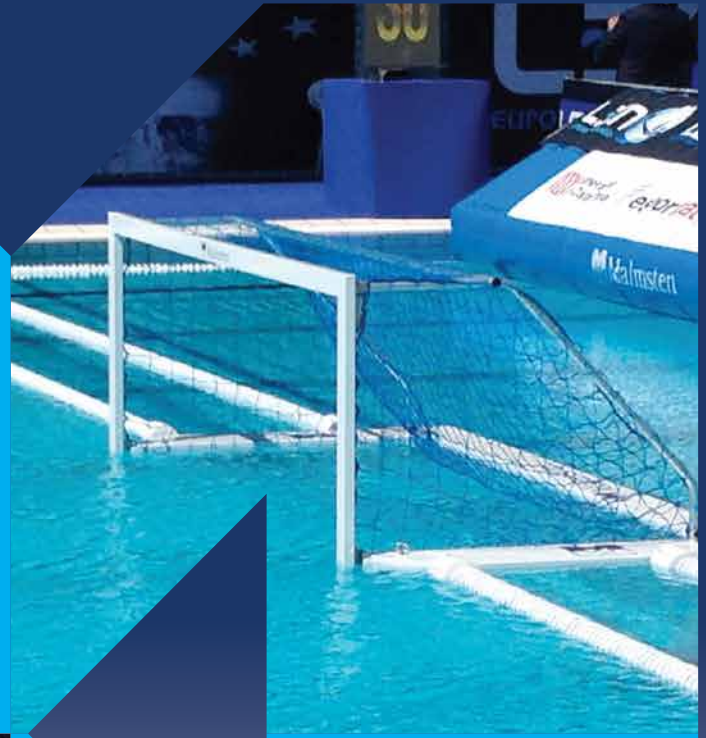


## Waterpolo Equipment



## Racing Lane Lines



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**PART X**

**FINA FACILITIES RULES**  
**2017– 2021**

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## PREAMBLE

The Facilities Rules are intended to provide the best possible environment for *competitive use and training*. These Rules are not intended to govern issues related to the general public. It is the responsibility of the owner or controller of a facility to provide supervision for activities undertaken by the general public.

## FR 1 GENERAL

### FR 1.1 FINA Olympic Standard Pools.

All World Championships (except the Masters World Championships) and Olympic Games must be held in pools that comply with Rules FR 3, FR 6, FR 8, and FR 11.

### FR 1.2 FINA General Standard Pools.

Other FINA events should be held in FINA Olympic Standard Pools, but the Bureau may waive certain standards for existing pools if they do not materially interfere with the competitions.

### FR 1.3 FINA Minimum Standard Pools.

All other events held under FINA Rules should be conducted in pools that comply with all of the minimum standards contained within these Facilities Rules.

**FR 1.4** In order to protect the health and safety of persons using swimming facilities for the purposes of recreation, training and competition, owners of public pools or pools restricted only to training and competition must comply with the requirements established by law and the health authorities in the country where the pool is situated.

**FR 1.5** New competition equipment (e.g. Starting blocks, lane-ropes, etc.) must be available by 1<sup>st</sup> January in the year of the Olympic Games and FINA World Championships.

## FR 2 SWIMMING POOLS

### FR 2.1 Length

**FR 2.1.1** 50.000 metres. When touch panels of Automatic Officiating Equipment are used on the starting end, or additionally on the turning end, the pool must be of such length that ensures the required distance of 50.000 metres between the two panels. **See *Swimming Diagram SW 1***

**FR 2.1.2** 25.000 metres. When touch panels of Automatic Officiating Equipment are used on the starting end, or additionally on the turning end, the pool must be of such length that ensures the required distance of 25.000 metres between the two panels. **See *Swimming Diagram SW 6, SW 7***

## **FR 2.2 Dimensional Tolerances**

**FR 2.2.1** The admissible tolerance in 50.00 m swimming pools will be +0.010, -0.000 metre

### **Tolerances will be measured as follows:**

**Wall to Wall:** Minimum 50.020 metre / Maximum 50.030 metre

Tolerances have to be consistent 0.300 metre above to 0.800 metre below the water surface.

These measurements should be certified by a surveyor or other qualified official, appointed or approved by the Member in the country in which the pool is situated.

**See *Swimming Diagram SW 1***

**FR 2.2.2** The admissible tolerance in 25.00 m swimming pools will be +0.010, -0.000 metre

### **Tolerances will be measured as follows:**

**Wall to Wall:** Minimum 25.020 metre / Maximum 25.030 metre

Tolerances have to be consistent 0.300 metre above to 0.800 metre below the water surface.

These measurements should be certified by a surveyor or other qualified official, appointed or approved by the Member in the country in which the pool is situated.

**See *Swimming Diagram SW 6, SW 7***

## **FR 2.3 Depth**

A minimum depth of 1.35 metres, extending from 1.0 metre to at least 6.0 metres from the end wall is required for pools with starting blocks. A minimum depth of 1.0 metre is required elsewhere.

## **FR 2.4 Walls**

**FR 2.4.1** End walls shall be vertical, parallel and form 90 degree right angles to the swimming course and to the surface of the water. They shall be constructed of solid material, with a non-slip surface extending 0.8 metre below the water surface, so as to enable the competitor to touch and push off in turning without hazard.

**FR 2.4.2** Rest ledges along the pool walls are permitted; they must be not less than 1.2 metres below the water surface, and may be 0.1 metre to 0.15 metre wide. Both internal and external ledges are acceptable, however internal ledges are preferred.

**FR 2.4.3** Gutters may be placed on all four walls of the pool. If end wall gutters are installed, they must allow for attachment of touch panels to the required 0.3 metre above the water surface. They must be covered with a suitable grill or screen.

**FR 2.5** **Lanes** shall be at least 2.5 metres wide, with two spaces of at least 0.2 metre outside of the first and last lanes.

## FR 2.6 Lane Ropes

**FR 2.6.1** In an 8 lane pool, lane ropes shall extend the full length of the course, secured at each end wall to anchor brackets recessed into the end walls. The anchor shall be positioned so that the floats at each end wall of the pool shall be on the surface of the water. Each lane rope will consist of floats placed end-to-end having a minimum diameter of 0.10 metre to a maximum of 0.15 metre.

**In a swimming pool the colour of the lane ropes should be as follows:**

- Two (2) GREEN ropes for lanes 1 and 8
- Four (4) BLUE ropes for lanes 2, 3, 6 and 7
- Three (3) YELLOW ropes for lanes 4 and 5

The floats extending for a distance of 5.0 metres from each end of the pool shall be of RED colour.

There shall not be more than one lane rope between each lane. The lane ropes shall be firmly stretched. **See *Swimming Diagram SW 1, SW 6, SW 7***

**FR 2.6.2** At the 15-metre mark from each end wall of the pool the floats shall be distinct in colour from the surrounding floats.

**FR 2.6.3** In 50 metre pools the floats shall be distinct to mark 25 metres.

**FR 2.6.4** Lane numbers of soft material may be placed on the lane ropes at the start and turning end of the pool.

**FR 2.6.5** Lane marking measurements, please read in conjunction with FR 2.6.6. **See *Swimming Diagram SW 1, SW 6, SW 7***

**FR 2.6.6** Pool Diagrams.

**See *Swimming Diagram SW 1, 50m Swimming Pool for Olympic Games***  
**See *Swimming Diagram SW 6, SW 7, 25m Swimming Pool***

## FR 2.7 Starting Platforms

Starting Platforms shall be firm and give no springing effect. The height of the platform above the water surface shall be from 0.5 metre to 0.75 metre. The surface area shall be at least 0.5 metre x 0.5 metre and covered with a non-slip material.

Maximum slope shall not be more than 10 degrees. The starting platform may have an adjustable setting back plate. The platform shall be constructed so as to permit the gripping of the platform by the swimmer in the forward start at the front and the sides; it is recommended that, if the thickness of the starting platform exceeds 0.04 metre, grips of at least 0.1 metre width on each side and 0.4 metre width in the front be cut out to 0.03 metre from the surface of the platform.

Handgrips for the forward start may be installed on the sides of the starting platforms. Handgrips for backstroke starts shall be placed within 0.3 metre to 0.6 metre above the water surface both horizontally and vertically. They shall be parallel to the surface of the end wall and must not protrude beyond the end wall.

The water depth from a distance of 0.1 metre to 0.6 metres from the end wall must be 1.35 metres where starting platforms are installed. Electronic read-out boards may be installed under the blocks. Flashing is not allowed. Figures must not move during a backstroke start.

**See Swimming Diagrams SW 1, SW 6, SW 7**

### FR 2.8 Numbering

Each starting block must be distinctly numbered on all four sides, clearly visible. It is recommended that lane number 0 shall be on the right-hand side when facing the course from the starting end with exception of 50m events, which may start from the opposite end. Touch panels may be numbered on the top part.

### FR 2.9 Backstroke Turn Indicators

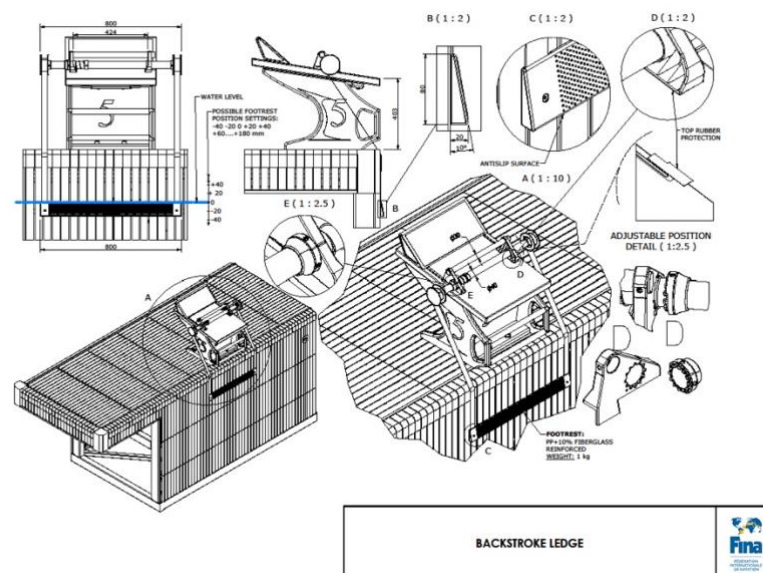
Flagged ropes shall be suspended across the pool, 1.8 metres above the water surface, from fixed standards placed 5.0 metres from each end wall. Distinctive marks must be placed on both sides of the pool, and where possible on each lane rope, 15.0 metres from each end wall.

### FR 2.10 Backstroke Ledge

A backstroke ledge may be used:

- The ledge may be adjustable to 4 cm above or 4 cm below the water level.
- The ledge is a minimum of 65 cm in length.
- The ledge must be 8 cm in height, 2 cm at the width with 10 degrees of slope

**See Diagram**



**FR 2.11 False Start Rope** may be suspended across the pool not less than 1.2 metres above the water level from fixed standards placed 15.0 metres in front of the starting end. It shall be attached to the standards by a quick release mechanism. The rope must effectively cover all lanes when activated.

**See Pool Diagrams** in FR 2.6.6.

**See Swimming Diagrams** SW 1, SW 6, SW 7.

**FR 2.12 Water Temperature and movement.**

Water temperature shall be 25° to 28°.

During competition, the water in the pool must be at a constant level, with no appreciable movement.

In order to keep the water level, preserve the transparency of water and take into consideration the health regulations in force in most countries, inflow and outflow has to be regulated as follows:

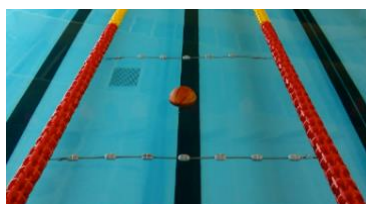
- 220 to 250 m<sup>3</sup>/h for 50.00 m pools
- 150 to 180 m<sup>3</sup>/h for 33.33 m pools
- 120 to 150 m<sup>3</sup>/h for 25.00 m pools

At these turnover rates, the water distribution has to be such that no appreciable current or turbulence is created.

“Appreciable current” is defined as water movement that can move a floating basketball (filled with 6 liters of water to obtain the right buoyancy) in one direction for more than 1,25m in 60 seconds.

The practical way to test this is to install two floating lines crosswise in a swim lane (to obtain a square with 2,5m size, ref. Image 1) and then to leave the basketball in the central point of the square. If the ball does not touch any of the four lane ropes within 60 seconds, the turbulence test is successful.

Test should be repeated in lanes 1,3,6,8 on two sides, at 5m from each headwall.



**FR 2.13 Lighting**

Light intensity over starting platforms and turning ends shall not be less than 600 lux.

**FR 2.14 Lane Markings** shall be of a dark contrasting colour, placed on the floor of the pool in the centre of each lane.

**Width:** minimum 0.2 metre, maximum 0.3 metre.

**Length:** 46.0 metres for 50 metre long pools;  
21.0 metres for 25 metre long pools.

Each lane line shall end 2.0 metres from the end wall of the pool with a distinctive cross line 1.0 metre long and of the same width as the lane line. Target lines shall be placed on the end walls or on the touch panels, in the centre of each lane, of the same width as the lane lines.

They shall extend without interruption from the deck edge (curb), to the floor of the pool to a maximum of 3 metres. A cross line 0.5 metre long shall be placed 0.3 metre below the water surface, measured to the centre point of the cross line.

For 50m pools constructed after 1 January 2006, cross lines 0.5 metre long shall be placed at the 15 metre mark from each end of the pool. After October 2013 this shall be measured from the end wall to the centre point of the cross line.

**See *Swimming Diagrams SW 1, SW 6, SW 7***

#### **FR 2.15 Bulkheads**

When a bulkhead serves as an end wall, it must extend the full width of the course and present a solid smooth, non-slippery stable vertical surface on which touch pads may be mounted extending not less than 0.8m below and 0.3m above the surface of the water, and must be free of hazardous openings above or below the waterline which may be penetrated by a swimmer's hands, feet, toes or fingers. A bulkhead must be of a design that provides for the free movement of officials along its length without such movement creating any appreciable current or water turbulence.

### **FR 3 SWIMMING POOLS FOR OLYMPIC GAMES AND WORLD CHAMPIONSHIPS**

**Length:** 50.0 metres between the Automatic Officiating Equipment touch panels, except for the World Swimming Championships (25m), which shall be 25.0 metres between the Automatic Officiating Equipment touch panels at the starting end and the wall or touch panels at the turning end.

**FR 3.1** Dimensional Tolerances as in FR 2.2.1.

**FR 3.2** **Width:**

#### **OLYMPIC GAMES**

- Permanent Swimming Pools: 25.00 meter
- Temporary Swimming Pools: 25.00 meter

#### **WORLD CHAMPIONSHIPS**

- Permanent Swimming Pools: 25.00 meter
- Temporary Swimming Pools: 26.00 meter



**FR 3.3 Depth:** 2 Metres (minimum); 3 metres recommended, when using the pool for multi disciplines i.e. Artistic Swimming

**FR 3.4 Walls:** as in FR 2.4.1.

**FR 3.5** Pools for Olympic Games and World Championships must be equipped with flush walls (consistently flat) at both ends.

