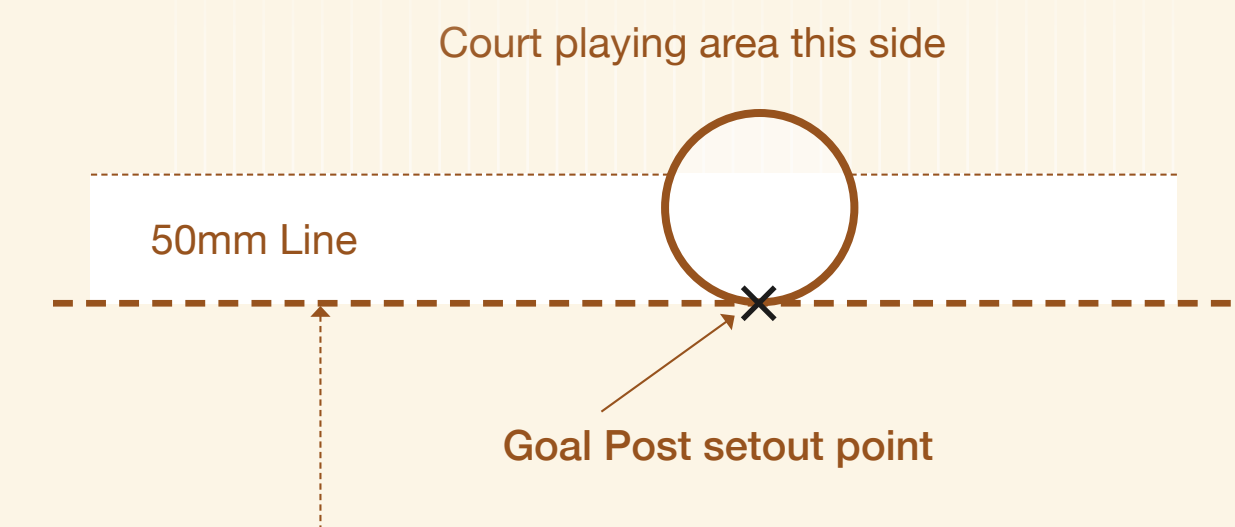
See also Goal Post Padding

- The top of the goal post should be steel capped and must not project above the height of the goal ring.
- The goal post should be installed so that the back of the post is positioned flush with the back of the goal line. Any excess post width is to impede on the court area instead of the run-off area as the goal post is part of the court.
- The ring shall be arc welded to the goal post and have small steel eyelets/loops to which the chain or cotton mesh net attaches. All outdoor court goal nets should be strong all-weather nets.
- The goal posts should be hot dipped galvanised steel as they have a longer lifespan than ordinary galvanised steel. This will help resist rusting at ground level.
- The goal posts can be installed directly into a concrete footing or installed into a ground socket. If they are to be inserted into a ground socket, they should have a reasonably tight fit inside the sleeve so that it does not

wobble or allow the post to turn. A locking pin welded on to the goal post that slots into a small hole near the socket will stop the goal post moving around. Stabiliser bars or rods can be used to help 'lock' the posts into a fixed and stable position.

- The goal post concrete foundation (footing) dimensions and installation and/or ground socket installation should be determined by the manufacturer's recommendation for their product. In lieu of this, the court builder or engineer will be able to determine a suitable footing design based on the site's ground conditions. At a minimum, the concrete goal post footing should be 350mm diameter x 900mm deep. Note: The concrete footing should be poured using job mixed concrete i.e.: crushed rock, sand and cement or plant mixed concrete. Do not use rapid set concrete as this has a tendency to rise out of the ground with the sleeve and/or post.
- Ensure that water does not pond at the post/footing connection. This is especially important in salt-water environments.
- If there is any doubt about the safety or stability of a goal post installation, consult a structural engineer.

NOTE: The type of goal post specified in these Technical Guidelines is readily available across Australia and does accommodate both the 3.05m and 2.4m goal post height adjustments.



IMPORTANT: back of netball post to be flush with outside of goal line.

Detailed Design

Lighting

Recommendations are provided within these guidelines for indoor and outdoor netball. Sports lighting standards have been introduced to ensure good visual conditions for players, athletes, referees, spectators and colour television (CTV) broadcast where applicable.

Netball facility lighting is essential in supporting training and competition netball for both indoor and outdoor netball facilities. These should be considered and adhered to when planning and designing netball lighting projects.

Facility planners should refer to the Lighting Standards Fact Sheet when designing their netball facilities. Netball has seen a growth in both the number of courts that have been lit for competition and training purposes and an increase in the quality of the lighting installed. This is largely due to improvements in the technology, a better understanding of the standards for sports lighting and more cost-effective lighting solutions now available for the sport.

NOTE: All light poles, shelters (including veranda overhang), seating and storage infrastructure must be positioned outside of the required 3.05m (3050mm) clear run-off zones. Light towers should not impede on pedestrian DDA pathways or obstruct views from players’ shelters, scorers’ benches or spectator areas.

Lighting systems have also come under increased scrutiny due to a requirement that court lighting should not intrude into the lifestyles of people away from the court. This includes neighbours and vehicular traffic. All lighting designs must comply with the Obtrusive Lighting Standards AS4282 (2023).

Table R1: Outdoor Netball (Non-televised)

Lighting Class	Horizontal Illuminance Maintained Avg Lux ¹	Uniformity U1 (Min To Avg)	Uniformity U1 (Min To Max)	Glare Rating Max ²
CLASS 1 Top-Level competition	500	0.7	0.5	45
CLASS 2: Mid-Level Competition	200	0.6	0.4	50
CLASS 3 Low Level Competition/ Training	100	0.5	0.3	50

Colour Television Broadcast

There are no Australian Standard recommendations for colour television (CTV) broadcast. The establishment of suitable lighting criteria requires special consideration. This involves consideration of changes in broadcast technology.

NOTE: Lighting for television broadcast involves a range of further considerations and requires expert lighting engineering guidance.

Table R2 – Indoor Netball (Non-televised)

Lighting Class	Horizontal Illuminance Maintained Avg Lux ¹	Uniformity U1 (Min To Avg)	Uniformity U1 (Min To Max)	Glare Rating Max ²	Colour Rendering Ra8
CLASS 1 State League/ National/ International Competition	750	0.7	0.5	40	80
CLASS 2 Local/Regional Competition	500	0.7	0.5	40	65
CLASS 3 Recreation and Training	300 ²	0.6*	0.4*	40	65

¹ All illuminance measurements apply at the court surface level. Illuminance Values pertain to the Principal Playing Area (PPA) being a court 30.5m x 15.25m. Illuminance values 75% of these are recommended in the Total Playing Area (TPA) being a court with safety run-offs defined as an area 37.5m x 22.5m and using the measurement grid of points setout in EN 12193 being 13 × 7 for PPA and 15 × 9 for TPA.

² Glare Rating Observer Positions at which maximum GR rating apply are taken as PPA positions 1.5m above court surface at the 4 corners of the court and at each of the 3 points along the one-third of court lines being each sideline and the centre position along these lines. Total observer positions = 10 No.

* Uniformity ratios of 0.7 and 0.5 are preferred for U1 and U2 respectively

See the ‘Facilities Lighting Layout Guide’ for further information:

Detailed Design

Netball lighting classifications

Lighting specifications now align with the Class 1, 2 and 3 specifications listed in the European Standard EN 12193:2007 as follows:

Lighting Class 1

International, national and state league play shall meet this classification:

- Class 1 is set for top level competition.
- Venues will be designed to accommodate international and national competitions which generally involve large spectator capacities with long potential viewing distances.
- Top level training can also be included in this class.

Lighting Class 2

Regional level competition or local club competition play shall meet this classification.

Class 2 is set for mid-level competition such as regional and local club competition, which generally involve medium size spectator capacities with medium viewing distances.

- High level training can also be included in this case.
- The level of play “competition with large spectator galleries” in AS 2560.2.4-1986 is expected to fall into this category

Lighting Class 3

Low level competition play shall meet this classification.

- Class 3 is set for local or small club competitions which do not generally involve spectators.
- General training, physical education (school sports) and recreational activities will also come into this category.
- The level of play “recreation or training and competition with few spectators” in AS 2560.2.4-1986 is expected to fall into this category.

