

**FMSCI RALLYCROSS
CIRCUIT CONSTRUCTION AND SAFETY GUIDELINES**

TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
CHAPTER 1 GENERAL.....	5
Article 1.1 Objective.....	5
Article 1.2 Homologation licences	5
Article 1.3 Definitions	5
CHAPTER 2 PRELIMINARY CONSIDERATIONS.....	7
Article 2.1 Activities.....	7
Article 2.2 Location	7
Article 2.3 Layout.....	7
Article 2.4 Access and Traffic IMPACTS	7
Article 2.5 Legal Restrictions	7
Article 2.6 Engineering Constraints	7
Article 2.7 Utilities	7
Article 2.8 The Environment	7
Article 2.9 Noise.....	8
Article 2.10 Medical Facilities	8
Article 2.11 Homologation Process	8
CHAPTER 3 CIRCUIT DESIGN.....	9
Article 3.1 Layout.....	9
Article 3.2 Elevation	10
Article 3.3 Track Edges, Verges and Runoff Areas.....	11
CHAPTER 4 CIRCUIT SAFETY MEASURES.....	13
Article 4.1 Definition.....	13
Article 4.2 Objective.....	13
Article 4.3 Determining the safety criteria.....	13
Article 4.4 Elements inside the circuit.....	13
Article 4.5 Distance between tracks and lanes.....	13
Article 4.6 First line of protection - Run-off and/or safety areas.	13
Article 4.7 Second line of protection. Circuit fencing.	15
Article 4.8 Public areas – Protection.....	16
Article 4.9 Access and evacuation zones for emergency services.	16
Article 4.10 Fire control systems	17
Article 4.11 General sign posting.....	17
Article 4.12 Trackside advertising and structures.....	17
Article 4.13 Media personnel	18
CHAPTER 5 CIRCUIT INSTALLATIONS.....	19
Article 5.1 Starting grid	19
Article 5.2 Starting lights	19

Article 5.3	Repair or parking areas	19
Article 5.4	Signalling platform	20
Article 5.5	Paddock.....	20
Article 5.6	Service park.....	20
Article 5.7	Marshal / Observation Posts	21
Article 5.8	Service Roads AND ACCESS POINTS	22
Article 5.9	Water drainage system.....	22
Article 5.10	Electrical installations	22
Article 5.11	Lap scoring and clock:	22
Article 5.12	Lighting	22
CHAPTER 6	COMPETITION FACILITIES.....	23
Article 6.1	Definition.....	23
Article 6.2	Objective	23
Article 6.3	Race control post.....	23
Article 6.4	Race Direction platform	23
Article 6.5	Timekeeping room	23
Article 6.6	Permanent or temporary Medical Centre	23
Article 6.7	Offices.....	24
Article 6.8	Timekeeping	24
Article 6.9	CCTV System	25
Article 6.10	Loudspeaker system	25
Article 6.11	Podium.....	25
Article 6.12	Media room.....	25
Article 6.13	Competitors Relations room	25
CHAPTER 7	GENERAL FACILITIES	26
Article 7.1	Definition.....	26
Article 7.2	Objective.....	26
Article 7.3	Site security	26
Article 7.4	Circuit Offices	26
Article 7.5	Equipment stores.....	26
Article 7.6	Workshop Area.....	26
Article 7.7	Public facilities and grandstands	26
Article 7.8	Facilities for disabled people	27
Article 7.9	Parking areas for competitors.....	27
Article 7.10	Camping area – guests	27
CHAPTER 8	GUIDANCE ON CIRCUIT CONSTRUCTION.....	28
CHAPTER 9	GUIDANCE ON CIRCUIT MAINTENANCE	29
Article 9.1	Circuit maintenance	29
CHAPTER 10	HOMOLOGATION CRITERIA	30
Article 10.1	Homologation of commercial activities	30

Article 10.2 Homologation of competitions	30
APPENDIX A - FIGURES	31
Figure 1 – Example Circuit Layouts	32
Figure 2 - Kerb Types	33
Figure 3 – Guardrails	34
Figure 4 – Concrete Walls	35
Figure 5 – Earth Banks	36
Figure 6 – Tyre Barriers	37
Figure 7 – Openings in a Barrier	38
Figure 8 – Reinforced Wire Fence	39
Figure 9 – Track Emergency Exit Sign	40
Figure 10(a) – Starting Grid (Rallycross Qualifying Heats) layout	42
Figure 10(b) – Starting Grid (Rallycross Semi-Finals & Finals) Layout	43

CHAPTER 1 GENERAL

ARTICLE 1.1 OBJECTIVE

The main aim of this manual is to act as a guide on the construction, renovation and homologation of Rallycross circuits for motor sports competitions in accordance with existing requirements and recommendations.