**FR 3.6 Number of lanes:**

- 8 lanes for OLYMPIC GAMES
- 10 lanes for WORLD CHAMPIONSHIPS

**FR 3.7** Lanes shall be 2.5 metres wide with 2 spaces 2.5 metres wide outside of lanes 1 – 8. There must be a lane rope separating these spaces from lanes 1 and 8 for Olympic Games and World Championships. If 10 lanes, these must be marked from 0 to 9.

For permanent swimming pools there must be a lane rope separating these spaces from lanes 0 and 9 for World Championships. **See Diagram: SW 2, SW 4**

For temporary swimming pools there must be a lane rope separating these spaces from lanes 0 and 9 for World Championships. **See Diagram: SW 3, SW 5**

**FR 3.8 Lane Ropes:** Lane Ropes shall extend the full length of the course, secured at each end wall to anchor brackets recessed into the end walls. The anchor shall be positioned so that the floats at each end wall of the pool shall be on the surface of the water. Each lane rope will consist of floats placed end-to-end having a diameter of 0.15 metre.

#### OLYMPIC GAMES

In an 8 (eight) lanes swimming pool the colour of the lane ropes should be as follows:

- Two (2) GREEN ropes for lanes 1 and 8
- Four (4) BLUE ropes for lanes 2, 3, 6 and 7
- Three (3) YELLOW ropes for lanes 4 and 5

<b>1</b>		<b>GREEN</b>
<b>2</b>		<b>BLUE</b>
<b>3</b>		<b>BLUE</b>
<b>4</b>		<b>YELLOW</b>
<b>5</b>		<b>YELLOW</b>
<b>6</b>		<b>YELLOW</b>
<b>7</b>		<b>BLUE</b>
<b>8</b>		<b>BLUE</b>
		<b>GREEN</b>

### WORLD CHAMPIONSHIPS

In a 10 (ten) lanes swimming pool the colour of the lane ropes should be as follows:

- Two (2) GREEN ropes for lanes 0 and 9
- Six (6) BLUE ropes for lanes 1, 2, 3, 6, 7 and 8
- Three (3) YELLOW ropes for lanes 4, 5

0	GREEN
1	BLUE
2	BLUE
3	BLUE
4	YELLOW
5	YELLOW
6	YELLOW
7	BLUE
8	BLUE
9	BLUE
	GREEN

The floats extending for a distance of 5.0 metres from each end of the pool shall be of RED colour.

There shall not be more than one lane rope between each lane. The lane ropes shall be firmly stretched.

**FR 3.9 Starting Platforms:** as in FR 2.7.

Except the surface area shall be at least 0.5 metres wide X 0.6 metres in length and covered with non-slip material. False start control equipment must be installed.

**FR 3.10 Numbering:** as in FR 2.8.

**FR 3.11 Backstroke turn indicators:** as in FR 2.9

Flagged ropes must be 1.8 metres above the water surface. Flags must be fixed to the ropes having the following dimensions: 0.20m metres on the rope forming a triangle measuring 0.40 metres on the sides. The distance between each flag must be 0.25metres. If the flags are printed with or support / carry any signage this must be approved in advance by FINA

**FR 3.12 False Start Rope:** as in FR 2.11

**FR 3.13 Water Temperature:** as in FR 2.12

**FR 3.14 Lighting:** Light intensity over the whole pool shall not be less than 1500 lux.

**FR 3.15 Lane Markings:** as in FR 2.14. The distance between the centre points of each lane shall be 2.5 metres

**FR 3.16** If the swimming pool and the diving well are in the same area the minimum distance separating the pools shall be 5.0 metres. For pools constructed from 1 January 2014 the minimum distance separating the pool shall be a minimum of 8 metres however 10 metres is preferred

#### **FR 4 AUTOMATIC OFFICIATING EQUIPMENT**

**FR 4.1** Automatic and Semi-Automatic Officiating Equipment records the elapsed time of each swimmer and determines the relative place in a race. Judging and timing shall be to 2 decimal places (1/100 of a second). Equipment that is installed shall not interfere with the swimmers' starts, turns, or the function of the overflow system.

**FR 4.2** The Equipment must:

**FR 4.2.1** Be activated by the starter.

**FR 4.2.2** Have no exposed wires on the pool deck, if possible.

**FR 4.2.3** Be able to display all recorded information for each lane by place and by lane.

**FR 4.2.4** Provide easy digital reading of a swimmer's time.

#### **FR 4.3 Starting devices**

**FR 4.3.1** The starter shall have a microphone for oral commands.

**FR 4.3.2** If a pistol is used, it shall be used with a transducer.

**FR 4.3.3** Both the microphone and the transducer shall be connected to loudspeakers at each starting block where both the starter's commands and the starting signal can be heard equally and simultaneously by each swimmer.

#### **FR 4.4 Touch panels for Automatic Equipment**

**FR 4.4.1** The minimum measurement of the touch panels shall be 2.4 metres wide and 0.9 metre high, and the thickness shall be 0.01m when the contact is closed (and the time is stopped).

They shall extend 0.3 metre above and 0.6 metre below the surface of the water. The equipment in each lane shall be connected independently, so it may be controlled individually. The surface of the panels shall be of a bright colour and shall bear the line markings approved for the end walls.

**FR 4.4.2** Installation - The touch panels shall be installed in a fixed position in the centre of the lanes. The panels may be portable, allowing the pool operator to remove them when there are no competitors.

**FR 4.4.3** Sensitivity - The sensitivity of the panels shall be such that they cannot be activated by water turbulence, but will be activated by a light hand touch. The panels shall be sensitive on the top edge.

**FR 4.4.4** Markings - The markings on the panels shall conform with and superimpose on the existing markings of the pool. The perimeter and edges of the panels shall be defined by a 0.025 metre black border.

**FR 4.4.5** Safety - The panels shall be safe from the possibility of electrical shock and shall not have sharp edges.

**FR 4.5** With Semi-Automatic Equipment, the finish shall be recorded by buttons pushed by timekeepers at the finish touch of the swimmer.

**FR 4.6** The following accessories are essential for a minimum installation of Automatic Equipment:

**FR 4.6.1** Printout of all information, which can be regenerated during a succeeding race.

**FR 4.6.2** Spectator readout board.

**FR 4.6.3** Relay take-off judging to 1/100 of a second. Where overhead video cameras are installed they may be reviewed as a supplement to the automatic system's judgement of relay take-off. For the differential in the relays take-off the manufacturer of the device shall be consulted.

**FR 4.6.4** Automatic lap counter.

**FR 4.6.5** Readout of splits.

**FR 4.6.6** Computer summaries.

**FR 4.6.7** Correction of erroneous touch.

**FR 4.6.8** Automatic rechargeable battery operation possibility.

**FR 4.7** For Olympic Games and World Championships the following accessories are also essential:

**FR 4.7.1** The spectator electronic read-out board shall contain at least twelve (12) lines of thirty-two (32) characters, each capable of displaying both letters and numbers. Each character shall have a minimum height of 360 mm. Each line – matrix scoreboard shall be able to scroll up or down, with blink function, and each full matrix scoreboard shall be programmable, and capable of showing animation. The board must have a minimum size of 7.5 m width by 4.5m height.

**FR 4.7.2** There shall be an air-conditioned control centre, with dimensions of a least 6.0 metres x 3.0 metres, located between 3.0 metres and 5.0 metres from the finish wall, with an unobstructed view of the finish wall at all times during the race. The referee must have easy access to the control centre during the competition. At all other times the control centre shall be able to be secured.

**FR 4.7.3** Video timing

**FR 4.8** Semi-Automatic Equipment may be used as a backup to the Automatic Officiating Equipment at FINA or other major events if there are three buttons per lane, each operated by a separate official (in which case other finish judges shall not be required). An inspector of turns may operate one of the buttons.

### **DIAGRAMS FOR SWIMMING (Total 3)**

## **FR 5 DIVING FACILITIES**

### **FR 5.1 Springboard Diving**

General requirements: Dimensions in metres for all diving facilities as detailed in *Diving Diagram, Annex 1.1 & Annex 1.2*, shall be observed.

**FR 5.1.1** The springboards shall be at least 4.8 metres long and 0.5 metre wide. At all FINA Events, the type of springboard which must have a slip-resistant surface shall be approved by FINA.

**FR 5.1.2** The springboards shall be provided with movable fulcrums easily adjustable by the diver.

**FR 5.1.3** For springboard diving facilities modified or constructed on concrete platforms after 1 October 2013, the following shall be observed

**FR 5.1.3.1** The vertical distance from the level of the platform, which supports the fulcrum assembly, to the level of the top of the springboard, shall be 0.35 metre.

**FR 5.1.3.2** The distance from the front edge of the fulcrum assembly (which is 0.741 metres in length) to the front edge of the supporting platform, shall be a maximum of 0.44 metre.

**FR 5.1.3.3** If the front edge of the platform projects past this point then the fulcrum assembly and the rear hinge assembly must be moved forward so as to provide for a maximum of 0.44 metres from the front edge of the platform to the front of the fulcrum assembly

**FR 5.1.4** The minimum distance recommended from the rear to the centre line of the fulcrum shall be in accordance with the recommendation or specification of the springboard manufacturer.

**FR 5.1.5** The springboards shall be installed dead level at the leading edge when the movable fulcrum is in all positions.

**FR 5.1.6** The springboards should be placed on either one or both sides of the platform. For Synchronised Diving, it is required that at least two springboards at the same height shall be placed side by side and no objects should obstruct the visibility in any part of the dive between the divers.

**See Diving Diagram, Annex 2.1 & Annex 2.2**

## FR 5.2 Platform Diving

**FR 5.2.1** Each platform shall be rigid and horizontal.

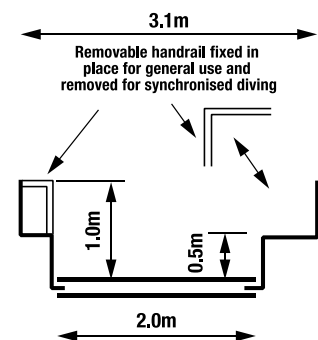
**FR 5.2.2** The minimum dimensions of the platform shall be:

PLATFORM	WIDTH	LENGTH
<b>0.6m to 1.0m</b>	1.00m (2.90m preferred)	5.00m
<b>2.6m to 3.0m</b>	1.00m (2.00m preferred)	5.00m
<b>5.0m</b>	2.90m	6.00m
<b>7.5m</b>	2.00m	6.00m
<b>10.0m</b>	3.00m	6.00m

On 10m platforms, with a width of less than 3m, only the handrails on each side for a distance of at least 3.0m back from the front edge of the platform may be shaped as detailed next (see drawing).

It is recommended that an easily removable section of handrail be included for general use, which can be removed for synchronised diving.

**See Diagram**



**FR 5.2.3** The preferred thickness of the front edge of the platform shall be 0.2 metre but not exceeding 0.3 metre, and can be vertical or inclined at an angle not greater than 10° to the vertical inside the plummet line. The front edge is to be applied first and then the top surface.

**FR 5.2.4** The surface and the front edge of the platform shall be covered throughout with a resilient slip-resistant surface. The two surfaces shall be covered separately in order to achieve a clean 90° angle or as described in FR 5.2.3. The front surface is to be applied first and then the top surface.

**FR 5.2.5** The platforms shall be covered in a slip-resistant material that shall have a tread pattern that provides sufficient traction in wet and dry conditions such that the divers are prevented from slipping when performing dives in all directions. The minimum thickness must be 6mm (- 0 / + 1mm) and the colour should give a contrast to the surrounding décor. The material shall be easily cleaned to maintain the anti-slip feature of the product. The installation of the slip-resistant platform covering shall respect FINA Rule FR 5.2.4.

**FR 5.2.6** The front edge of the 10 metre platform shall project at least 1.50 metres, the 7.5 metre, 5 metre and 2.6 – 3.0 metre platforms 1.25 metres, and the 0.6 – 1 metre platform 0.75 metre beyond the edge of the pool.

**FR 5.2.7** Where a platform is directly underneath another platform the platform above shall project a minimum of 0.75 metre (preferred 1.25 metres) beyond the platform below.

**FR 5.2.8** The back and sides of each platform (except 1.0 metre or lower platforms) shall be surrounded by handrails up to 1m from the edge of the platform with a minimum clearance of 1.8 metres between vertical pairs. The minimum height shall be 1.0 metre and they shall be with at least two horizontal crossbars placed outside the platform beginning 1.0 metre from the front edge of the platform.

A solid transparent barrier is also permitted instead of a crossbar.

The minimum handrails height surrounding 3.00m springboards must be measured from the level of the 3.00 m springboard.

**FR 5.2.9** Each platform shall be accessible by suitable stairs (not ladders) as required by the countries building regulations and or health and safety standards that are applicable.

**FR 5.2.10** It is preferable that a platform is not constructed directly under any other platform however in circumstance where this cannot be avoided then you must refer to *Diving Diagram, Annex 1.1, 1.2, 2.1 & 2.2*.

**FR 5.2.11** Requirements for the supporting structure. For platforms and supporting structure of the springboards the design load is  $p = 350$  kiloponds (kilograms force) per lineal metre.

In addition to the static requirements and for the comfort and safety of the user with respect to the movement of the towers, the following limits shall be observed, with respect to the platforms and springboard supports.

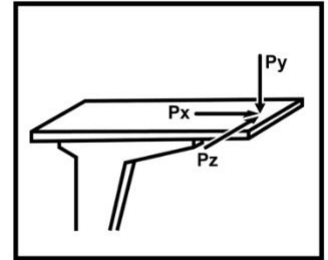
Fundamental frequency of platforms 10.0 Hz

**TOLERANCES:**

PLATFORM	MINIMUM	MAXIMUM
10m	10 Hz	20 Hz
7.5m, 5m, 3m and 1m	10 Hz	30 Hz

Fundamental frequency of tower 3.5 Hz  
Oscillation of total structure 3.5 Hz

The spatial deformation of the front edge of the platforms as a result of  $P_x = P_y = P_z = 100$  kiloponds (kilograms force) shall be a maximum of 1 mm.  
**See Drawing**



These requirements can be met most adequately by a reinforced concrete structure. Proof of the dynamic behavior is to be obtained together with the static calculations for the whole structure.

### FR 5.3 General Requirements

**FR 5.3.1** For pools designed and constructed after 26<sup>th</sup> September 2013 the minimum dimensions in metres for diving facilities as detailed on the “Diving Facilities Diagram” (Annex 1.2) shall prevail, using, as a basic measuring point of reference, the plummet line, which is a vertical line extending through the centre of the front edge of the springboard or platform. It is recommended that the preferred dimensions be used for projects considered to have an important status.

**FR 5.3.2** The dimensions C from plummet to adjacent plummet in the “FINA Dimensions for Diving”, Annex 1.2 table apply to platforms with widths as detailed in FR 5.2.2. If platform widths are increased then the dimensions B and C shall be increased by half the additional widths.

**FR 5.3.3** The height of the springboards and each platform above the water level may vary by plus 0.05 metre and minus 0.00 metre from the heights prescribed in the Rules.

**FR 5.3.4** The end of 5, 3, and 1 metre platforms must not project beyond the ends of the 3 and 1 metre springboards when they are adjacent to each other.

**FR 5.3.5** In the area of full water depth, the bottom of the pool may rise up to 2%. In the diving pool, the depth of water shall not be less than 1.8 metres at any point.