NOTES: Class 1 has been introduced as an additional class to cover non-televised top-level competition such as international and national netball.

Venues where games are broadcasted require higher lighting levels and other more stringent lighting criteria than those listed in Tables R1 and R2. Refer to the Lighting Standards Fact Sheet for recommendations.



Design

Detailed Design

Fencing

Fencing is not required for netball to be played; however, there are some practical benefits to installing a physical barrier around the court perimeter.

A perimeter fence can:

- Stop the netball from leaving the court playing areas, minimising the need to chase the ball across uneven ground, embankments, car park areas or roads
- Define the court and maintenance areas
- Secure the courts from misuse in built up residential areas
- Create a barrier to prevent vehicle access.

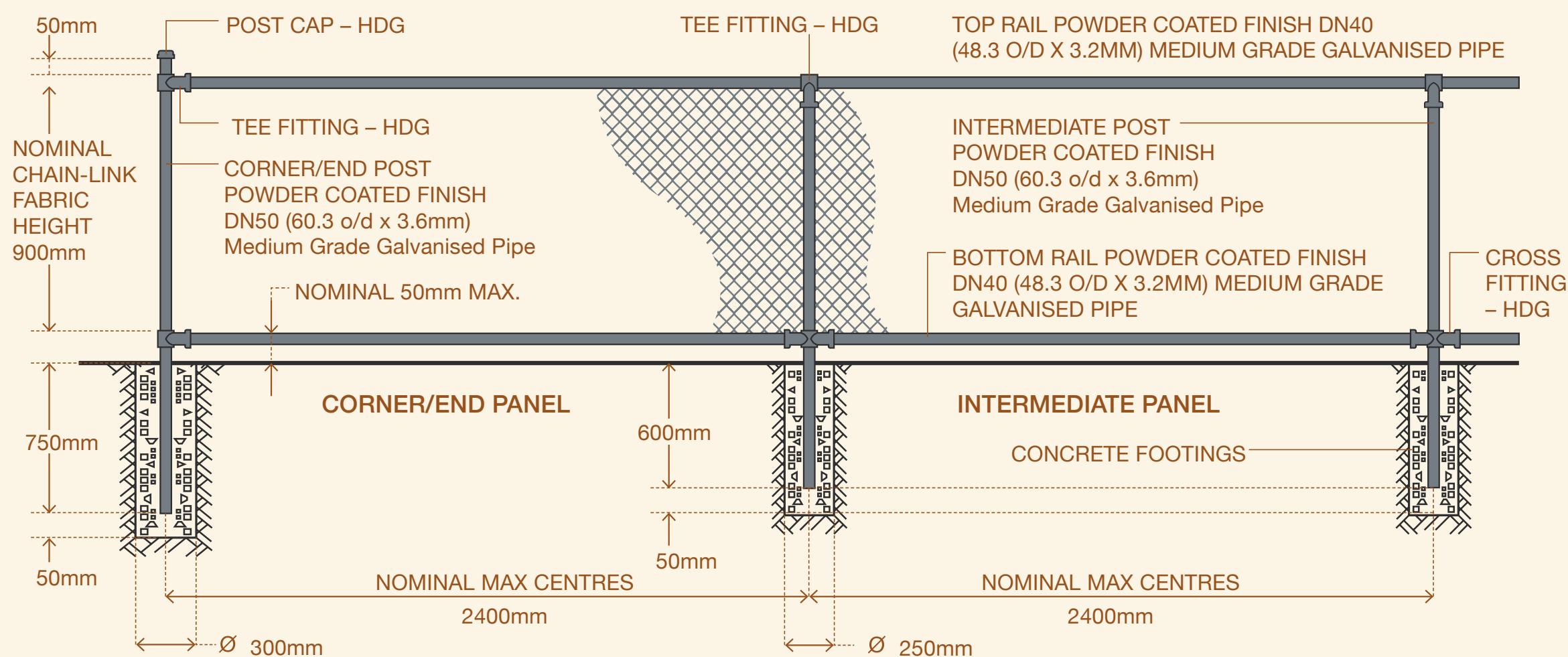
If a fence is preferred, there are several standard industry heights readily available, being 1.05m (low height), 2.4m (mid height), 3m (high) and 3.6m (multipurpose/tennis). These are all acceptable depending on the usage and security requirements of each individual site.

Where fencing is required, the following should be considered:

- 1.05m preferred for sidelines where a barrier between spectators and/or car parks/embankments etc is required. The low height allows optimal spectator viewing.
- 2.4m preferred for the court ends to prevent balls bouncing over the fence after a shot at goal.
- 3m preferred to secure the court to prevent access and or prevent balls entering traffic areas, car parks and embankments where ball retrieval is dangerous or delays play.

- 3.6m preferred where tennis is overlaid. A truncated/ drop down fence to the sidelines should be considered where a facility is open for public access to allow optimal spectator viewing.
- Clearly defined circulation space/paths should be provided within the fencing to allow movement of players without impeding the court run-off areas wherever possible. These should be a different colour to the courts and run-off areas to clearly define them as pedestrian zones.
- Fencing should allow double gates for emergency/ maintenance access and sufficient pedestrian access gates for practical reasons for each fenced enclosure.

- Gate opening widths are to be 3m wide for double emergency/maintenance access and 1.35m wide for pedestrian access as a minimum.
- All fencing should comply with the relevant Australian Fencing Standards. The selection of the relevant standard depends on the finished height required. The following information is provided as a guide to the above-mentioned standard fence heights. This information can be referenced when communicating with contractors or when writing a project brief, request for quote or project specification. In saying this, it is the asset manager's responsibility to ensure these details are correct at the time of each netball court/fence construction project and reference the relevant standards and their details as required.



IMPORTANT: This is a detailed drawing of a typical 1.05m high fence only. The detail is different depending upon the finished fence height required. The relevant standards for each as noted in this fencing section of the manual should be referenced according to the finished fence height required.

Design

Detailed Design

Low Netball Fencing

AS1725-2010 Part 5 – 1.05m nominal height black powder coated chainmesh fencing with top and bottom rails can improve game day functionality whilst maintaining an open & welcoming feel.

NOTE: It is important to note that using a .9m high chainmesh will result in an overall finished nominal height of approx. 1.05m (often referred to as low fencing in the industry) once the top and bottom rails are fitted.

AS1725.5-2010 Sports Ground Chain Link Fabric Fencing Type 2, Heavy Durability Commercial grade, including but not limited to:

- 900mm high chainmesh with a 50mm max. space between the bottom rail and the finished court surface
- Heavy duty 3.15mm wire chain link fabric with a 50mm pitch and no support wires
- Black powder coated posts and rails with black PVC coated chain link fabric
- Class 1 (medium quality) pipe grade with minimum 60.3mm OD corner posts and 60.3mm OD intermediate posts with 3.6mm medium grade galvanised pipe. Intermediate posts to have 2400mm nominal maximum centres
- Type A design with top & bottom rail each being 48.3mm OD x 3.2mm medium grade galvanised pipe
- Post foundations as per the associated drawings in the relevant standard as a minimum or as per engineer's advice.

Med-High Netball Fencing

2.4m (2400mm) or 3m (3000mm) high netball fencing:AS1725-2010 Part 1 & 2 – 2.4m or 3m nominal height (netball only).

A 2.4m min. height is required at the court ends to prevent netballs bouncing over the fence when shooting for goal, and if security is a concern or a lockable facility is needed, a 3m high fence will suffice. Alternatively, if the courts are multipurpose with tennis overlaid, a 3.6m high fence will be needed as per tennis requirements.

NOTE: It is important to note that using a 3m high chainmesh will result in an overall finished height of approx. 3137mm (referred to as 3m high fencing in the industry) once the top and bottom rails are fitted.

AS1725.1-2010 Tennis Court Chain Link Fabric Fencing Class 1 Type A, Heavy Duty Commercial grade, including but not limited to:

- 3m (3000mm) high with a 40mm space between the bottom rail and the finished court surface
- Heavy duty 3.15mm wire chain link fabric with a 50mm pitch and 2 support wires
- Black powder coated posts and rails with black PVC coated chain link fabric
- Class 1 (medium quality) pipe grade with minimum 88.9mm OD corner posts and 60.3mm OD intermediate posts with their associated minimum wall thickness and strength grade as per Appendix B Table B1



Example of 2.4m height fencing to the goal ends and 1.05m height to the sidelines.