This handbook does not overrule Appendix H or Appendix O of the International Sporting Code (available on the FIA Website) or the FIA Internal Guidelines to Motor Racing Course Construction and Safety which are available on request from the FMSCI. Although constructors of new circuits are advised to respect the recommendations herein, all FMSCI guidelines are subject to interpretation according to each individual case and to local conditions, laws and inspections. The operators of a circuit are responsible for the safety conditions prevailing within its precincts.

ARTICLE 1.2 HOMOLOGATION LICENCES

When a circuit is homologated by the FMSCI, it is issued with a circuit licence that allows the circuit to host competitions. However, homologation licences do not act as permits to carry out any type of event or activity, since specific authorisations may also be required. The period of validity of the licence is defined by the duration of the homologation.

1.2.1 National Circuit Licence

A national licence certifies that the circuit has been inspected and homologated at the national level by the FMSCI Circuit Safety Committee, according to the criteria in force.

The grade of circuit homologation, as well as the categories and events that may be carried out on the circuit and entered in the national calendar, are specified in the licence.

1.2.2 International Circuit Licence

An international licence certifies that the circuit has been inspected and homologated at the international level by the FIA Circuit Safety Committee (or the FIA Circuits Commission) according to the criteria in force.

The grade of circuit licence, as well as the categories and events that may be carried out on the circuit and entered in the international calendar, are specified in the licence.

1.2.3 Inspection

A visit by delegates of an FIA or FMSCI Circuit Safety Committee (or the FMSCI Circuits Commission) to homologate the circuit for sporting events. During such on-site visits, delegates will check whether the homologation criteria have been met and make any necessary recommendations on how to meet the requirements.

1.2.4 Non-permanent circuit

A circuit set up temporarily for the practice of motor sports or for a specific motor sport event.

1.2.5 Permanent Circuit

A circuit with a permanent layout and facilities that is available at all times for the practice of motor sports.

1.2.6 Rally Cross

Rallycross are race events on a flat or undulating circuit of a mixture of sealed and unsealed surfaces usually within amphitheatre venues. It is open rally cars OR Cars that are stated in the FMSCI Technical Regulations for Rallycross 2020 typically raced in heats, with the best drivers qualifying through to the semi finals and finals.

CHAPTER 2 PRELIMINARY CONSIDERATIONS

Before the actual construction of a circuit begins, it is useful to carry out a detailed analysis of all the factors involved in implementing the project. That way, any necessary changes can be taken into account during the planning stage, which is much less costly than once construction has started.

ARTICLE 2.1 ACTIVITIES

Project plans should take into account all the activities planned for the circuit.

The circuit could also be used for other activities outside of competitions, such as driving schools.

The requirements of the different disciplines should be taken into account and it should be ensured that the circuit is designed to accommodate a wide range of activities.

ARTICLE 2.2 LOCATION

It is essential to choose a suitable location and appropriate size of land plot for the type of activities that will take place and the possible large numbers of people who will attend the events, as well as ease of access.

Moreover, it is crucial that any existing legal requirements are met in terms of environment and noise pollution, especially if the circuit is located near urban or protected areas.

ARTICLE 2.3 LAYOUT

Based on the intended use of the circuit, the facilities need to be suitably laid out, along with taking into account the requirements of each facility. There are no restrictions as such in terms of the shape of the track, providing the technical and safety requirements herein are met.

This will allow an optimal design to be produced that both facilitates the activities and provides a way to monitor them.

ARTICLE 2.4 ACCESS AND TRAFFIC IMPACTS

Access to the circuit and management of local traffic will be important in terms of managing the impact of major events. Particular importance should be given to access issues at the entrances and exits of the facilities for emergency and medical services.

ARTICLE 2.5 LEGAL RESTRICTIONS

National legislation and/or local planning and permitting requirements of any project location need to be taken into account when constructing a circuit and for the activities it will host. Information on the sites legal or planning/permitting status should be obtained to ensure that any obligatory requirements are fulfilled. This can include restrictions pertaining to the environment and noise emissions, or prior or surrounding land uses.

ARTICLE 2.6 ENGINEERING CONSTRAINTS

The shape and composition of the land (including land within, adjacent or near to the site) including the proximity of waterways will be important in determining the most practical, cost effective or safest design of the facility. It is recommended that advice be sought from a qualified engineer who may advise of any potential issues that may require structural, drainage or land stabilisation works necessary to accommodate the circuit.

ARTICLE 2.7 UTILITIES

The location of adjacent utilities connections (water, power, broadband/data, drainage etc) may influence the optimum location of circuit and its facilities. Care should also be taken in accounting for overhead or buried services which cross the site that might affect either the construction or operation of the facility. Early involvement of an engineer to assess the site may prove beneficial.

ARTICLE 2.8 THE ENVIRONMENT

Care should be taken to ensure that the design, construction and operation of the facility is carried out in a way that does not contravene any local or national regulation pertaining to the protection of the environment.