**FR 5.3.6** In outdoor pools, best practice suggests that springboards and platforms are recommended to face north in the northern hemisphere and south in the southern hemisphere.

**FR 5.3.7** The minimum illumination at a level of 1 metre above the water surface shall not be less than 600 lux.

**FR 5.3.8** Sources of natural and artificial illumination shall be provided with controls to prevent glare.

**FR 5.3.9** The water temperature shall be not less than 26° Celsius.



**FR 5.3.10** Mechanical surface agitation shall be installed under the diving facilities to aid the divers in their visual perception of the surface of the water. In pools equipped with an underwater bubble machine, the machine should only be used for this purpose if it creates sufficient water agitation when working with a very low pressure; otherwise a horizontal water sprinkler system should only be used.

**FR 5.3.11 For Diving Pools that will also be used for swimming.**

Lane markings for Diving pools shall be of a dark contrasting colour, placed on the floor of the pool in the centre of each lane.

**Width:** minimum 0.2 metre, maximum 0.3 metre.

**Length:** 21.0 metres for 25 metre long pools.

Each lane line shall end 2.0 metres from the end wall of the pool with a distinctive cross line 1.0 metre long and of the same width as the lane line. Target line shall be placed on the end of the walls or on the touch panels, in the centre of each lane, of the same width as the lane lines. A cross line 0.5 metre long shall be placed 0.3 metre below the water surface, measured to the centre point of the cross line. They shall extend without interruption from the deck edge (curb) to the floor or to a maximum of 3 metres.

**FR 5.3.12 Individual diving**

**FR 5.3.12.1** The judges will be placed side by side in a line on each side of the springboard / platform by the Referee.

**FR 5.3.12.2** When seven (7) / five (5) judges are used, four (4) / three (3) judges will be on the side closest to the competition.

Note: The Referee may decide to place four (4) / three (3) judges farthest from the competition depending of the local situation in the pool.

**FR 5.3.12.3** No judge shall be seated behind the front edge of the springboard or platform.

**FR 5.3.12.4** The numbering of the judge chairs will be clockwise when facing the springboard / platform.

**FR 5.3.12.5** In the 1 metre springboard competitions, chairs suitable for use on poolside shall be used.

**FR 5.3.12.6** In the 3 metre springboard competitions, the judges shall be seated at a height of not lower than two (2) metres above the water level.

**FR 5.3.12.7** In the 10 metre platform competitions, the chairs from the 3m springboard competitions can be used but if at all possible, the judges shall be seated at an even higher level.

**FR 5.3.12.8** To assist the judges in the 3 metre springboard and 10 metre platform competitions, the judge chairs must be positioned as far back from the edge of the pool as is practical.

### **FR 5.3.13 Synchronised diving**

**FR 5.3.13.1** Three (3) / two (2) execution judges will be placed on either side of the springboard / platform by the Referee.

**FR 5.3.13.2** The numbering of the execution judge chairs will be clockwise when facing the springboard / platform, namely E 1, E 2 and E 3 (or E 1, E 2) on the left side and E 4, E 5 and E 6 (or E 3, E 4) on the right side.

**FR 5.3.13.3** In between the execution judges on either side of the pool, the synchronised judges will be placed in a line.

**FR 5.3.13.4** Three (3) synchronised judges will be on the side closest to the springboard / platform competition, and the other two (2) synchronised judges on the opposite side.

**FR 5.3.13.5** The numbering of the synchronised judge chairs will start on the left-hand side on the pool with the lowest chair being S 1, and the highest chair on the right-hand side of the pool being S 5.

**FR 5.3.13.6** In the synchronised competitions, the synchronised judges closest to the pool edge, shall be seated at a height of not lower than 2.0 metres above the water level.

**FR 5.3.13.7** The subsequent heights for the remaining synchronised judges (or additional execution judge) must increase no less than 0.5 metre per seat.

**FR 5.3.13.8** There shall be no interference or movement in front of the judge chairs.

**FR 5.3.13.9** The above recommendations are shown in ***Diving Diagram, Annex 2.1 & Annex 2.2.***

#### **FR 5.3.14 Dry Land Training Facilities**

**General Requirements:** Dimensions in metres for Dry Land Training Facilities as detailed in *Diving Dry Land Training, Annex 3.1 & Annex 3.2* and *Diving Dry Land Recommended Equipment, Annex 3.3 & 3.4*

**FR 5.3.14.1** For the safety and development of divers in the learning of new and more difficult dives, it is strongly recommended that the guidelines presented below be incorporated into the facility and placed adjacent to the competitive diving area /facilities

**FR 5.3.14.2** When minimum dimensions are used in B and C a vertical mat or other protective surface should be attached to the appropriate forward and side walls.

#### **FR 5.4 Electronic Officiating Equipment**

**FR 5.4.1** Electronic Officiating equipment records the judges awards for each diver and determines the final score for each dive as required by Rule D 7

**FR 5.4.2** Preferred Equipment must be able to;

**FR 5.4.2.1** Record judges awards by whole and half points

**FR 5.4.2.2** Be able to display all recorded and calculated information for each diver both before and after each dive

**FR 5.4.2.3** Be able to display the scores for all divers before and after each dive

**FR 5.4.2.4** Be able to display the rank order and scores for all divers after each round of dives

**FR 5.4.2.5** The equipment must provide each judge with an electronic judging device that will permit each judge to enter their award and to see their award on a window on the device. After the referee has accepted the judges awards, all awards shall be displayed on each electronic judging device

**FR 5.4.2.6** Judges analysis is to be provided at the conclusion of each event or series

**FR 5.4.2.7** The referee must be provided with a monitor on which he/she will be able to view the awards of all the judges prior to the awards then being displayed on the score board

- FR 5.4.2.8** There is a requirement for a print out of the following information;
1. The draw for the diving order
  2. A start list for each session or event
  3. A ranking of dives at the end of each round
  4. A ranking of dives at the end of each event
  5. Judges awards and scores for each diver at the end of each session and event

## FR 6 DIVING FACILITIES FOR OLYMPIC GAMES AND WORLD CHAMPIONSHIPS

**FR 6.1 General requirements:** Dimensions in Metres for Diving Facilities as detailed in *Diving Diagram, Annex 1.1 & Annex 1.2* and 'Field of Play for Olympic Games and World Championships: *Diving Diagram, Annex 2.1 & Annex 2.2*.

**FR 6.1.1** For Olympic Games and World Championships FR 5 in total shall apply; however, the light intensity at the level of 1 metre above the water surface shall not be less than 1500 lux.

**FR 6.2** With regard to dimensions for diving facilities a combination of preferred and minimum measurements found in the "*FINA Dimensions for Diving Facilities, Annex 1.1 & Annex 1.2* table may be used. However, measurements less than minimum are not acceptable and may not be used. If the swimming pool and diving well are in the same area, the minimum distance separating the pools shall be of 8 metres, however 10 metres is preferred (see FR 3.16).

**FR 6.2.1** The vertical height from the plummet of the diving board and or springboard at rest to the water surface at rest and before water sprays or bubbles are set in motion shall be specified in the Diving Facilities Dimensions table. These measurements should be certified by a surveyor or other qualified officials, appointed or approved by the member of the country in which the pool is situated.

**FR 6.3** Line markings for the diving well will consist of 3 lines running the width of the diving well 90 degree angle to the diver facing forward on the springboard or platform. These lines shall be as follows:

**Width:** minimum 0.2 metre, maximum 0.3 metres

**Length:** 21.0 metre for 25 metre wide diving well

The distance between the centre points of each lane shall be 2.5 metres

The centre of the first line shall be directly under the plummet of the 3 metre springboard. **See *Diving Diagram, Annex 2.1 & Annex 2.2***

**FR 6.4** The host facility must provide a trampoline with spotting equipment and a hot tub. It is preferred that there be two trampolines and a dry land area with a springboard and a platform take-off into foam landing pits as detailed in ***Annex 3.1***.

## DIAGRAMS FOR DIVING (Total 8)

## FR 7 POOLS FOR WATER POLO

**FR 7.1 General requirements:** Water Polo Dimensions and Equipment as detailed in Field of Play for Olympic Games and World Championships.

*See Water Polo Diagram, Annex 5*

**FR 7.2 Field of Play.**

The overall Field of Play will be 30.60m x 20.00m for men and 25.60m x 20.00m for women.

The distance between respective goal lines shall be 30.00 metres for games played by men and 25.00 metres for games played by women.

The anchor point at the edge of the Field of Play shall be placed 30cm behind the front of the goal line. The width of the Field of Play shall be 20.00 metres.

The depth of the water shall be consistently not less than 2.00 metres

**FR 7.3** The water temperature shall not be less than 26° plus 1° minus 1° Centigrade.

**FR 7.4** The light intensity shall not be less than 600 lux.

**FR 7.5** Exception from FR 7.2 may be allowed on the discretion of the federation controlling the match.

**FR 7.6** The game secretariat shall be placed at a table behind the referees and at the same height

**FR 7.7 Ceiling height for Indoor Pools**

Minimum Ceiling height is not required.

## FR 8 WATER POLO POOLS FOR OLYMPIC GAMES AND WORLD CHAMPIONSHIPS

*See Water Polo Diagram, Annex 5*

**FR 8.1** Exceptions from the requirements in FR 7.2 are not allowed.

**FR 8.2** The water temperature shall be as in FR 7.3.

**FR 8.3** The light intensity shall not be less than 1500 lux.

**FR 8.4** In Olympic Games, World Championships and FINA events only water with less than 3 gr/litre of salt shall be used.

**FR 8.5 Ceiling height for Indoor Pools**

In indoor swimming pools the minimum height of the Field of Play shall be not less than 7.00 meter.

**FR 9 EQUIPMENT FOR WATER POLO POOLS**

**FR 9.1** Distinctive marks shall be provided on both sides of the field of play to denote the goal lines, lines 2.0 metres and 5.0 metres from that line and half the distance between the goal lines. These markings shall be clearly visible throughout the game.

The white marker shall be measured from the anchor point and will be 0.3 metres to line up with the front of the edge of the goal line. This shall be consistent at both ends of the field.

The 2 metre red marker shall be measured from the front end of the goal line extending into the field of play. This shall be consistent at both ends of the field of play.

The yellow marker shall then extend 3 metres from the 2 metre marker into the field of play. This shall be consistent at both ends of the field of play.

The middle section of the field of play will be green and should be 20 metres for the men's game and 15 metres for the women's game. There will be a white marker placed in the middle of the green area to denote the centre of the field.

The exclusion zones shall be placed in the two corners on the opposite side of the pool to the official table. They shall be 2 metres in length and shall extend along the goal line.

**FR 9.2** Platforms must be provided on both sides of the field of play, which shall be 1 metre in width and 70 cm in height above the water level. These platforms enable the referees to have free way from end to end of the field of play. Sufficient space shall also be provided at the goal lines for the Goal Judges. The platforms must be colour coded to meet the specification as shown in the diagram of the field of play Annex 5

**FR 9.3** Goals: The goal posts and crossbar must be of wood, metal or synthetic (plastic) with rectangular sections of 0.075 metre, square with the goal line and painted white.

The goal posts must be fixed, rigid and perpendicular at each end of the playing space, equal distances from the sides and at least 0.3 metre in front of the ends of the field of play or of any obstruction. Any standing or resting place for the goalkeeper other than the floor of the pool is not permitted.

**FR 9.4** The inner sides of the goal posts must be 3.0 metres apart. The underside of the cross bar must be 0.9 metres above the water surface.

**FR 9.5** The underside of the crossbar must be 0.9 metre above the water surface when the water is 1.5 metres or more in depth, and 2.4 metres above the bottom of the pool when the depth of the water is less than 1.5 metres.

**FR 9.6** The rectangular excluded players' re-entry area shall have the following dimensions: 2.0 metres by 1.08 metres.

**FR 9.7** Limp nets must be attached to the goal fixtures to enclose the entire pool space securely fastened to the goal posts and crossbar, allowing not less than 0.3m of clear space behind the goal line everywhere within the goal area.

**FR 9.8** Automatic Officiating Equipment

### DIAGRAM FOR WATER POLO (Total 1)

## FR 10 POOLS FOR ARTISTIC SWIMMING

**FR 10.1 General requirements:** Field of Play for Artistic Swimming in Olympic Games and World Championships as detailed in: *Artistic Swimming Diagram, Annex 6*.

**FR 10.1.1** For the figure section of competition two areas each 10.0 metres long by 3.0 metres wide are to be provided. Each area is to be close to a wall of the pool with the 10.0 metre long side parallel to and not greater than 1.5 metres from the pool wall. One of these areas is to be of 3.0 metres minimum depth and the other area is to be of 2.5 metres minimum depth.

**FR 10.2** For the routine section of competition a minimum area of 12 meters by 25 meters is required, within an area of which 12 meters by 12 meters must have a minimum depth of 3.0 meters. The depth of the remaining area shall be 2.0 meters minimum.

**FR 10.2.1** Delimit in width and length the field of play in the Solo and the Duet with two lanes (maximum width 16m length 25m).

For the Solo and Duet competition, the field of play may be delimited in width and length.

**FR 10.3** Where the water depth is more than 2.0 metres, the depth at the pool wall may be 2.0 metres and then sloped down to reach the general depth at 1.2 metres maximum from the pool wall.

**FR 10.4** The areas for figure competition in FR 10.1 can occupy the same area of the pool as that used for routine competition.

**FR 10.5** If there are no lane markings as described in FR 2.13, the floor of the pool must be marked with contrasting lines in one direction, following the length of the pool.

**FR 10.6** The water must be of sufficient clarity for the bottom of the pool to be visible.

**FR 10.7** The water temperature shall not be less than 27° plus 1° minus 1° Centigrade.

## FR 11 POOLS FOR ARTISTIC SWIMMING IN OLYMPIC GAMES AND WORLD CHAMPIONSHIPS

**FR 11.1** The Field of Play for Artistic Swimming in Olympic Games and World Championships as detailed in: ***Artistic Swimming Diagram, Annex 6.***

**FR 11.1.1** For the routine section of competition at Olympic Games and World Championships a minimum area of 12.0 metres by 30.0 metres is required, within which an area of 12.0 metres by 12.0 metres must have a minimum depth of 3.0 metres. The depth of the remaining area shall be 2.5 metres minimum. The sloped area from 3.0 metres depth to 2.5 metres depth should be over a minimum distance of 8.0 metres.

**FR 11.2** The water temperature shall be as in FR 10.7.

**FR 11.3** The light intensity shall not be less than 1500 lux.

**FR 11.4** Automatic officiating equipment, as listed in FR 12 shall be available.

**FR 11.5** Sound equipment and presentation standards as listed in FR 13 shall be available.

**FR 11.6** Starting platform is recommended 0.7metres in height but not less than 0.5 metres.  
**See *Synchro Diagram, Annex 6***

**FR 11.7** Judges Platform must have tables and chairs and be of a minimum height of 0.6 metres. **See *Synchro Diagram, Annex 6***

## FR 12 AUTOMATIC OFFICIATING EQUIPMENT

The minimum installation consists of:

**FR 12.1** same number of score recorder units as judges (figure: 5 up to 28; routine 5 up to 15)

**FR 12.2** the results may only be transferred after confirmation by the referee or appointed official

**FR 12.3** result unit (computer) with result recording and backup system. Only FINA approved programmes and systems are allowed.