- Intermediate posts to have 3330mm nominal maximum centres
- Type A design with top & bottom rail each being 48.3mm OD x 3.2mm medium grade galvanised pipe
- Post foundations as per the associated drawings in the relevant standard as a minimum or as per engineer's advice.

Design

Detailed Design

High Multi-purpose Netball/Tennis Fencing

3.6m (3600mm) high chainmesh – multi-purpose (netball/tennis) courts.

AS1725.1-2010 Tennis Court Chain Link Fabric Fencing Class 1 Type A, Heavy Duty Commercial grade, including but not limited to:

- 3.6m (3600mm) high chainmesh with a 40mm max. space between the bottom rail and the finished court surface
- Heavy duty 3.15mm wire chain link fabric with a 45mm pitch and 3 support wires
- Black powder coated posts and rails with black PVC coated chain link fabric
- Class 1 (medium quality) pipe grade with minimum 88.9mm OD corner posts and 60.3mm OD intermediate posts with their associated minimum wall thickness and strength grade as per Appendix B Table B1
- Intermediate posts to have 3330mm nominal maximum centres
- Type A design with top & bottom rail each being 48.3mm OD x 3.2mm medium grade galvanised pipe
- Post foundations as per the associated drawings in the relevant standard as a minimum or as per engineer's advice.

NOTE: If facility management requires the installation of wind break mesh material or large signs on any fence structure then the standard AS1725-2010 states in Appendix A Purchasing Guidelines, that 'The intermediate fence members within this standard make no allowance for signage, wind break materials or creepers attached to tennis court fencing' (Note: There is no netball purpose only literature regarding fencing).

The designer must custom design the fence (structural design to strengthen) to suit the ground conditions and wind category that is specific for the site to cope with the additional wind loading.

Local wind rating, type and size of windbreak material and the 'to be built' fence minimum standards/ drawings/ specifications will need to be considered if the club/ association wants to install windbreak material and/or signage in the future. Upgrading the outside diameter (OD) of the intermediate posts and concrete footings, as opposed to installing backstays, is the preferred choice for aesthetic reasons. In most cases this will strengthen the fence without the need for backstays and issues associated with retrofitting. For this reason, it is much better to design to suit future needs rather than retrofitting after construction. Consult with a reputable fencing company or structural engineer for site – and project-specific advice and site-specific fence designs. The site's wind rating and geotechnical reporting will need to be considered when designing a strengthened fence.



Design

Detailed Design

Shelter, Storage, Seating & Scoreboards

The provision of shelters along the sidelines of netball courts is an important consideration. Netball is a wet weather sport, and play often continues when it's raining and windy. It is recommended that shelter from the weather be provided for game officials, scorers, coaches, first aid trainers, spectators, interchange and injured players.

Provisions to keep game day equipment dry is recommended. Items such as the players' bags, team game day equipment, score sheet, first aid equipment, game day checklists and paperwork are required courtside during the game.

There are many different shelter options available in the market, some with individual units (coaches and scorers boxes) and some large span structures that can accommodate many people at a time. The size and position of the shelter will be determined by the type of netball activity ie: home and away league club or association, available space and the position of any existing or proposed infrastructure items, such as light towers.

The team and scorer's benches/shelter should ideally be located on the western sideline of the court and the spectator seating/shelter should be located separate to the players/scorer's seating/shelter area, to the ends and/or opposite side of the court.

The amount of seating provided should adequately cater for the players and scorer's bench areas and the expected spectator numbers on game day and training sessions. There are a number of good seating options available in the market place. The quality, lifespan and available budget should be considered on a case by case basis.

Storage positioned close to the courts will enable coaches and officials to store their equipment in close proximity to the courts and lessen the need to lug heavy padding, balls, bibs and training equipment bags long distances. Storage sheds should be secure and large enough to store goals and padding (min 3.5m depth/width), game day and maintenance equipment.

Electronic scoreboards should be included whenever possible, especially for home and away fixtured competitions. They should be large enough and positioned to enable viewing by the team and scorer's benches and spectators.

NOTE: All shelters (including veranda overhang), seating, storage and scoreboard infrastructure must be positioned outside of the required 3.05m (3050mm) clear run-off zones.

Inclusivity, Accessibility & Signage

It is important that netball facility design ensures netball courts, supporting infrastructure & amenities are welcoming, accessible & inclusive to all members of the community.

- Safe, firm and accessible pathways to connect the netball courts to the car park areas and other amenities such as clubroom, pavilion, changeroom and toilet facilities
- Pedestrian circulation zones/walkways between or around courts in high pedestrian areas – these are in addition to the required obstacle free run-off zones

- Safe surfaces to all paths, access areas, ramps and steps. All surfaces should be firmly fixed without gradient change and slip resistant in wet and dry weather conditions ie: slip resistant grated drainage instead of open spoon drains.
- Clear informative and directional signage

It is important to provide:

- Public lighting to path connections and car park areas
- Car parking with accessible car park spaces in close proximity to the court and supporting amenity areas.

The information contained in this section should be used as a guide and specifically relates to outdoor netball courts. All design works should follow Universal Design principles and comply with the DDA Act 1992 and provide all abilities access as per Australian Standard AS1428.1-2009. Design should also comply with the current National Construction Code (NCC) Series 2012 vol.2 Building Code of Australia Class 1 and Class 10 Buildings where relevant. Other good practice documents in circulation should be considered along with local government and/or specific funding requirements for each individual project.

See the 'Inclusive Facilities Fact Sheet' for detailed recommendations and information above



Design

Detailed Design

Environmental

Netball facility planners have the opportunity to develop netball court infrastructure in an environmentally sustainable way and play an important role in the future of the sport.

There are simple ways in which our stakeholders can develop our sport and our communities to become environmentally aware and improve health and wellbeing outcomes for generations to come.

Environmentally friendly (or sustainable) design integrates environmental responsibility into every stage of a product or building's lifecycle. It minimizes waste, energy consumption, and carbon footprints by utilizing renewable materials, optimizing passive design, and ensuring components can be easily repaired, recycled, or biodegraded.

Key Principles:

Circular Economy & Disassembly: Products are designed to be taken apart, allowing components to be reused or recycled rather than sent to a landfill.

Material Selection: Prioritizes biodegradable, recycled, or locally sourced materials over virgin resources.

Energy Efficiency: Focuses on manufacturing with low-energy processes and designing products that consume minimal power during their use phase.

Biophilic & Passive Design: In architecture and interiors, this means maximizing natural light, ventilation, and living elements to improve energy efficiency and occupant wellbeing.

How to Apply Environmentally Friendly Design:

Assess the Lifecycle: Evaluate the environmental impact from raw material extraction, through manufacturing, to the end-of-life disposal or recycling.

Verify Certifications: Look for eco-labels and official certifications to ensure genuine environmental compliance.

Netball courts offer an opportunity to adopt eco-friendly principles into the design, such as considering:

- reuse of materials, such as underlying crushed rock, pulverising asphalt to reuse on surrounding access roads.
- selection of enviro-friendly seating finishes, such as enviro slats.
- Drinking fountains with bottle filler to allow players to refill, removing the need to buy water in bottles.

Landscaping

Landscaping is a very important part in the general appearance and attractiveness of a netball complex.

The following tips are recommended to reduce maintenance and increase the lifespan of your court(s)

- Keep the court surrounds green or hard paved. This greatly reduces the amount of ongoing court maintenance required. A carefully installed irrigation system can assist, however, make sure that water from the irrigation system does not spray onto the court surfaces or encourage excess water to sit on or around the pavement areas.
- Install taps with hose fittings so that each court surface can be washed down without having to resort to long lengths of hose.
- Drinking fountains placed at strategic positions can be of great benefit to players.