**FR 12.4** print out system for all recorded information, start lists and result lists;

**FR 12.5** A judge's evaluation system based on the recorded results (FR 12.3). Only FINA TSSC approved programmes and system are allowed.

**FR 12.6** scoreboard control unit with a scoreboard; of a minimum of 10 lines containing 32 digits (or scoreboard as described in Rule FR 4.7.1). The scoreboard must be able to display all recorded information and the running time;

**FR 12.7** for each judge flash cards in case of failure of the electronic system.



## **FR 13 SOUND EQUIPMENT AND PRESENTATION STANDARDS**

The sound equipment should include, at minimum:

### **FR 13.1 Amplifier-mixer system**

Mixer should have at least 16 inputs and 6 outputs (LR (Left-Right channels) PA, LR Speaker system on the field of competition, 2 outputs Spare/or for Broadcasting). Amplifiers should be suitable for used speakers.

### **FR 13.2 A sound reproduction system**

**FR 13.2.1** High quality microphones and microphone stations for announcements and ceremonies.

**FR 13.2.2** High quality air speakers (AS) of size, number and placement to obtain uniform clear sound to the field of competition area. And should be able to produce 105 db SPL (sound pressure level) A without distortion. The maximum SPL shall not exceed 125 dB SPL A. Speakers frequency response should be at least 40Hz-16kHz

**FR 13.2.3** High quality air speakers (AS) of size, number and placement to obtain uniform clear sound to the start podium of competition area. And should be able to produce 105 db SPL A without distortion. The maximum SPL shall not exceed 125 dB SPL A. Speakers frequency response should be at least 40Hz-16kHz

**FR 13.2.4** All air speaker (AS) in the field of competition should be «passive» (without built-in amplifier) to avoid risk of electrical shock.

**FR 13.2.5** UWS (Under Water Speaker) for clear and uniform underwater sound above. UWS should be able to produce 98dB A without distortion. The maximum SPL shall not exceed 110 dB SPL A. UWS frequency response should be at least 200Hz-10kHz. Isolation and impedance matching transformer systems for the UW speakers.

**FR 13.2.6** DSP (Digital Sound Processor) to make amplitude frequency characteristic and delay corrections in between AS and UWS. DSP should have at least 2 inputs and independent 6 outputs (or 3 Stereo independent outputs). Each output should have HPF (High Pass Filter), LPF (Low Pass Filter), GEQ (Graphic equalizer) and/or Parametric equalizer, compressor/limiter, Delay (minimum 5 seconds)

### **FR 13.3 PA (Public Address) System (Sound reproducing system for spectators)**

**FR 13.3.1** The sound system shall be capable to cover spectators seats at least with 110 dB A with deviations in overall direct sound levels across the spectator seating area not exceeding +/- 3 dB A. The maximum SPL shall not exceed 125 dB SPL A.

**FR13.3.2** STI PA (speech transmission index for PA systems) should be in 0,5-1.0 STI

**FR13.3.3** The PA system shall provide enough headroom to compensate for the atmospheric loss of high frequencies.

**FR13.3.4** The PA system should have a minimal impact to the field of competition to avoid sound delay problems.

**FR 13.4** Sound volume (decibel) meter for monitoring music sound levels both above and under water.

**FR 13.5** Patch cords for interconnecting equipment properly, speaker extension lines adequate for placing speakers for optimal sound distribution.

**FR 13.6** Fusing systems as needed to protect speakers and other equipment.

**FR 13.7** Grounding lines to ensure safe grounding of all equipment.

**FR 13.8** Safety materials to minimize potential of injury to person or equipment from stepping on or tripping over electrical or speaker lines.

**FR 13.9** A stopwatch.

**FR 13.10** Tools and meters as needed for initial special hookups and emergency repairs.

**FR 13.11** Systems for communication between officials and sound desk.

**FR 13.12** A system for monitoring and recording underwater sound continuously.

**DIAGRAM FOR ARTISTIC SWIMMING (Total 1)**

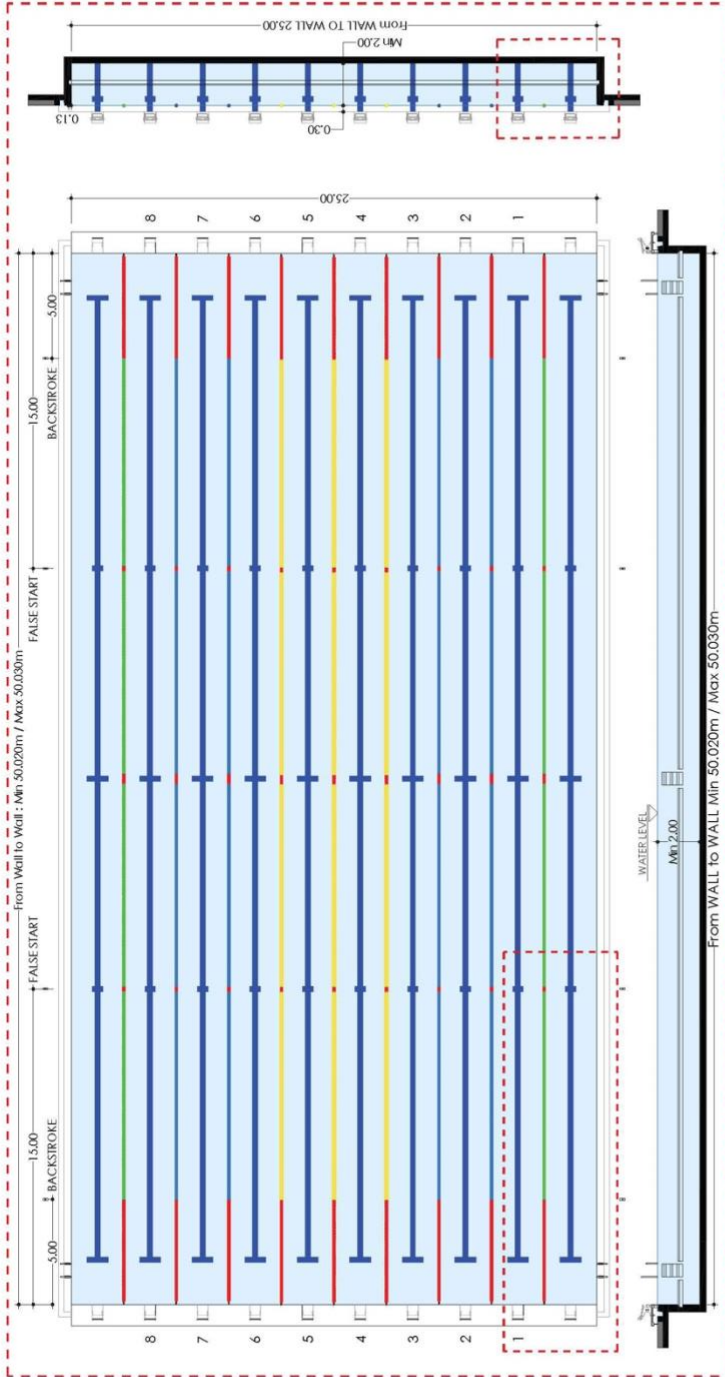


FIG. 1

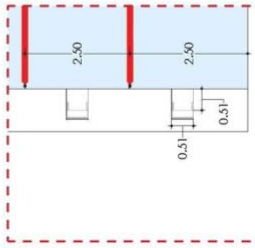


FIG. 2  
STARTING PLATFORMS

FR 3.8 LANE ROPES

9	Blue
8	Blue
7	Blue
6	Yellow
5	Yellow
4	Yellow
3	Blue
2	Blue
1	Blue
0	Green

FIG. 3

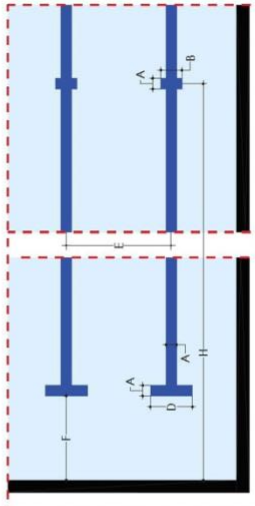


FIG. 5  
PLAN LANE MARKINGS

FR 2.14 FINA LANE MARKINGS

WIDTH OF LANE MARKINGS	A	0.25m±0.05m
LENGTH OF END WALL TARGETS	B	0.50m
DEPTH TO CENTRE OF END WALL TARGETS	C	0.50m
LENGTH OF LANE MARKER CROSS LINE	D	1.00m
WIDTH OF BACING LANES	E	2.50m
DISTANCE FROM END OF LANE LINE TO END WALL	F	2.00m
TOUCH PAD	G	2.40m±0.90m×0.01m
DIST. FROM CENTRE OF CROSS LINE TO END WALL	H	1.50m

FIG. 4

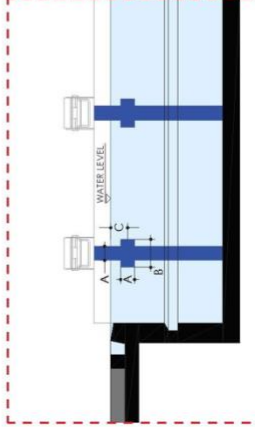


FIG. 6  
END WALL LANE MARKINGS

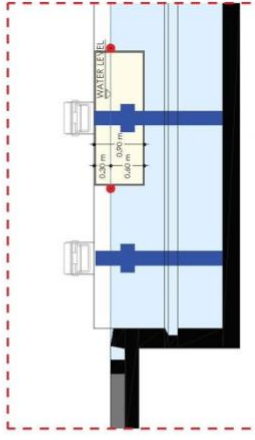


FIG. 7

	<b>50m SWIMMING POOL FOR OLYMPIC GAMES</b> DIAGRAMS AND LANE MARKINGS	<b>ANNEX</b>
	SWIMMING POOL 50x25 8 LANES	<b>SW 1</b>

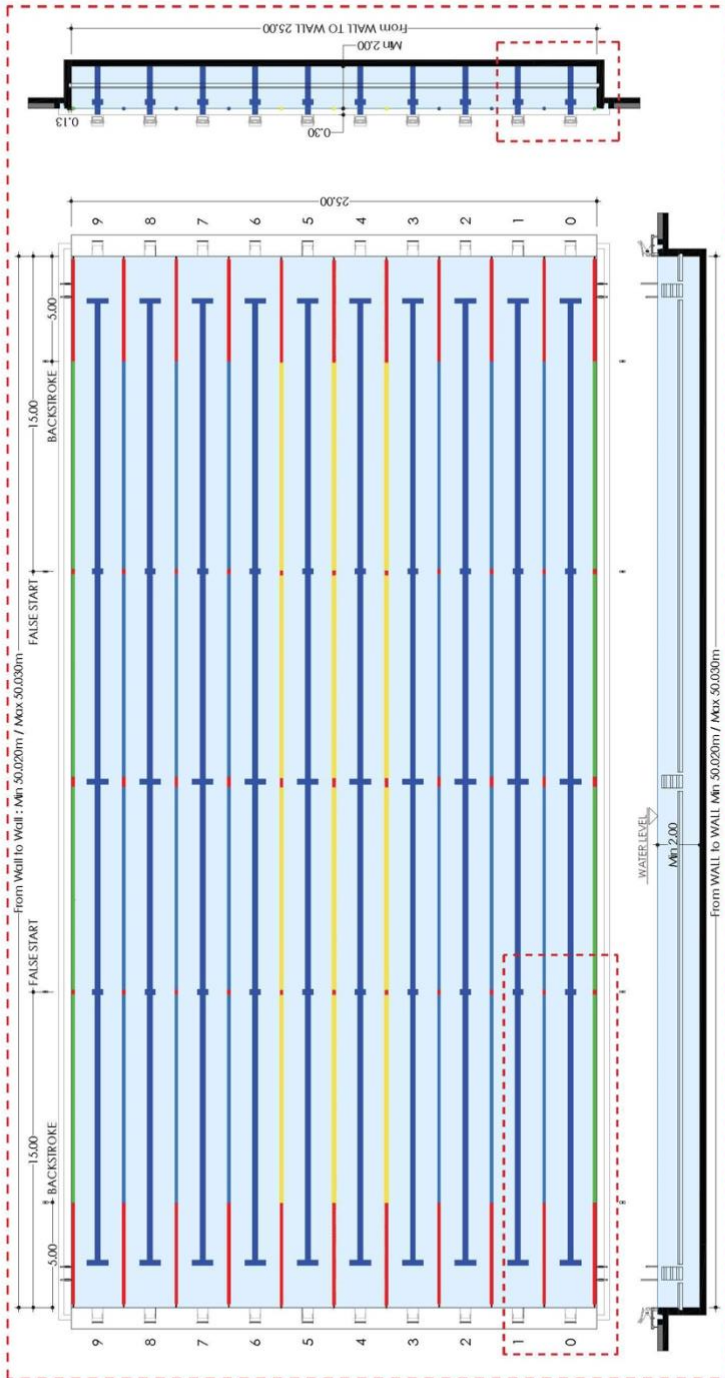


FIG. 1

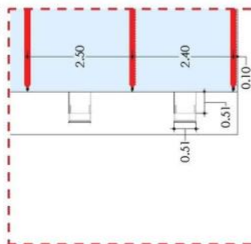


FIG. 2  
STARTING PLATFORMS

FR 3.8 LANE ROPES	Color
9	Green
8	Blue
7	Blue
6	Yellow
5	Yellow
4	Blue
3	Blue
2	Blue
1	Blue
0	Green

FIG. 3

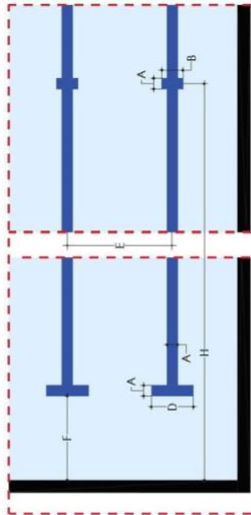


FIG. 4  
PLAN LANE MARKINGS

FR 2.14 FINA LANE MARKINGS	Parameter	Value
WIDTH OF LANE MARKINGS	A	0.25m ± 0.05m
LENGTH OF END WALL TARGETS	B	0.50m
DEPTH TO CENTRE OF END WALL TARGETS	C	0.50m
LENGTH OF LANE MARKER CROSS LINE	D	1.00m
WIDTH OF BACING LANES	E	2.50m
DISTANCE FROM END OF LANE LINE TO END WALL	F	2.00m
TOUCH PAD	G	2.40m x 0.90m x 0.01m
DIST. FROM CENTRE OF CROSS LINE TO END WALL	H	15.00m