- Natural shade and manufactured structures offer greater player and spectator comfort.
- Shelters and seating should be placed along the sides of the courts for optimum vision for spectators and officials. It is very important that all parts of the shade structure, including veranda overhangs, are placed outside of the required obstacle free run-off zones.
- Be very selective when choosing landscape materials and vegetation. Do not plant large trees or plants that have invasive root systems within 20m of a court pavement.
- Existing tree limbs and shrubs should be kept trimmed or lopped away from the court pavement. Ongoing maintenance issues are caused by trees and shrubs planted too close to netball courts. Leaf litter drop, algae from shaded court areas, limb drop and tree root damage are just some of the issues you will want to avoid.
- Loose path materials such as blue metal, granitic sand etc can migrate or be carried on to the courts by the players' shoes and should be avoided wherever possible as loose material on a netball court surface can be very slippery and lead to premature wear of the court surface.
- An attractively landscaped netball centre can attract players and extend the life of the courts. A regular inspection will detect areas that need attention or replacement.

NOTE: If plantings are considered, ensure a tree root barrier is installed along the planted boundaries to protect the pavement. Select small attractive non-invasive tree and shrub varieties that have minimal leaf, berry or flower drop. Look for attractive small bushes and shrubs that are compatible with the soil and climatic conditions of your area. Low maintenance and low water dependent plants are desirable.

Contractor

Choosing a Contractor

Netball Australia recommend that clubs, associations and local governments do the following to minimise the risk associated with selecting a contractor:

- Contact your Netball State/Territory Member Organisation
- Obtain technical guidance from Netball Australia or State/Territory Member Organisation technical partner
- Prepare a technical specification and design package
- Request tenders or quotes from the construction industry
- Ensure like-for-like comparison when choosing between tenderers
- Ensure appropriate contracts and project acceptance.

Get a Quote

Ensure you engage a reputable contractor to ensure accurate pricing for the full extent of work required. The best and easiest way to safeguard your money and minimise the risk of a poor outcome is to provide the contractors with all site investigation reports, such as the Geotechnical report, detailed design engineering drawings and a detailed technical specification with an itemised pricing schedule to set the project standards and expectations and ensure you are receiving fair pricing that can be accurately compared between each of the contractors.

NOTE: Don't rush – Get the sound professional advice you need first and then approach the contractors.

Obtain Technical Guidance

There are very few independent, professional design groups/consultants that have this specialised expertise with regards to all aspects of a typical netball court related project. Therefore, the best source of such information will generally be the relevant State/Territory Member Organisation and Netball Australia's Technical Advisors.

These bodies generally have access to expert advice and technical consultants. They may also have access to other vitally important professionals with a wealth of experience in specific aspects of netball courts, such as geotechnical engineers, electrical & lighting engineers, civil/structural engineers and court surfacing specialists.

Prepare A Technical Specification & Design Package

It is recommended that the club, association or council engages an industry expert to prepare the detailed design and specification so there's no confusion or misrepresentation.

A civil and structural engineer should always be engaged to design a netball court. This design should include a suite of drawings outlining the pavement detail, levels, drainage detail and supporting infrastructure detail. This will be used in the tender/quoting stage and throughout construction.

A detailed specification document should accompany the detailed design drawings. This outlines the terms and conditions and contains a detailed outline of the works required, including expectations for the quality, compliance and relevant industry standards, and the schedule of quantities and rates for the contractors to price. This must be site/project specific, not a general specification.

A good design and specification package will have the following:

- A well-prepared technical specification that clearly details the required scope of works. This will minimise disputes regarding the scope of works during or at the completion of the construction.
- A detailed design drawing package provided by a civil engineer or independent sports design consultant (for major or reconstruction works).
- A detailed bill of quantities or a schedule of rates. This document should itemise all the works required so that all contractors pricing the project are doing so on the same basis, thereby providing a set criteria to accurately compare the quotes received.

NOTE: Australia is littered with netball courts in poor and unsatisfactory condition due to a poor design/specification or no design/specification package at all. Ensure a thorough process to ensure a long-term outcome.

Tenders or Quotes

Choosing a Contractor

Request Tenders or Quotes from the Construction Industry

It is recommended that you get value for money rather than seeking the cheapest quote. Ensure an experienced and reputable contractor is selected to ensure a full understanding of the technical aspects of netball court construction and the special requirements of a sports pavement and playing surface.

Given that many clubs/associations struggle to raise funds to undertake the extent of works required, the temptation to minimise their outlay is often very appealing.

By following some basic processes, common mistakes can be avoided:

Do Your Homework

Take the time to research the contractors and choose wisely. Ask other clubs and councils who they used, do background checks on references and go and see some of their completed projects in person.

Asking the following questions may assist:

- Is the contractor experienced and have they completed many similar projects to a high standard?
- Was the contractor good to work with, professional, good on communication and timelines?
- Did they construct the project within their tendered price, or did they sting the client on variations?
- Have they been easy to contact and attentive after construction? Did they address all reported defects during the defects liability period promptly and without fuss?
- Did they achieve a high-quality finish to the court and surrounds?
- Has the court had any signs of failure since project completion and if so, what is the contractor doing about it?

Price

Choosing a contractor based on the cheapest quotation is not necessarily the best in the long term:

- Avoid accepting the lowest price which can result in unplayable courts in a few short years. The cheapest contractor is not always the best option as they may not produce the same quality build and/or surfacing as the slightly more expensive contractor. Major crack repairs and reconstructions are very expensive, and unplayable courts are a possible worst-case scenario. Again, do your homework to avoid this.
- Assessing the 'value for money' instead of price alone is recommended at the quotation or tender assessment stage. This considers the long-term value of your investment not just the initial design and/or construction phase.

Sub-Contractors

A principle contractor/company will often outsource different trades to complete a project.

- For example, fence installers, acrylic surface applicators and concreters. It is very important to find out who they intend to use to complete the netball court project – ask them for a list of their sub-contractors. Ensure they are experienced and have a good reputation in the industry, by again doing your homework and asking local clubs and your local council. This is especially important for the court base and surfacing works.

Insurance, Warranties & Occupational Health & Safety (OH&S)

By following some basic processes, you can ensure you choose the right provider, we encourage you to pay attention to:

- Insurance – Contractors can carry multiple insurances depending on the size of their company. This can include personal, vehicle and/or workers compensation. It is essential that the contractor carry a Public Liability Insurance with an accepted standard minimum value of \$10,000,000.
- Installation Warranty - All works performed by the contractor must have a warranty against failures for a reasonable time frame. Reputable contractors will offer installation warranties for 3–5 years + as standard practice. The longer the better!
- Product Warranty – Each of the main product components, such as acrylic surface, must also contain a warranty that is NOT issued by the contractor, as happens in many cases, but directly and independently from the manufacturer. Product warranties are commonly issued in a certificate or official letter form when requested. This should be requested in the specification and provided by the contractor upon project completion/handover.
- OH&S – Reputable contractors will have a prepared OH&S package including Safe Work Method Statements (SWMS) for their proposed works, products & machinery. Councils often require these as a mandatory requirement in tender submissions.
- 12 months defects liability period - The specification must include a 12 months defects liability clause, especially for new court constructions and/or redevelopments. Any issues such as failed/split caulking, damaged acrylic surface or supporting infrastructure failure etc must be addressed by the contractor within the 12 month period.

NOTE: When requesting a quotation from contractors, give them at least 2-3 weeks to review the project design and/or specifications package. This allows sufficient time to review and comprehend all the documentation provided as well as obtain any prices they may require from their suppliers and/or sub-contractors.

Tenders or Quotes

Choosing a Contractor

Ensure an Even Playing Field when Comparing Contractors

This process can be made considerably easier if all quotes are based on a clear and well-prepared detailed design, project specification and an itemised and detailed bill of quantities/schedule of rates. This can assist when comparing the tender submissions/quotes.

NOTE: If a design and construct method is adopted, it may be very difficult to compare each contractor and even more difficult to ascertain if the contractor's submitted price is adequate for the particular site or not. The market is very competitive, and contractors can price and win a job based on a bare minimum construction standard where a more substantial standard was needed. This can lead to premature pavement failure and very unsatisfied clubs, associations, leagues & councils.

As stated in  **'Design' section**, an independent engineer's design considering the soil & site conditions & using industry best design principles may offer the club, association, league or council the greatest surety of a quality long term outcome.

Consideration should also be given to the contractor's performance on recent projects (based on their references), the demonstrated quality of their workmanship (as evidenced from inspections of previously completed projects) and your own impressions from communications up to this point (and references obtained).

Depending upon the emphasis placed on each of these criteria, the choice may be simple or very difficult. On larger projects or local government run projects, it is not uncommon for each of these criteria to be given a weighting (say 40-50% for value for money, 20-30% for previous performance/references, 20% for demonstrated experience & workmanship and 10% for local engagement). The weightings for each of these items (and others that may be applicable to your project) can be modified to reflect the nature of the project and priorities.

Each tender/quote submission is then marked against each of these weighted criteria so as to arrive at the "best" value for money offer. Having undertaken this exercise, it is possible that the leading two or more contractors require an interview to arrive at a preferred contractor. This is an opportunity to confirm project specifics and/or discuss key areas of concern with regard to each submission.

NOTE: *Take your time and choose wisely!*

Ensure Appropriate Contracts and Acceptance

Once a decision has been made to accept a contractor's quotation or tender, the next step is to advise them of your intention to accept their offer and advise all other contractors that their bids have been unsuccessful. This allows both the successful and unsuccessful contractors to either begin planning and preparations for works or to move on.

The next step is to come to an agreement with the successful contractor on a set of contract conditions that you can both work with. If the contractor nominated a specific form of contract in their quotation, this needs to be taken into consideration when comparing this tender with others received. If there is a specific form of contract that is required by the club/association or council, it could be nominated in the project specification and provided to contractors during the tender/quotation period.

Project Management

Project Management

Many clubs and associations have tried to manage the design and construction stages of their projects with varying degrees of success. Some clubs and associations are fortunate enough to have a committee and/or club member/s with sufficient skills to manage this task.

A project can take anything from a few months to a few years to progress from the feasibility stages right through to the completion of construction. At times this can be a very time consuming role, and given most clubs rely on volunteers, this can impact on the ability of these people to maintain control and progress the development through to completion.

It is critically important to have a combination of nominated people involved in a project to ensure success. A club representative/council project manager and an independent sports facility technical expert. It is important that the nominated people have a thorough understanding of the intended works, a thorough understanding of civil construction and surfacing and the quality and technical standards required throughout the construction/surface installation process.

There are all too many horror stories of courts that have been built without taking into account the prevailing soil conditions, insufficient provisions for site drainage, using the wrong materials, poor construction practices or even misunderstanding the compliance requirements, standards and local government regulations. A failure to take some or all of these sorts of issues into account can lead to substantial or even catastrophic failures of the courts themselves, all in a relatively short space of time.

Significant ongoing maintenance costs or rectification works could end up being as expensive as the original installation costs or more, especially if it means demolition and starting again. In many instances, engaging a specialist project manager to oversee the project is a small outlay that greatly reduces risk and saves money and headaches in the long term.

Not only could an expert sports facility project manager save the asset manager from costly mistakes during design and construction, but they should also be able to provide advice regarding cost efficiencies, trouble shooting as the project progresses and life cycle costing issues, which are equally important to all court owners.



See Lifecycle

The nominated project manager should have the ability to inspect the contractor's work at various key points during construction. These intended key points or 'hold points' should be identified in the project specification so that the contractor is aware of the process and can plan the inspections. The contractor should not proceed with any further work on the project until the work at each hold point has been inspected and approved.

An example of a typical netball court project hold point would be the provision of proof rolling and compaction test results to demonstrate that the prepared sub-base (crushed rock layer(s)) meets the specified compaction requirements and is therefore suitable for subsequent base construction works to commence. Another example would be an inspection of the preparation of the concrete pour preparation which includes approval of the under-slab plastic membrane, tied reinforcement mesh, bar chairs, construction joints and edge formwork prior to the concrete pour.

If for any reason, the works up to each hold point stage are not of an acceptable standard, and as per the detailed design drawings, the contractor should be instructed to rectify this situation in accordance with the project design drawings and requirements before proceeding to the next construction phase. The best-placed person to make these inspections will be the person who wrote the specification documents relating to that aspect of the work, or a competent project manager with a professional background relevant to the work they are inspecting. For example, the completed civil/earthwork and associated test results should be reviewed and approved (or otherwise) by the design consultant, civil, structural or geotechnical engineer who prepared the plans and specifications for this aspect of the works (if required).

Regular hold points and spot inspections should minimise the risk of poor workmanship or building practices that may arise during construction. It is far better and more cost effective for all parties if potential issues are corrected throughout the construction stage rather than post construction. This is particularly important for any "in ground" problems that subsequently get "built over" in the natural course of construction.

As previously stated in these guidelines, the best and most up to date advice is likely to be available by contacting the relevant state/territory Member Organisation and/or author of these guidelines. Some states have a technical services team can offer services from expert advice on simple issues right through to full project management of reconstruction and/or surfacing projects.

Covering

Court Covers & Airhalls

Netball is played both indoors and outdoors. Although netball is played in all weather conditions, games, programs and training can become contingent on weather. This applies in both extreme wet weather and high temperature conditions.

Covered courts or airhalls are becoming a good addition for schools and councils to support outdoor netball competition and programs. There are many advantages to covered outdoor courts including:

- Reduced number of cancellations due to extreme weather
- Improved programming
- Additional activation by community
- Sun-smart
- Environmental sustainability
- Improved life of acrylic surfaces
- Reduced ambient surface temperatures
- Lower capital costs compared to indoor stadia

Refer to the 'Netball Australia Court Covers & Airhalls Fact Sheet' for detailed recommendations and information.

Covered Courts

The coverings over courts are made of sturdy “hard” structural engineered products which can support structural load across the width and breadth of courts, withstand weather conditions and adhere to building regulations and specifications. There are specialist companies who are experienced in manufacturing and supplying sports court covers.

Airhalls

Similar to covered courts, airhalls are engineered to replicate an indoor venue with covering that surrounds the sporting courts similar to a dome. There are temporary versions that can be engineered with lightweight fabric which protects players from all weather and supports events. However this fact sheet provides information for manufactured options that are permanent infrastructure models.



Handover

construction completion

Court Construction: Pavement

 Refer to the Netball Australia 'Construction, Surfacing & Court Repair Technical Manual for detailed recommendations and information.

Court Maintenance

Every court surface requires regular maintenance regardless of surface type. This will increase the longevity of the court surface and maintain the court's slip resistance for as long as possible.

- The courts should be routinely maintained following the contractor's maintenance manual provided once works are completed including the consistent removal of algae, dirt, silt and leaf litter as it collects.
- Ensure all water ponding and silt/slippery areas are removed regularly. This is especially important prior to play commencing.
- Ensure periodic cleaning of the court surface.
- Ensure any spills or contaminants, such as drinks & bat droppings are removed immediately.
- Do not permit portable chairs or tables to be placed directly on the court surface.
- Protect the pavement perimeter by maintaining drainage systems and clearing vegetation to minimise encroachment on to or over the court surface.

See Maintenance Fact Sheet for detailed recommendations and information.

Project Completion/Handover

It is essential that several main items are checked and signed off prior to project completion/handover, such as:

Check that all required standards have been met, these can be:

- Court dimensions & run-offs.

 See NA Compliance Fact Sheet and/or 'Compliance' in this guide.

- Lighting performance levels – An illuminance (lux) and uniformity test will be required to verify contractor's results – alternatively request a copy of the contractor's illuminance (lux) and uniformity test independent report.

See NA Netball Lighting Fact Sheet

- Acrylic surface slip resistance – The applicable testing results from the wet pendulum testing should be provided to verify that the sports acrylic surface has met the parameters set in the project specifications.

 See 'Testing' in this guide

- Accessibility requirements – Ensure all paths are to DDA standards as a minimum. The contractor should sign off on this.

See NA Inclusive Facilities Fact Sheet

NOTE: Recommend engaging your Member Organisation, their preferred technical partner or the author of these guidelines to inspect the court(s) and check measure prior to project hand over. This should include a Compliance and Defects report prior to project acquittal with the funding body(s).

All installed systems and standards required in the specification and design package should be tested and signed off by the contractor prior to handover. This also includes the flushing of all drainage infrastructure.