FIG. 5

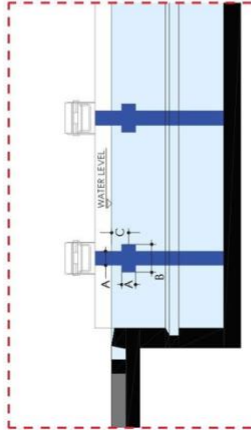


FIG. 6  
END WALL LANE MARKINGS

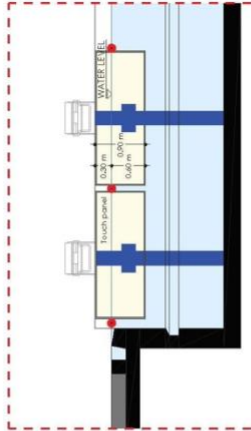

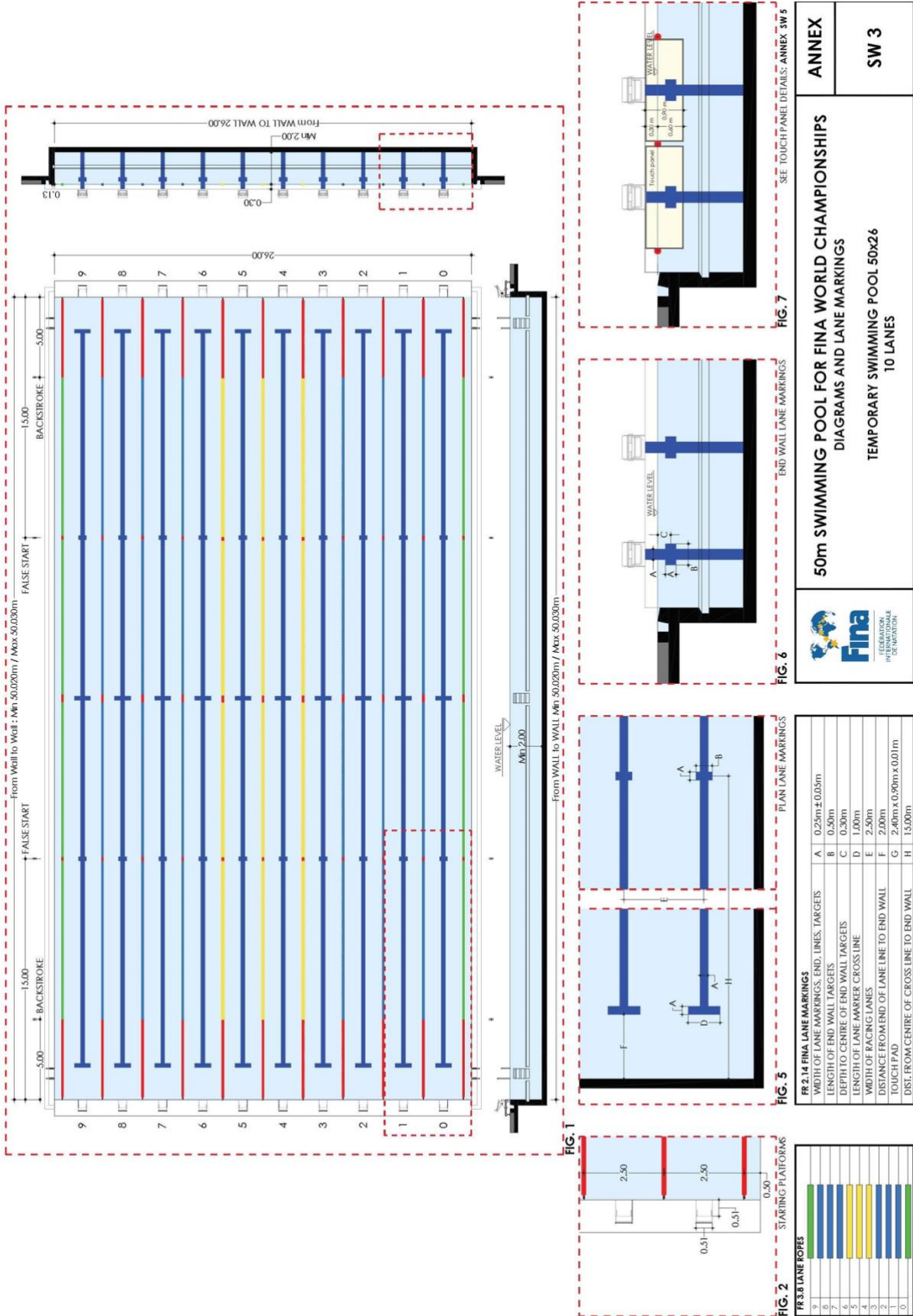


FIG. 7  
SEE TOUCH PANEL DETAILS: ANNEX SW 4

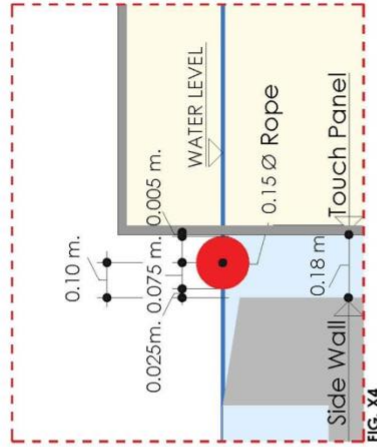
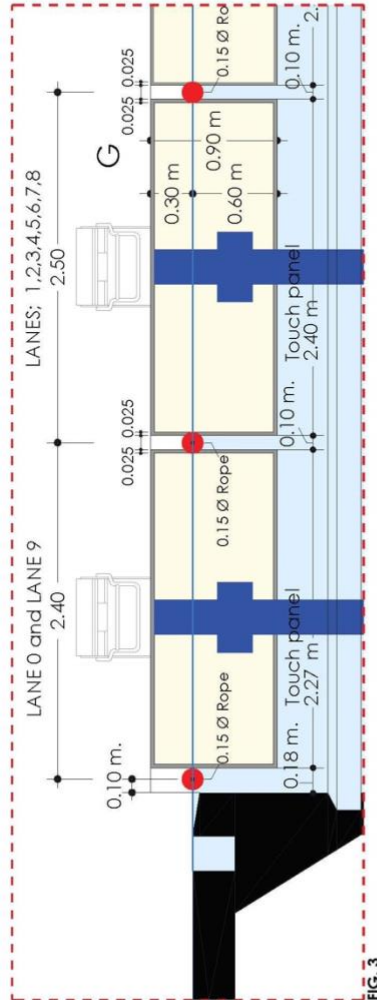
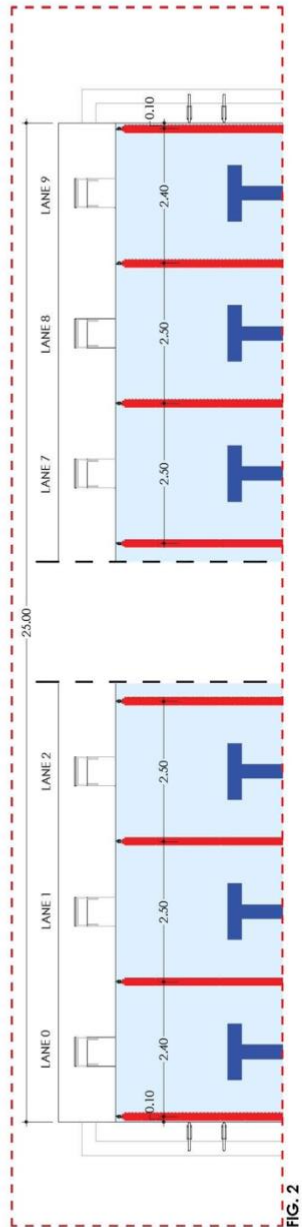
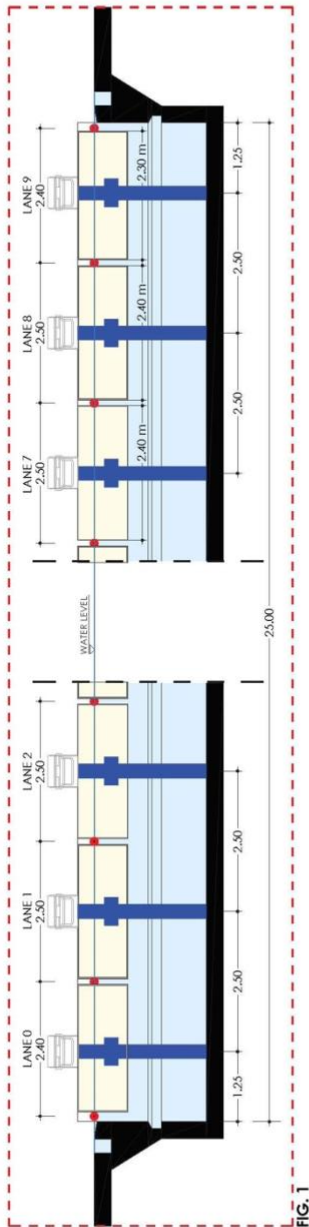
 <p>50m SWIMMING POOL FOR FINA WORLD CHAMPIONSHIPS DIAGRAMS AND LANE MARKINGS PERMANENT SWIMMING POOL 50x25 10 LANES</p>	ANNEX
	SW 2



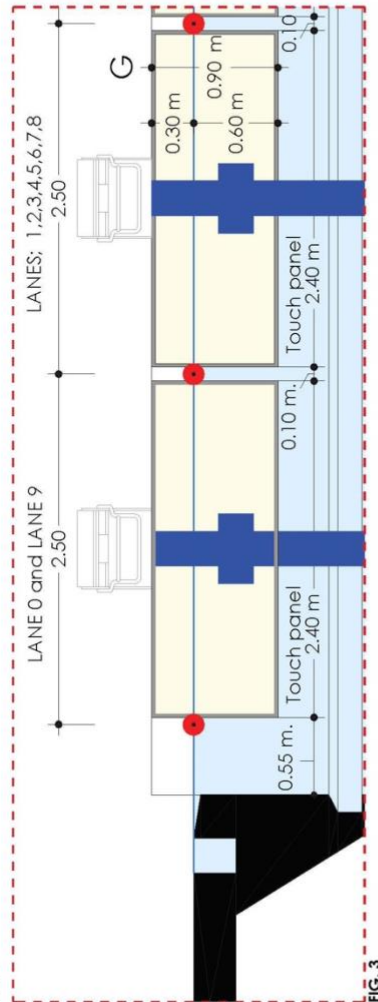
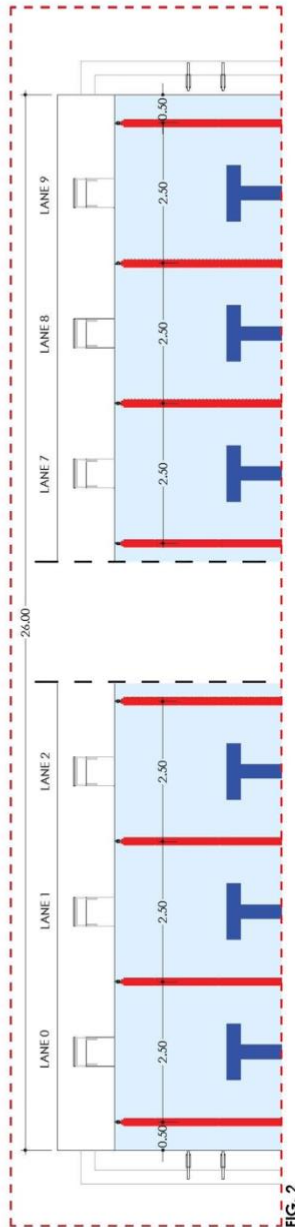
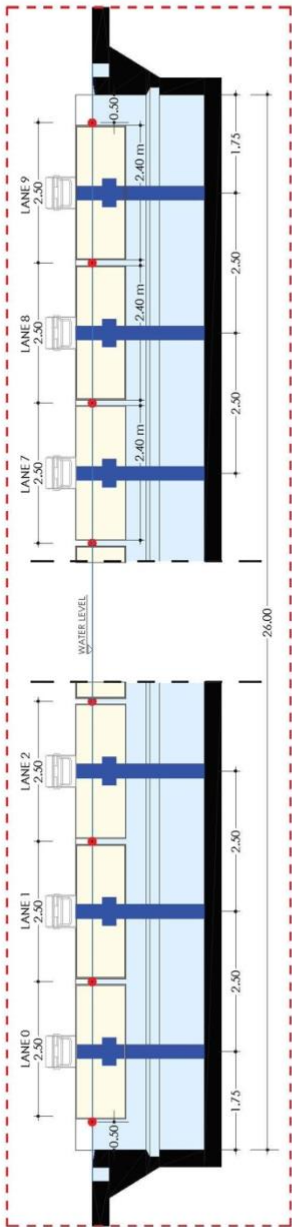
	<b>50m SWIMMING POOL FOR FINA WORLD CHAMPIONSHIPS</b> DIAGRAMS AND LANE MARKINGS TEMPORARY SWIMMING POOL 50x26 10 LANES	<b>ANNEX</b>  <b>SW 3</b>
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**FR 2.14 FINA LANE MARKINGS**

WIDTH OF LANE MARKINGS, END LINES, TARGETS	A	0.25m ± 0.05m
LENGTH OF END WALL TARGETS	B	0.50m
DEPTH TO CENTRE OF END WALL TARGETS	C	0.50m
LENGTH OF LANE MARKER CROSS LINE	D	1.00m
WIDTH OF BACING LANES	E	2.50m
DISTANCE FROM END OF LANE LINE TO END WALL	F	2.00m
TOUCH PAD	G	2.40m x 0.90m x 0.01m
DSL FROM CENTRE OF CROSS LINE TO END WALL	H	15.00m



	<b>50m SWIMMING POOL FOR FINA WORLD CHAMPIONSHIPS</b>		ANNEX
	PERMANENT SWIMMING POOL 50x25 DIAGRAM LANES 0 and 9		SW 4



	<b>50m SWIMMING POOL FOR FINA WORLD CHAMPIONSHIPS</b>	
	TEMPORARY SWIMMING POOL 50x26 DIAGRAM LANES 0 and 9	
<b>ANNEX</b>	<b>SW 5</b>	