Pavement layer compaction density and moisture testing for the subgrade and each of the crushed rock layers & concrete strength testing – the various results reports should be provided to verify that the required parameters set in the project specifications have been met.

Ensure the contractor provides electrical and drainage as-built drawings and all product maintenance guidelines.

Ensure the contractor is accountable for all defects for a 12-month period as a minimum. Any defects should be reported to the contractor as they are noticed.

All warranties, documents and test reports should be provided to the relevant stakeholders at project handover.

Ensure that all handover document requirements are included in the specification.

NOTE: All relevant standards and works related to the project must be outlined in detail and requested in the request for quotation/tender/brief/specification to avoid unnecessary conflict at the completion of a netball court project. Never assume that the contractor is aware of the current standards or the quality of works you require, regardless of their years of experience.

Defects Liability Lifecycle

Defects Liability Period

Most contracts should incorporate a defects liability period of some reasonable time period (usually 12 months) to allow for any defective works that may not have initially been evident at the completion of a project to be identified and subsequently rectified by the contractor.

The defects liability period does not commence until it has been agreed that the project has reached practical completion. Practical completion is achieved when all aspects of the project have been completed, and it is considered ready for use and fit for purpose.

This status may be granted where the work is essentially completed except for some small items which although specified are not critical for the functioning of the facility. An example of this would be where all works were completed except the supply of a specified seat was delayed by a week due to a misplaced order by the manufacturer. In this case, practical completion could be granted for the project, subject to the supply and install of this outstanding item as soon as possible.

Any defects should be reported to the contractor as they are noticed. It is very important that a final inspection is conducted prior to the defects liability period ending to ensure all defects are rectified by the contractor within the designated defects liability period.

Lifecycle Costing

When choosing elements of a facility, the ongoing maintenance, resurfacing and renewal costs need to be considered in addition to the capital/establishment cost.

For example, choosing a low-price acrylic surface with a shorter service life may cost more in the long run than if a quality product was installed in the first place. Replacing a budget product may require significant effort and expense to remove the failed product/infrastructure prior to replacing it with a quality product.

Similar issues apply for fencing, lighting and in particular, base construction.

Sinking Fund

A sinking fund is recommended to ensure that the club, association, league or council can afford to keep their courts in good working order and renew them when required. Some costs to consider and allow for are:

- Resurfacing (acrylic/asphalt) every 7-10 years
- Ongoing maintenance works
- Replacement of light fittings.

Routine Maintenance

Asphalt/acrylic courts – approx. \$800 minimum per court per year.

Clubs and councils should plan to have the court facility regularly maintained. Including:

- The clearing of all drainage infrastructure – spoon drains, swale drains, agi drains, drainage pits and pipes
- The cleaning of all light fitting lenses and lux level testing for functionality.

NOTE: The cost for this item will be greater if the court surrounds are heavily treed.

Court Clean

Acrylic surfaces approx. \$800 per court every 2–3 years

Professional cleaning should be done every 2-3 years, however; if there are trees nearby and the courts are in a cool climate they may require cleaning every 2 years. Cleaning courts within these time frames will maximise the longevity of the courts and prevent the surface becoming slippery over time.

The price to professionally clean is approximately \$800 +GST per court plus travel expenses (at the current 2026 rates). Alternatively, the club could hire the machines and clean the courts themselves, however, keep in mind that this can be a big, time-consuming job. Poor volunteer numbers may jeopardise the DIY approach leading to the courts being left in a slippery and unsafe state.

See NA Maintenance Fact Sheet

Indoor

Indoor Netball Court Facilities

Like outdoor netball facilities, all indoor facilities should be designed and constructed to ensure compliance with the current relevant standards. This includes (but is not limited to); compliant lighting, court dimensions and run-off zones.

Netball facilities should comply with relevant current standards including the Disability Discrimination Act (DDA) 1992, provide all abilities access as per AS1428.1-2009 & comply with the current National Construction Code (NCC) Series 2012 vol.2 Building Code of Australia Class 1 and Class 10 Buildings.

Other good practice documents & standards in circulation should also be considered along with local government and/or specific funding requirements for each individual project.

It is recommended that indoor netball facilities are designed to be inclusive to all members of the community and have provision for appropriate amenities and supporting infrastructure to support the level of play expected at the venue.

Indoor netball court lighting and surface specific recommendations are provided in the following sections:

-  **'Compliance'**
-  **'Lighting'**
-  **'Indoor Court Flooring'**

Clubs, associations, leagues and councils who are considering an indoor netball court development are encouraged to seek professional advice when planning for a netball court project. State/territory Member Organisations may be able to provide advice and guidance regarding indoor court developments.

Given that netball courts are the largest of the most popular indoor sports and often overlaid with other sports, such as basketball, Netball Australia has established a set of guiding principles for the layout of indoor stadium spaces to accommodate the needs of other sports, and the operational imperatives that impact the end user.

These principles do not supersede or alter in any way the over-arching national or international standards for either sport. They are intended to bridge the current information gap that is existing when considering a multi-purpose venue.

Most specifically these principles focus on key operational matters like:

- Spectator seating configuration and clearances
- Spectator access strategies
- Safe access zones, outside run-off zones
- Minimum built envelopes, and key influences
- Layouts that eliminate the need to reconfigure from netball to other sport modes.

For the designer or association using this information to guide their early decision making it is important to understand that this information is to be read in conjunction with these guidelines and other relevant sports bodies standards as required.

Indoor

Indoor Netball Court Facilities

Other Key Considerations

Structural Zone Use

It is important to account for the space any structure occupies and ensure there are no penetrations into the court run off zone.

Even with the structure outside this zone, case by case consideration needs to be given to the potential risk of players colliding with a column, wall girt, brace or the like. Ideally a flat surface should be provided behind both end walls (behind the ring/backboard) where the highest risk exists.

However, it is common for structures to be required in risk zones, due to outdated developments and/or budget constraints. In these cases, high density padding should be provided to a height of at least 2.4m. The diagrams on the following page show a shared seating/structural zone which provides the most efficient floor plan. In this scenario padding should be provided to the end wall at a minimum. A risk review of the side court zones should be undertaken to determine any padding needs.

Spectator Number

The examples shown on the next page of this document are based on a typical spectator scenario of approximately 40 spectators per court, with access available at each court.

Where spectator numbers are expected to be higher or there are limited access points requiring transition across courts, consideration must be given to the safe passage of the estimated spectator volume, while maintaining the required court run-off for umpires.



See following diagrams on following page.

Power & Data

All courts should be provided with a recessed floor box containing both power and data.

Power provisions will vary and typically link into a mobile scorers/official's bench. Internet is now more commonly required than not. Live web scoring, streaming of games and other on-line features support participation and the growth of the respective games.

Goals

It is imperative that netball goals are removable and replaceable by installing them into sockets that sit flush with the surrounding court flooring fitted with caps that are easily openable.



The netball goals must be as per the Compliance section of these guidelines.

NOTE: where basketball is overlaid, ceiling mounted or retractable backboards are required and mounted to a height that does not impact on netball when retracted.

Scoreboards

There are many variations on acceptable scoreboard systems, which need to be selected based on the levels of play to occur at a given site.

Importantly, regardless of the type, the designer must verify that the location of the scoreboard provides a clear line of sight from the scorer's bench. It is preferable to provide scoreboards at both ends. If budget limitation prevents this, ensure cabling infrastructure is provided for the additional scoreboard in the future.



Indoor

Indoor Netball Court Facilities

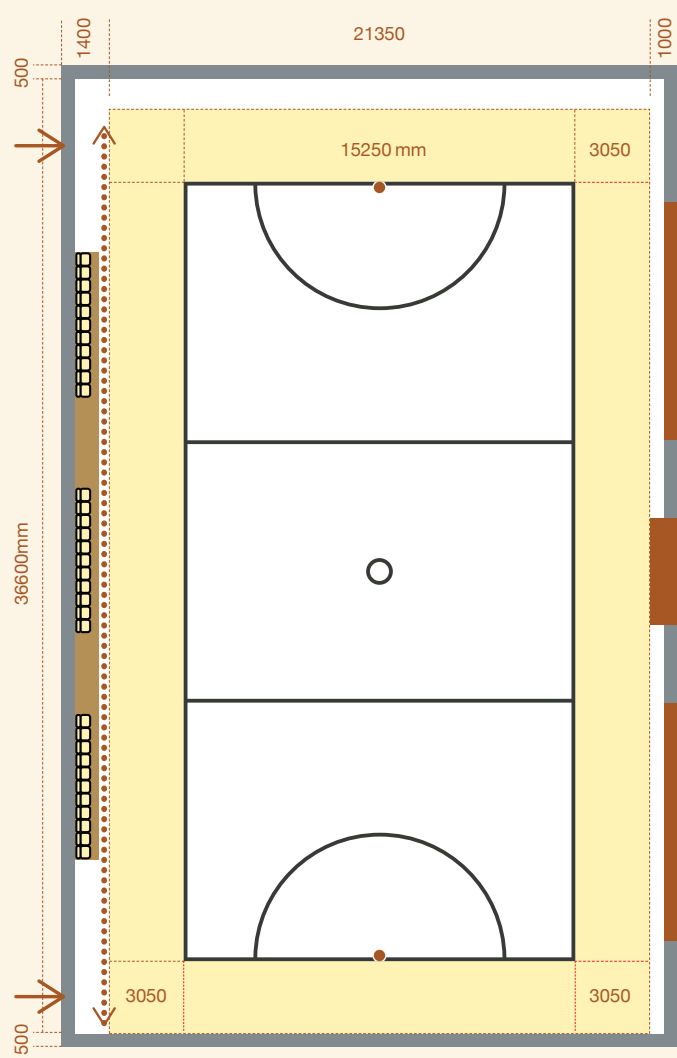
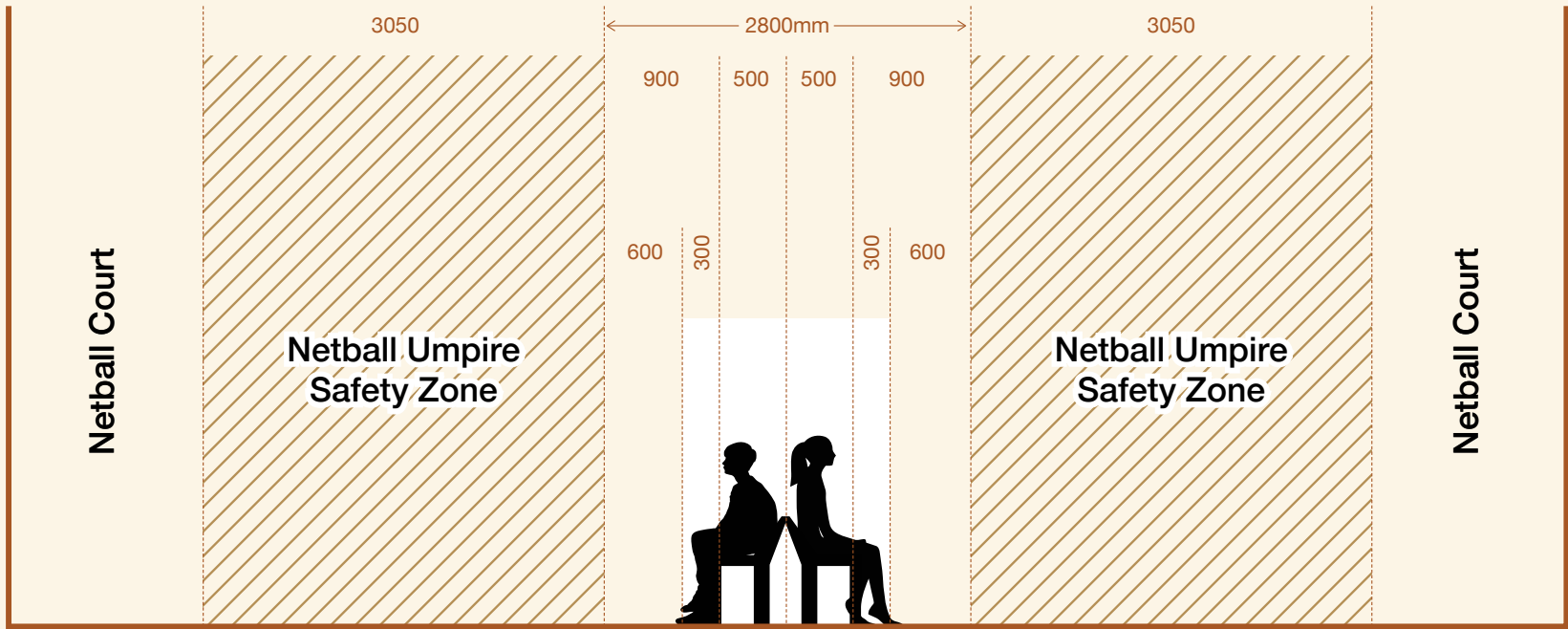
Spectator number & safe passage

Before reviewing the attached indicative court layouts, it is important to understand the dimensional criteria that must inform indoor court layouts regardless of the number of courts you are considering. The diagrams on this page quantify the approved minimum clearance required to accommodate spectators within a venue, and their relationship to the player run-off zones for netball. Importantly, these are minimums and therefore require appropriate facility management processes to be in place, ensuring they are maintained during games.

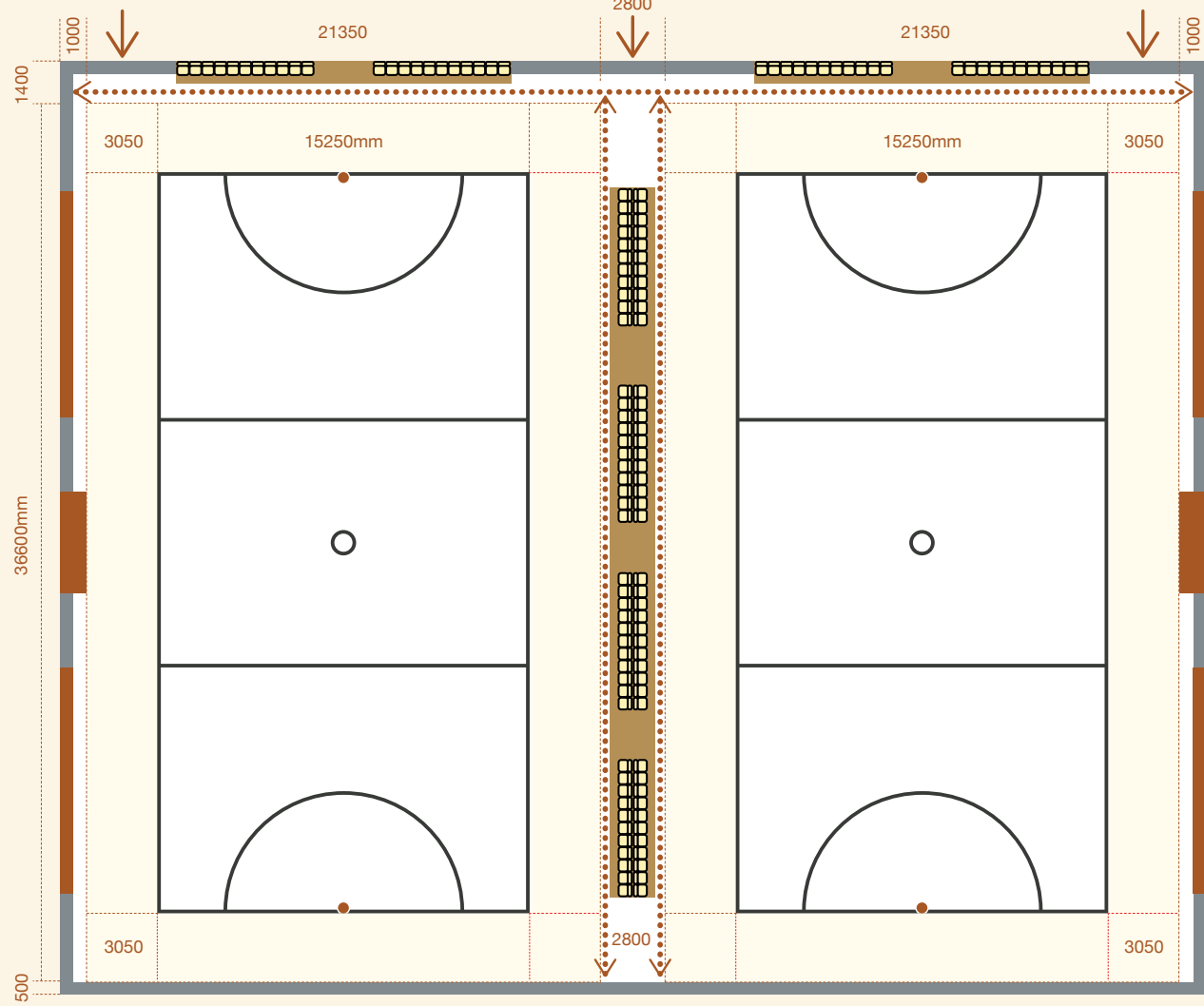
NOTE: the information contained here is not an exhaustive investigation of every possible configuration and design constraint. These are principles to be applied to your particular design situation.