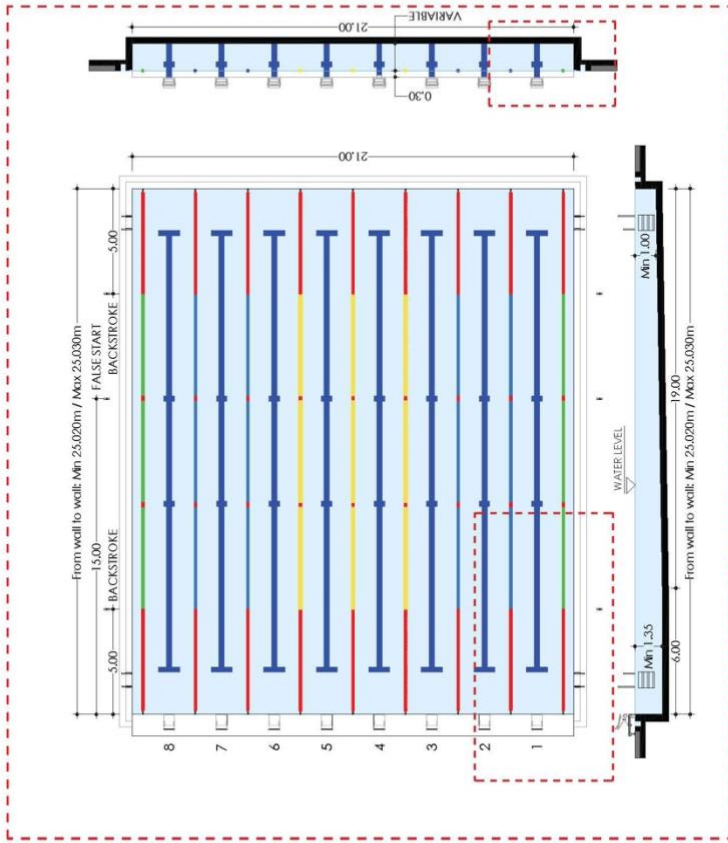


FIG. 1

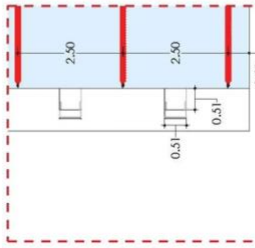


FIG. 2

FR 3.8 LANE ROPES

9	Blue
8	Blue
7	Blue
6	Yellow
5	Yellow
4	Yellow
3	Blue
2	Blue
1	Blue
D	Blue

FIG. 3

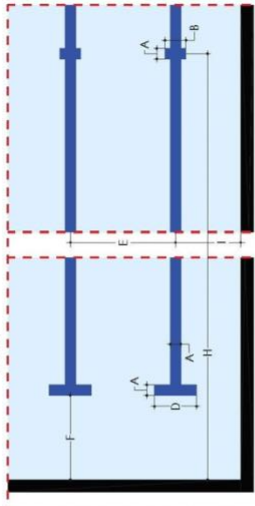


FIG. 4

FR 2.14 FINA LANE MARKINGS

WIDTH OF LANE MARKINGS	A	0.25m ± 0.05m
LENGTH OF END WALL TARGETS	B	0.50m
DEPTH TO CENTRE OF END WALL TARGETS	C	0.30m
LENGTH OF LANE MARKER CROSS LINE	D	1.00m
WIDTH OF BACING LANES	E	2.50m
DISTANCE FROM END OF LANE LINE TO END WALL TOUCH PAD	F	2.00m
DIST. FROM CENTRE OF CROSS LINE TO END WALL	G	2.40m ± 0.90m x 0.01m
	H	1.500m

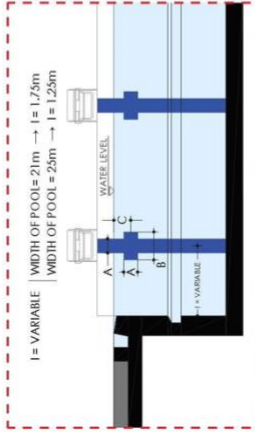


FIG. 5

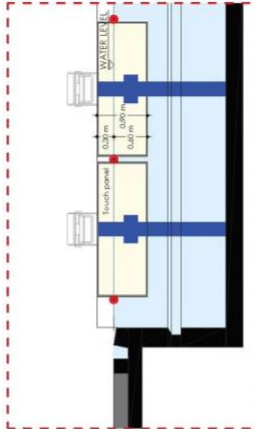


FIG. 6

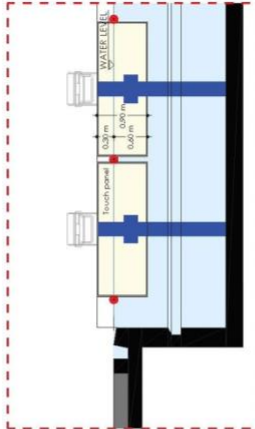


FIG. 7

25m SWIMMING POOL DIAGRAMS AND LANE MARKINGS		ANNEX
PERMANENT SWIMMING POOL 25x21 8 LANES		SW 6

FR 2.14 FINA LANE MARKINGS

WIDTH OF LANE MARKINGS	A	0.25m ± 0.05m
LENGTH OF END WALL TARGETS	B	0.50m
DEPTH TO CENTRE OF END WALL TARGETS	C	0.30m
LENGTH OF LANE MARKER CROSS LINE	D	1.00m
WIDTH OF BACING LANES	E	2.50m
DISTANCE FROM END OF LANE LINE TO END WALL TOUCH PAD	F	2.00m
DIST. FROM CENTRE OF CROSS LINE TO END WALL	G	2.40m ± 0.90m x 0.01m
	H	1.500m



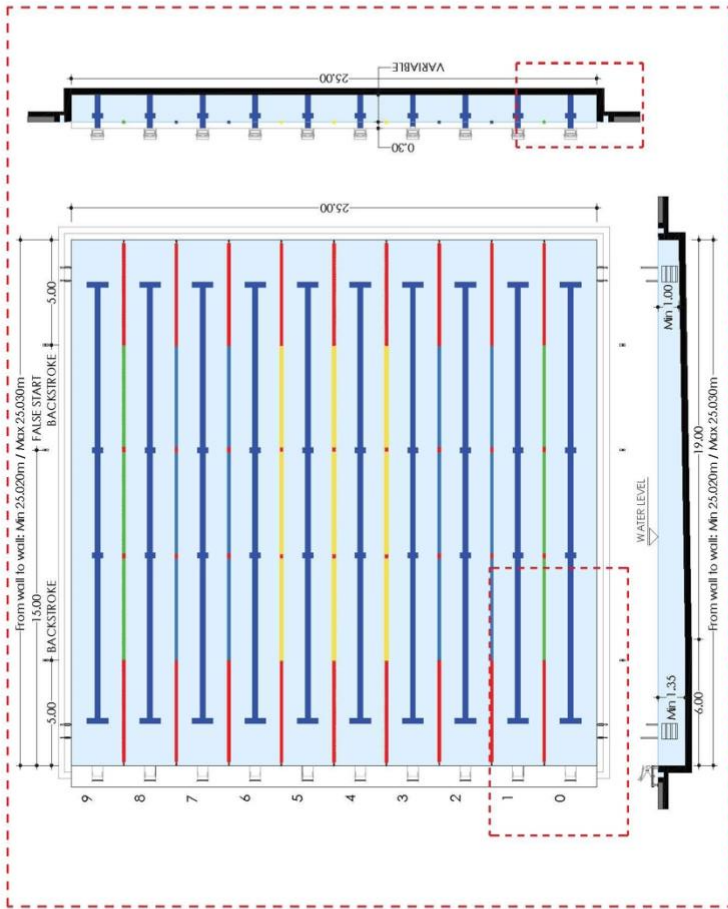


FIG. 1

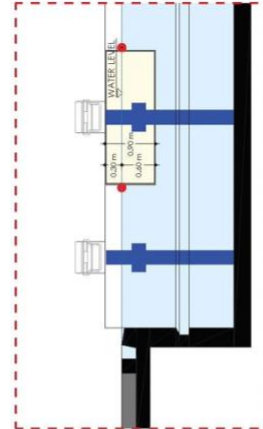


FIG. 7

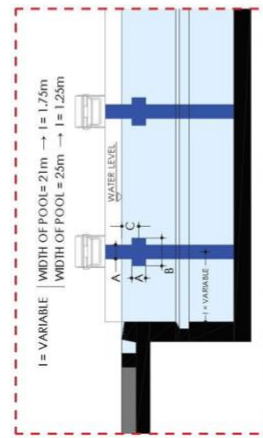


FIG. 6

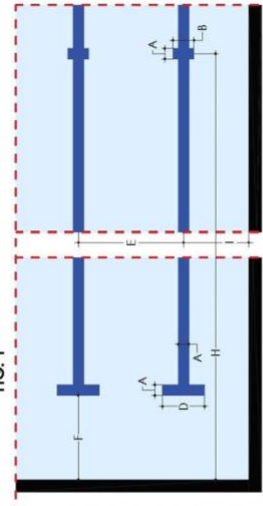


FIG. 5

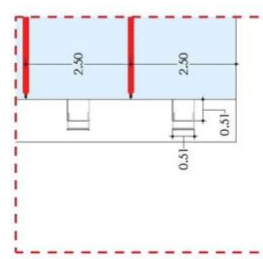


FIG. 2

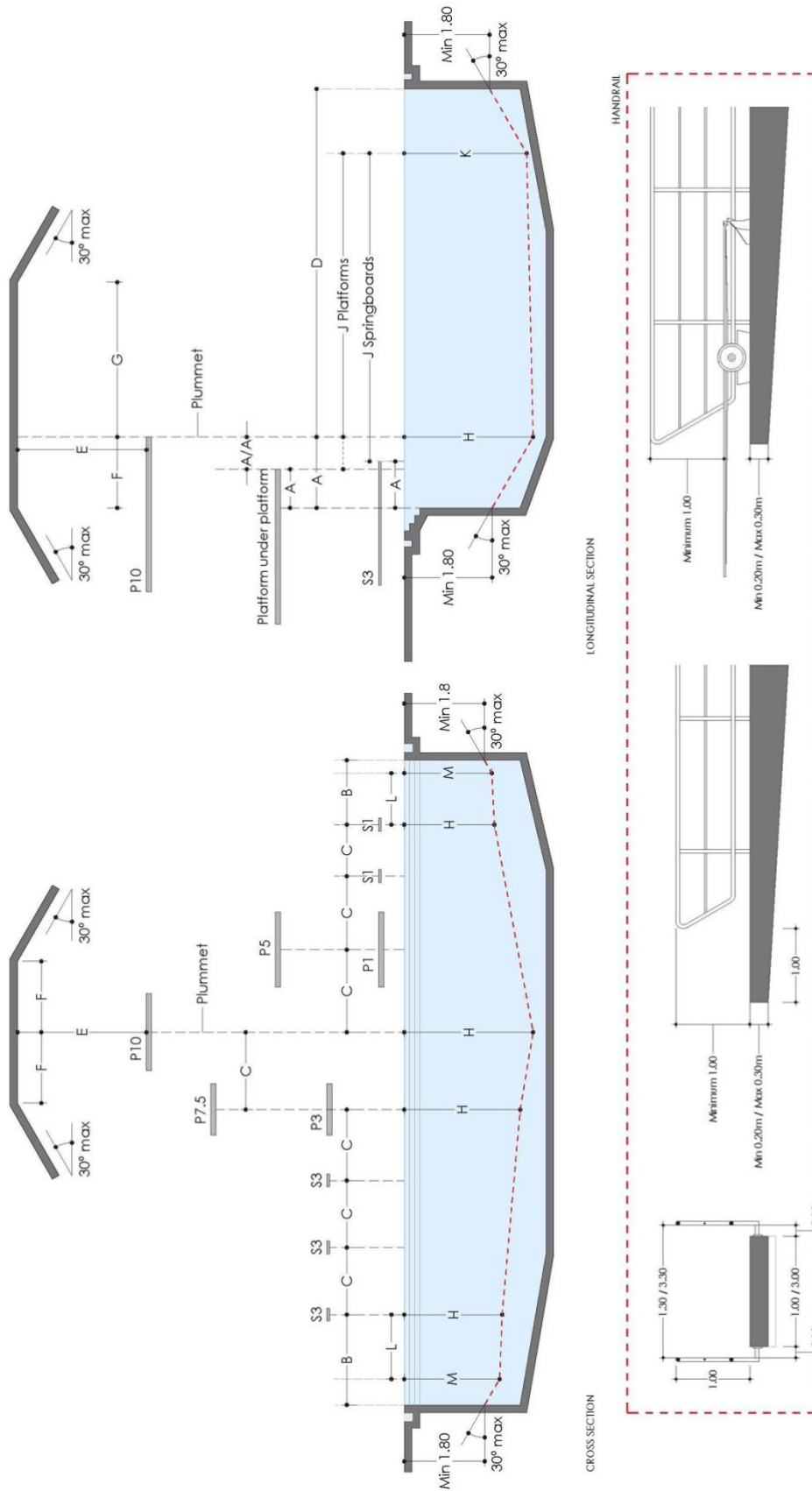
<p><b>25m SWIMMING POOL</b> DIAGRAMS AND LANE MARKINGS</p> <p>PERMANENT SWIMMING POOL 25x25 8 LANES</p>		ANNEX
		SW 7

<b>FR 2.14 FINA LANE MARKINGS</b>	
WIDTH OF LANE MARKINGS	A   0.25m ± 0.05m
LENGTH OF END WALL TARGETS	B   0.50m
DEPTH TO CENTRE OF END WALL TARGETS	C   0.30m
LENGTH OF LANE MARKER CROSS LINE	D   1.00m
WIDTH OF BACING LANES	E   2.50m
DISTANCE FROM END OF LANE LINE TO END WALL TOUCH PAD	F   2.00m
DIST. FROM CENTRE OF CROSS LINE TO END WALL	G   2.40m ± 0.90m x 0.01m
	H   1.500m

FIG. 4

<b>FR 3.8 LANE ROPES</b>	
9	Blue
8	Blue
7	Blue
6	Yellow
5	Yellow
4	Yellow
3	Blue
2	Blue
1	Blue
0	Green