Scorers & Players Benches

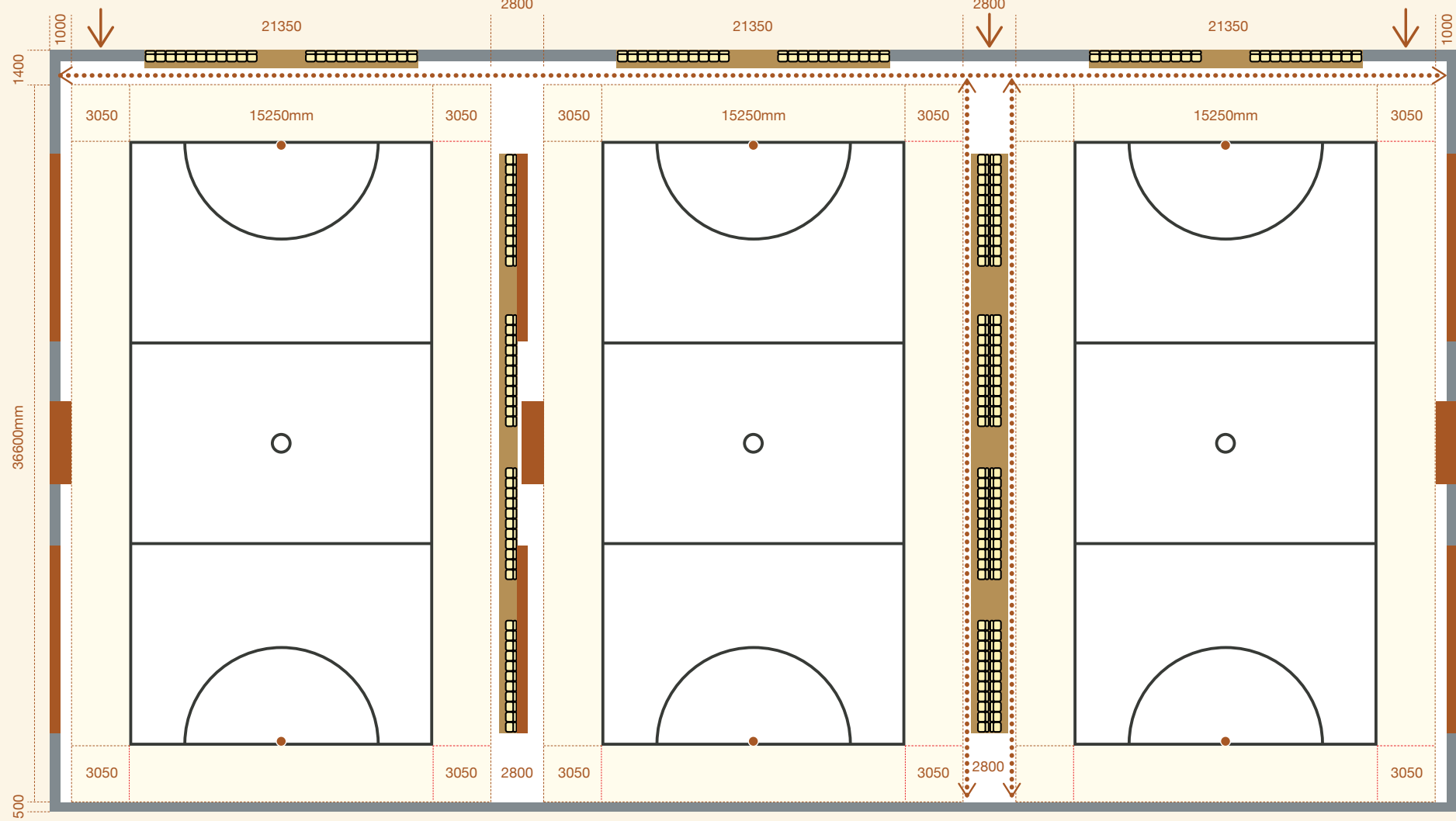
- **Scorers bench** must be located adjacent to the centre line of the court outside the required run off area.
- **Players bench** must be located either side of the score bench within the prescribed area, outside the required run off area.



Single court



Double court



Three court

Court Run-off/Clearance Zones
 Player & Scorer's Bench
 Spectator Seating Zones
 Spectator Circulation
 Stadium Entry Points

Indoor

Indoor Netball Court Facilities

Indoor Court Flooring

A timber double sprung flooring system is recommended for indoor netball.

Advantages

Excellent slip resistance in dry conditions with a very long-life span – used indoors for netball competition, including the highest level of competition (international). Offers multi-sport use.

Disadvantages

Limited to indoor use only.

Timber sprung floors have been synonymous with basketball for many years and throughout time have been adopted for netball. There are various timber floors on the market today that suit all types of budgets. The timber floor varieties have their strengths and their weaknesses, so it is essential that you consult the experts before you make your choice.

When selecting an indoor surface, it is essential that the product suits the clubs/association requirements. Selecting a surface suitable for one sport only is limiting the potential and a revenue stream for other user groups. For example, if a netball club/council was to choose a timber surface it should cater well for both netball and basketball in addition to a variety of other indoor sports.

Indoor surfaces are designed flat and level as they are not exposed to the outdoor weather conditions. All indoor court surfaces must be kept clean and dry for netball use to minimise slip hazards.

Other indoor surfaces include polyurethane cushioned systems. These provide elasticity that can offset impact forces like a shock absorber – potentially reducing the risk of injury. However, care must be taken to ensure the product's suitability for netball as some can be too grippy. Timber sprung floors are preferable.

When researching these products, and particularly for a multipurpose centre, it is advantageous to have a check list, for example:

Surface Requirements

- Suitable for a variety of indoor sports i.e. netball, basketball, volleyball, futsal
- Durable and long wearing
- Low maintenance and easy to clean
- Solvent free installation
- Free of toxic fumes
- Water based technology

Player Performance Requirements:

- Promotes player development
- Reduces strains and sports related injuries
- Consistent surface underfoot
- Consistent and adequate ball bounce

Document

Document Control

Disclaimer

As stated in the 'Introduction' of this guideline document, it is important to note that this guideline is not intended to replace professional site-specific advice from the likes of engineers, sports facility design consultants, architects and registered court builders. This guideline has been primarily produced to provide members of the netball community with assistance to understand the concepts and technical aspects of netball court planning, design, construction and maintenance.

The information provided within these guidelines is the most accurate known to the writer at the time of publication. The opinions and methodology used and known to others may differ to that of the writer. This guideline is to be used as a guide only. It is incumbent on the user to confirm dimensions with the state/national/international sporting body and source guidance from technical experts as outlined in this guideline prior to commencing a netball facility project.

Acknowledgements

Netball Australia engaged 2MH Consulting P/L to provide the content for this guideline, both technical and information based.

It is envisaged that these guidelines will help to further develop and improve the sporting facilities for netball in Australia.

The Netball Australia Technical Guidelines document has been developed in collaboration with numerous stakeholders. Netball Australia wish to thank all the organisations and individuals who have contributed information, diagrams, photographs, opinions and suggestions for incorporation into this publication. The contribution of the following organisations is gratefully acknowledged:

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