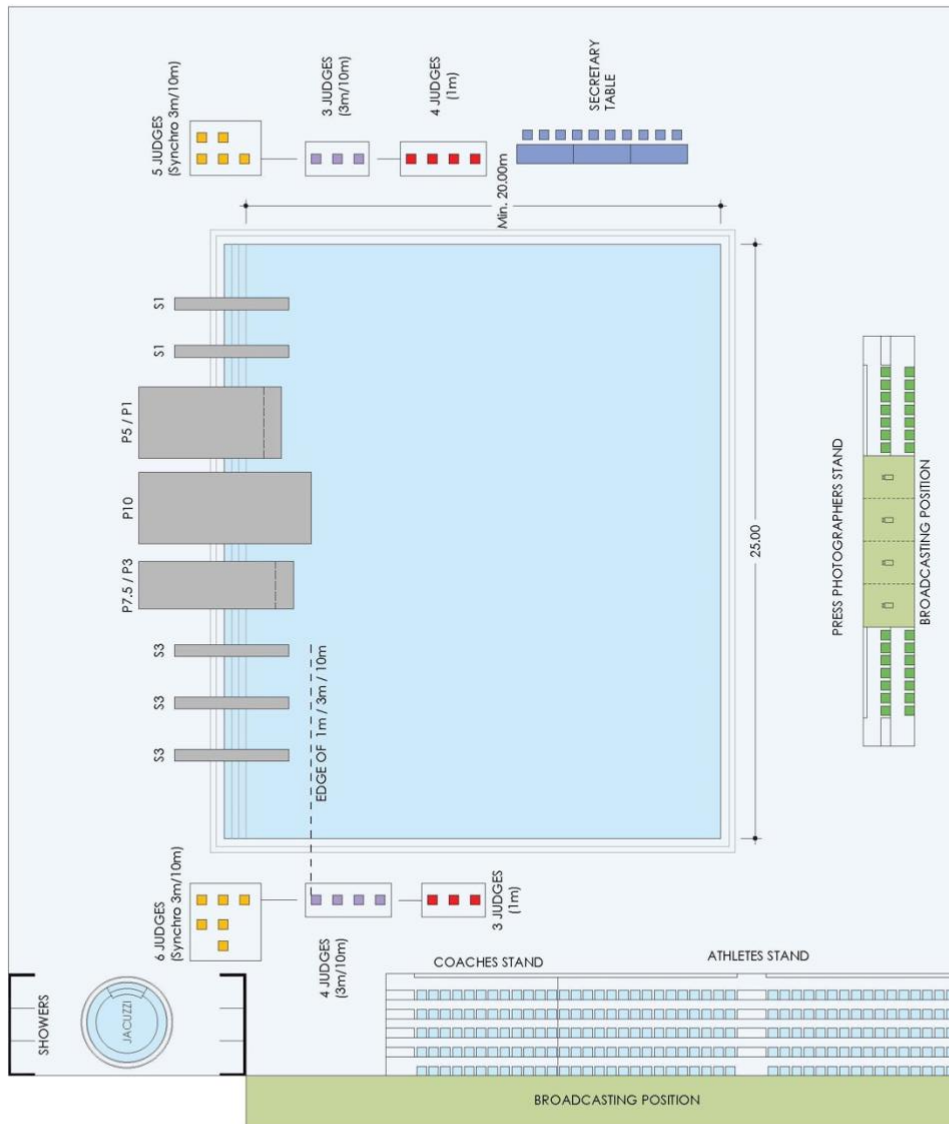
FIG. 3



**DIVING DIAGRAMS  
ANNEX 1.1**

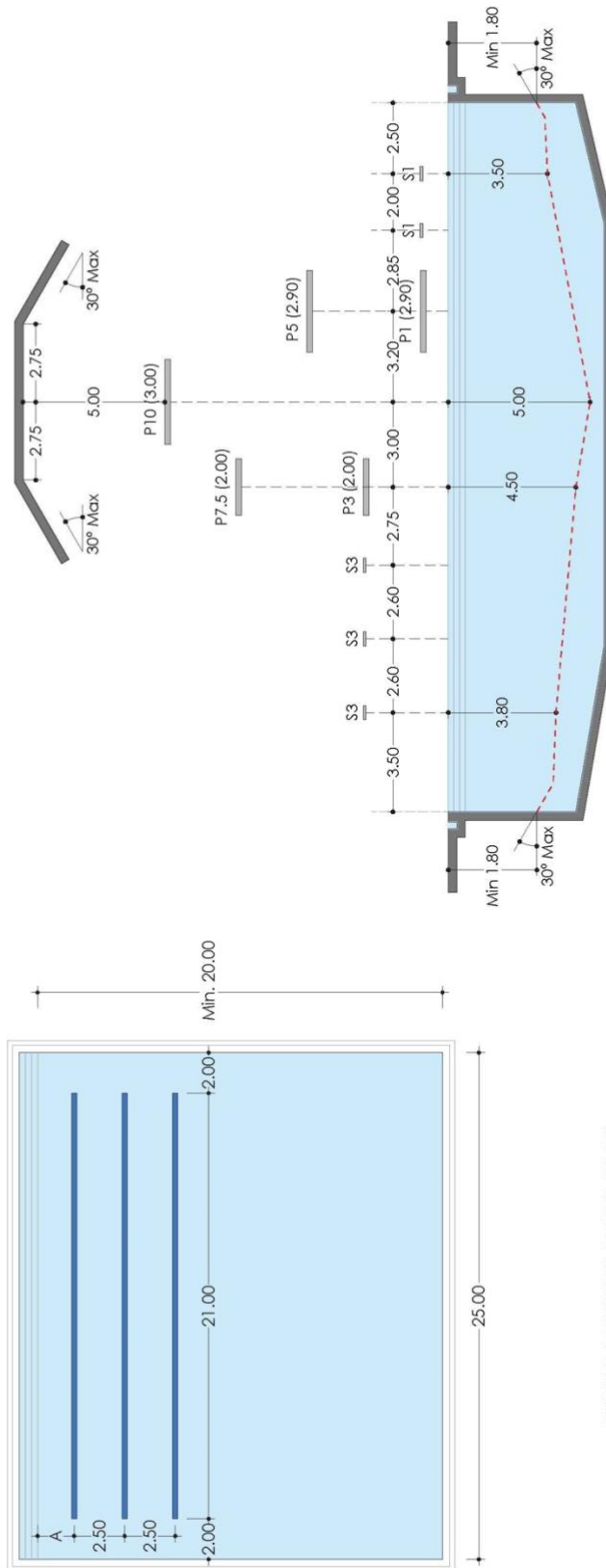
DIVING DIAGRAMS  
ANNEX 1.2

FR 5.3 GENERAL REQUIREMENTS	FINA		SPRINGBOARD			PLATFORM					
	Dimensions for Diving facilities		1 metre	3 metres	5 metres	7.5 metres	10 metres	10 metres	10 metres	10 metres	10 metres
For pools constructed after September, 26th, 2013 (see FR 5.3.1)	Length	4.80	4.80	4.80	5.00	6.00	6.00	6.00	6.00	6.00	
	Width	0.50	0.50	1.00 min. 2.90 preferred	1.00 min. 2.00 preferred	2.90	2.00	2.00	3.00	3.00	
	Height	1.00	3.00	0.60 min. 1.00 preferred	2.60 min. 3.00 preferred	5.00	7.50	7.50	10.00	10.00	
A	Designation	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
	Minimum	A-1	A-1	A-1 pl	A-1 pl	A-3 pl	A-3 pl	A-5	A-5	A-10	A-10
	Preferred	2.22	2.22	0.75	1.25	1.25	1.25	1.25	1.25	1.50	1.50
	Minimum	2.22	2.22	0.75	1.25	1.25	1.25	1.25	1.25	1.50	1.50
A/A	Designation	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert	Horiz	Vert
	Minimum	A-1	A-1	A-1 pl	A-1 pl	A-3 pl	A-3 pl	A-5	A-5	A-10	A-10
B	Designation	B-1	B-1	B-1 pl	B-1 pl	B-3 pl	B-3 pl	B-5	B-5	B-10	B-10
	Minimum	2.50	2.50	2.50	2.50	3.00	3.00	4.00	4.00	5.75	5.75
C	Designation	C-1-1	C-3-3-1	C-1-1 pl	C-3-3-1 pl	C-5-3-1	C-5-3-1	C-7-5-5-3-1	C-7-5-5-3-1	C-10-7-5-5-3-1	C-10-7-5-5-3-1
	Minimum	2.00	2.20	1.85	2.20*	2.85*	2.85*	2.75*	2.75*	3.00*	
D	Designation	D-1	D-1	D-1 pl	D-1 pl	D-3 pl	D-3 pl	D-5	D-5	D-10	D-10
	Minimum	9.00	10.25	8.00	9.50	10.25	10.25	11.00	11.00	13.50	
E	Designation	E-1	E-1	E-1 pl	E-1 pl	E-3 pl	E-3 pl	E-5	E-5	E-7.5	E-10
	Minimum	5.00	5.00	3.25	3.25	3.25	3.25	3.25	3.25	4.00	
F	Designation	F-1	F-3	F-1 pl	F-3 pl	F-3 pl	F-3 pl	F-5	F-5	F-7.5	F-10
	Minimum	2.50	5.00	5.00	2.75	3.25	2.75	3.25	2.75	3.25	
G	Designation	G-1	G-3	G-1 pl	G-3 pl	G-3 pl	G-3 pl	G-5	G-5	G-7.5	G-10
	Minimum	5.00	5.00	5.00	3.25	5.00	3.25	5.00	3.25	5.00	
H	Designation	H-1	H-3	H-1 pl	H-3 pl	H-3 pl	H-3 pl	H-5	H-5	H-7.5	H-10
	Minimum	3.40	3.70	3.20	3.20	3.50	3.50	3.70	4.10	4.50	
J	Designation	J-1	J-3	J-1 pl	J-3 pl	J-3 pl	J-3 pl	J-5	J-5	J-7.5	J-10
	Minimum	5.00	3.30	3.60	4.50	3.10	5.50	3.40	6.00	8.00	
L	Designation	L-1	L-3	L-1 pl	L-3 pl	L-3 pl	L-3 pl	L-5	L-5	L-7.5	L-10
	Minimum	1.50	3.30	2.00	3.60	1.40	3.10	1.80	3.40	3.00	
M	Designation	M-1	M-3	M-1 pl	M-3 pl	M-3 pl	M-3 pl	M-5	M-5	M-7.5	M-10
	Minimum	1.50	3.30	2.00	3.60	1.40	3.10	1.80	3.40	3.00	
N	Designation	N-1	N-3	N-1 pl	N-3 pl	N-3 pl	N-3 pl	N-5	N-5	N-7.5	N-10
	Minimum	2.00	3.40	2.50	3.70	1.90	3.20	2.30	3.50	3.50	
<b>MAXIMUM SLOPE TO REDUCE DIMENSIONS BEYOND FULL REQUIREMENTS FOR POOL DEPTH AND CEILING HEIGHT</b>											
<b>30 DEGREES</b>											
* Note: The minimum distance between adjacent platforms must be at least 0.25 metres.											
Note: Dimensions B (plummet to pool wall at side) and C (plummet to adjacent plummet) apply to Platforms with widths as detailed in FR 5.2.2. If Platform widths are increased then B and C shall be increased by half the additional width(s).											
Note: The 10 Metre Platform must project 0.25 metres beyond any adjacent platform.											
Note: All platforms must project 0.75 metres beyond any platform directly below.											
Note: FR 5.3.4 The end of 5, 3 and 1 metre platforms must not project beyond the ends of the 3 and 1 metre springboards when they are adjacent to each other.											



**FIELD OF PLAY FOR OLYMPIC GAMES AND  
WORLD CHAMPIONSHIPS  
DIVING  
ANNEX 2.1**

<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> FINA COMPETITION / REFEREES (Synchro 3m/10m)</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: purple; border: 1px solid black; margin-right: 5px;"></span> FINA COMPETITION / REFEREES (3m/10m)</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: red; border: 1px solid black; margin-right: 5px;"></span> FINA COMPETITION / REFEREES (1m)</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: lightblue; border: 1px solid black; margin-right: 5px;"></span> COACHES STAND</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: lightblue; border: 1px solid black; margin-right: 5px;"></span> ATHLETES STAND</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: green; border: 1px solid black; margin-right: 5px;"></span> PRESS PHOTOGRAPHERS STAND</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: lightgreen; border: 1px solid black; margin-right: 5px;"></span> BROADCASTING POSITION</li> </ul>
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DIVING MARKING LANES: FR 6.3

A = Distance from the end of the wall and plummet of 3 metres springboard.

Dark color. Contrasting color of the bottom of the swimming pool.

Width: Minimum 0.20 metres, maximum 0.30 metres.

FIELD OF PLAY FOR OLYMPIC GAMES AND  
WORLD CHAMPIONSHIPS  
DIVING  
ANNEX 2.2




**DIVING DRY LAND TRAINING**  
**ANNEX 3.1**

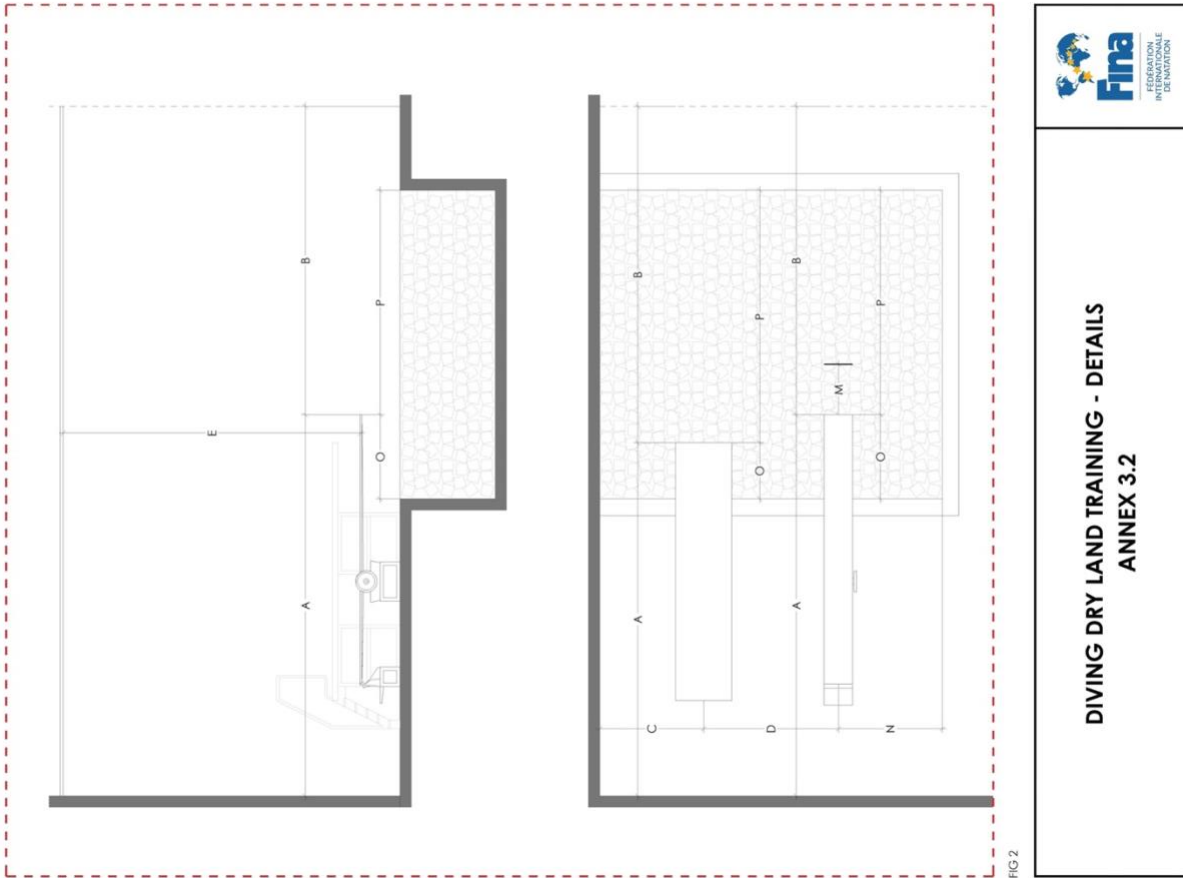



FIG 2



**DIVING DRY LAND TRAINING - DETAILS**  
**ANNEX 3.2**

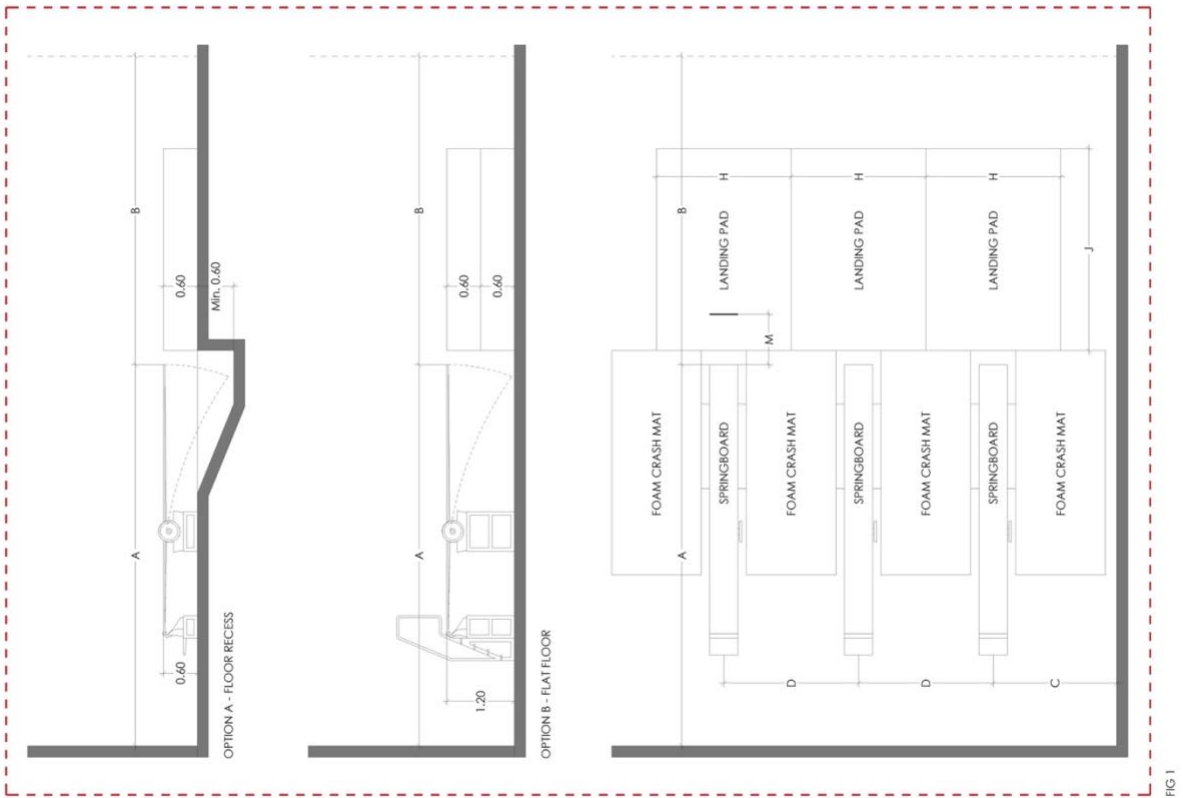


FIG 1

DIVING DRY LAND TRAINING DESIGN GUIDELINES		FINA		
GOVERNING BODY	LAST DATE UPDATED	10/26/2012	10/26/2012	10/26/2012
		SPRINGBOARD		PLATFORM
		4.80 m		VARIES
		0.50 m +/-		VARIES
		1.24 m		VARIES
		Horizontal	Vertical	Horizontal
		A-1		A-PL
		4.877 m		VARIES
		6.10 m		INFINITY
		B-1		B-PL
		3.66 m		3.66 m
		INFINITY		INFINITY
		C-1		C-PL
		1.83 m		1.83 m
		INFINITY		INFINITY
		D-1		D-PL
		2.00 m		2.00 m
		2.40 m		2.40 m
		E-1		E-PL
		5.00 m		2.70 m
		6.40 m		6.40 m
		F-1		F-PL
		2.50 m		1.50 m
		VARIES		VARIES
		G-1		G-PL
		5.00 m		1.50 m
		VARIES		VARIES
		H-1		H-PL
		1.83 m		1.50 m
		VARIES		VARIES
		J-1		J-PL
		3.66 m		1.50 m
		VARIES		VARIES
		K-1		K-PL
		30 DEGREES		30 DEGREES
		35 DEGREES ±		35 DEGREES ±
		L-1		L-PL
		4.50 m		4.50 m
		6.40 m		6.40 m
		M-1		M-PL
		0.76 m		0.76 m
		0.91 m		0.91 m
		N-1		N-PL
		1.83 m		1.83 m
		INFINITY		INFINITY
		O-1		O-PL
		1.50 m		1.00 m
		1.50 m		1.00 m
		P-1		P-PL
		3.66 m		3.66 m
		INFINITY		INFINITY

The plumbet is the point of measurement from the center front of the springboard.

**USE AND INSTALLATION GUIDELINES FOR DRY LAND TRAINING FACILITIES WITH IN GROUND AND ABOVE GROUND TRAMPOLINES**

Installation and use instructions for trampolines and related equipment, such as frame pads, mats, end decks, and spotting systems, shall be provided by the manufacturer and shall specify the minimum safe area dimensions required for each trampoline type and relating their products to center or edge of the trampoline.

**Clearance (trampolines):** Users should refer to the manufacturer's specifications for all clearance, which may vary depending upon the manufacturer, the size of the trampoline, the type of bed in place, the type of spotting system in place, if any, and other variables. In any event, adequate space should be provided so that intended users and equipment\* will not come into contact with any obstacles during their anticipated use of the equipment.

\*i.e., bottoming out a trampoline or Dry land diving board.

**Clearance (platforms):** These specifications apply to facilities used by FINA level international athletes. Other specifications may be appropriate for junior or development programs, so long as adequate space is provided so that intended users and equipment will not come into contact with any obstacle during their anticipated use of the equipment.

DIVING DRY LAND TRAINING EQUIPMENT	
01	BLOCK FOAM LANDING PIT
02	LANDING FOAM PAD
03	PIT
04	MAT
05	GYMNASTICS SPRING FLOOR
06	PADDED PLATFORM BENCH
07	TRAMPOLINE BED



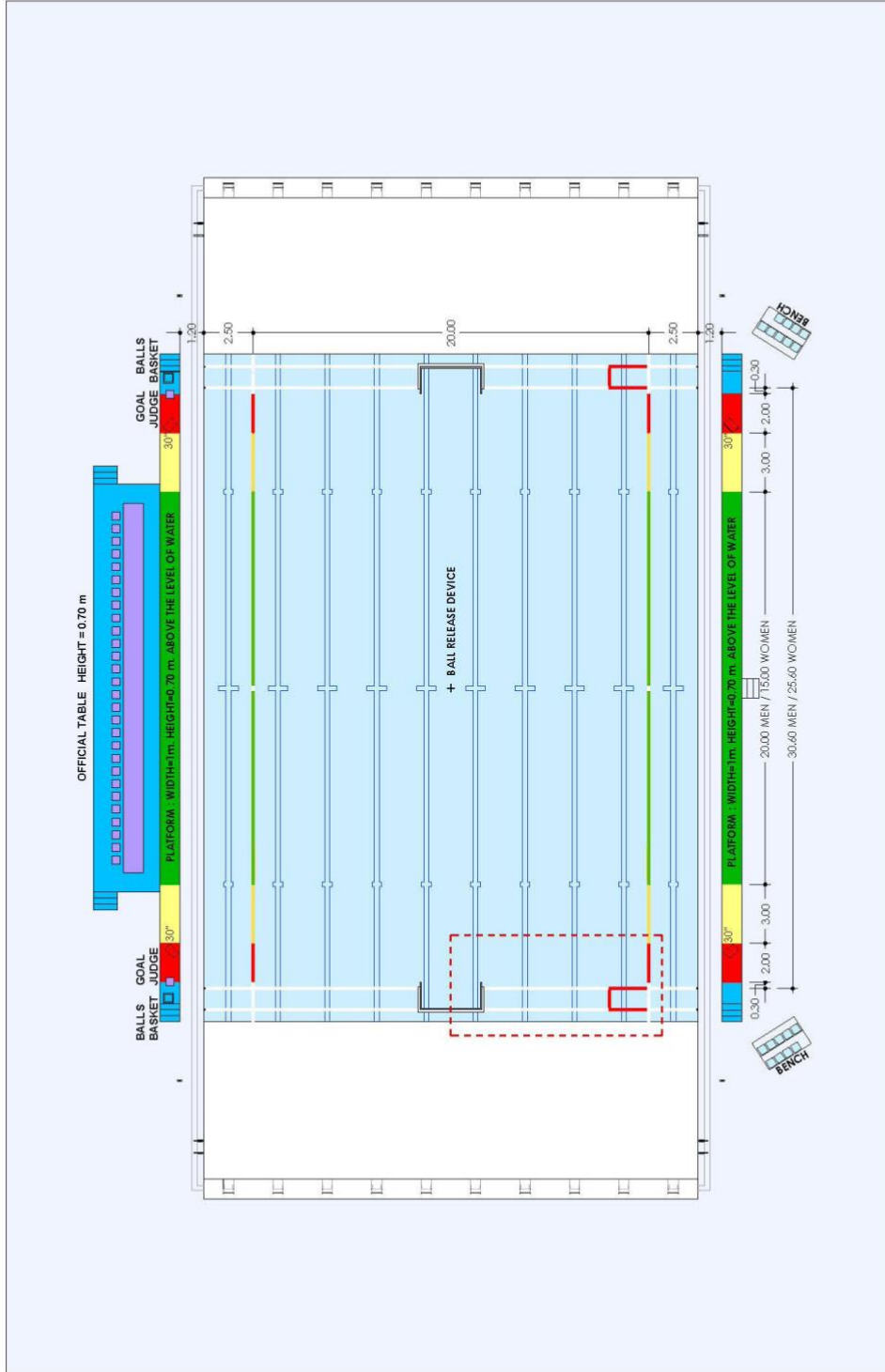
**DIVING DRY LAND TRAINING  
ANNEX 3.3**



RECOMMENDED EQUIPMENT IN DRY LAND TRAINING ROOM							
GOVERNING BODY		FINA					
		Number		Suggested dimensions			
1	DIVING BOARDS	Springboard as FR 5.1.1 mounted on diving stands with movable fulcrums.	Minimum	2			
			Preferred	4			
2	DIVING BOARD LANDING PADS*	Foam landing pads for Dry land diving boards are located in front of the diving boards.	Minimum	2	Floor	Width	Length
			Preferred	4	120 cm	1.5 m min.	1.5 m min.
3	TRAMPOLINES		Minimum	1			
			Preferred	3			
4	FOAM CRASH MATS		Minimum	2	Height	Width	Length
			Preferred	4	22 cm	2 m	3 m
5	SOMERSAULT BOXES		Minimum	2	Height	Width	Length
			Preferred	4	32 cm	1 m	1 m
6	STRETCHING MATS		Minimum	12	Height	Width	Length
			Preferred	24	12 cm	1 m	2 m
7	LARGE MIRRORS	Should be placed on walls so divers can observe body movements while training on equipment.					
8	VIDEO REPLAY SYSTEM (similar to TIVO)	With at least 2 cameras and 2 monitors. This allows divers to review acrobatic skills performed on springboard and trampoline.					
9	WEIGHT LIFTING EQUIPMENT	Combination of free weights and weight lifting machines.					
10	CARDIO CONDITIONING EQUIPMENT	Treadmills and stationary bicycles.					

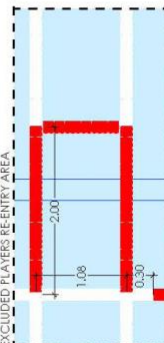
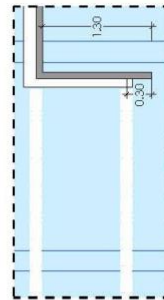
\* Please note: Foam crash mats may be stacked to a height of 120 cm for the foam landing pads, or Foam pits maybe used instead of landing pads.

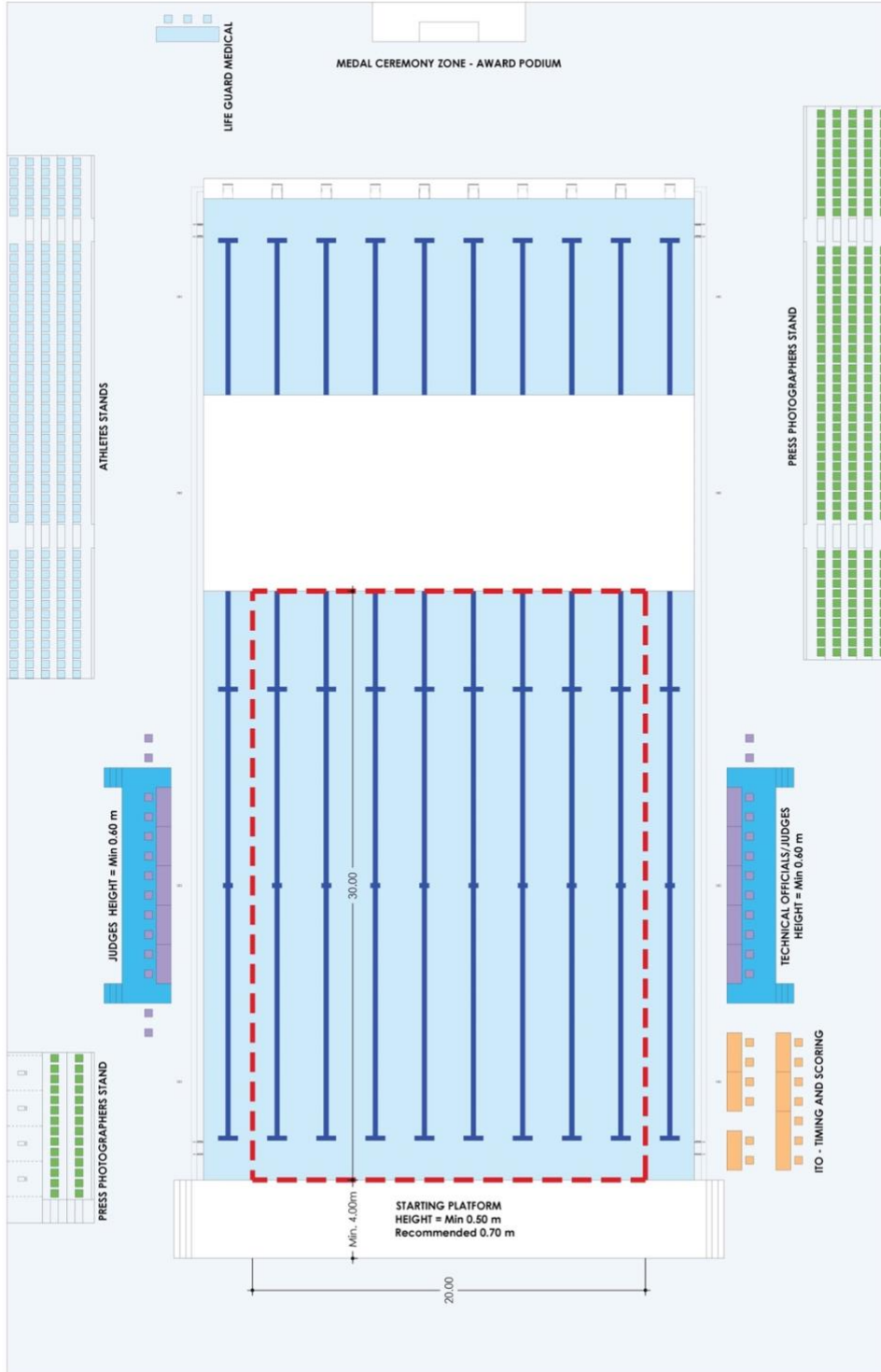
**DIVING DRY LAND RECOMMENDED EQUIPMENT  
ANNEX 3.4**



FIELD OF PLAY FOR OLYMPIC GAMES AND  
WORLD CHAMPIONSHIPS  
WATER POLO  
ANNEX 5

DEPTH OF WATER  
NOT LESS THAN 2m





FIELD OF PLAY FOR OLYMPIC GAMES  
AND WORLD CHAMPIONSHIPS  
ARTISTIC SWIMMING  
ANNEX 6

- JUDGES
- INTERNATIONAL TECHNICAL OFFICIALS
- TIMING AND SCORING
- LIFE GUARD MEDICAL
- ATHLETES STAND
- PRESS PHOTOGRAPHERS STAND