For example, it may be necessary to check for areas of special scientific or historical importance before determining the final layout of the circuit or facilities.

For more information on the sustainable design and operation of motorsport facilities, The FIA runs a Sustainability Programme aimed at helping motor sport stakeholders worldwide to measure and enhance their environmental performance. It introduces clear and consistent environmental management into motor sport and provides stakeholders with a framework against which to accredit their activities.

ARTICLE 2.9 NOISE

Amongst many other environmental factors that should be considered, noise is often the most obvious and likely disruption that local residents and authorities will wish to be controlled as much as possible. Consideration should be given to the location of neighbouring properties who might be affected by noise and to the potential for sound mitigation strategies.

ARTICLE 2.10 MEDICAL FACILITIES

Depending on the type of events to be held (World, Championship, National, Series, Cups, Challenges Open and Closed Invitation) and the permanence of the circuit and facilities, consideration should be given to the need for a permanent or temporary medical centre. In addition, the location of the nearest hospital emergency room should be investigated. For FIA sanctioned events, there are minimum standards that must be met in terms of journey time to and capabilities of the hospital. For more information refer to Appendix H of the FIA International Sporting Code.

ARTICLE 2.11 HOMOLOGATION PROCESS

Consideration should be given to the duration and process of circuit design and homologation in time for the desired event. For more information on the procedures for circuit inspections, refer to Appendix O of the International Sporting Code.

The homologation procedure for sports facilities does not by any means rule out the need to obtain any necessary regulatory or planning permissions required in the relevant region/country.

CHAPTER 3 CIRCUIT DESIGN

ARTICLE 3.1 LAYOUT

The circuit design and layout are influenced by several elements, such as:

- economic and aesthetic factors;
- the characteristics of the land; and
- the activities that will be carried out.

safety measures

The average speed and overtaking in any given section or area must be considered as this will affect the sporting characteristics and safety measures and therefore also the design of the facility.

The design of the circuit should accommodate the need for the safety measures needed to homologate the circuit for competition, which are described in this guide.

The design of the circuit and other facilities should also consider any relevant legal and regulatory standards that may impact on the use of the circuit for non-competitive use, should that be intended.

Some example layouts are included in Figure 1.

3.1.1 Total length

Circuit length must be a minimum of 800 m and a maximum of 1400 m

In order to determine the distances of the competitions, records and classifications, the circuit length to be taken into consideration is the centre line.

The centre line is the median line between the borders, on the left- and right-hand side of the track marked by regulatory white or yellow lines or limits of the track.

3.1.2 Surface Type

3.1.2.1 For permanent Rallycross circuits

Sealed surface (asphalt, concrete, etc.): between 35% and 60%. The remainder unsurfaced (consolidated / stabilised earth or gravel).

In addition to watering, anti-dust treatment is obligatory for unsealed surfaces.

3.1.2.2 For non-permanent Rallycross circuits

Sealed surface (asphalt, concrete, etc.): between 30% and 70%. The remainder unsurfaced (consolidated / stabilised earth or gravel).

In addition to watering, anti-dust treatment is obligatory for unsealed surfaces.

A sealed starting area may be constructed. It is recommended that this sealed area be extended for 25 m after the start line, provided that it does not form part of the course.

The course must be clearly marked.

In addition to watering, anti-dust treatment is obligatory.

3.1.2.3 Surface test

For both types of circuits there shall be a standard test for the unsealed surfaces.

3.1.3 Curve radius

The first bend must have a maximum centreline radius (International Circuit) of 25 m and results in a change of direction of at least 45°, these measurements being taken from the centreline of the course.

The radius of the other corners will be based on the intended average speed of each curve in accordance with basic safety standards in terms of distance between the different sections of the circuit.

For National Circuits and National Evets if the centreline radius of the first bend is less than 25 metres, the specific waiver from the FMSCI is NOT required. However, the change of direction should be at least 45 degrees.

3.1.4 Main straight-line length

The length of the main straight line must be a minimum of 70 metres from the start line to the first bend.

3.1.5 Track width

The track width from any point must be a minimum of 9 metres, and a maximum of 25 metres.

The width of the track at the start line must have a minimum of 9 m and maintained up to and through the first bend. If this criterion is not met, it requires a specific sanction from the FMSCI.

3.1.6 Joker lap

Obligatory

Length: must be such that the time needed to cover a lap including the Joker section is longer than the best lap time achieved in the same category. The target additional lap time is a minimum of two seconds and a maximum of 6 seconds.

The course designer should take into consideration the maximum velocity achieved on entry to the next corner sequence after the Joker section and ensure the disadvantage is maintained over the entire lap, rather than a "localised delay". This is to ensure that a driver using the Joker Section does not in fact gain an advantage or result in a major speed differential to other vehicles at the next section of the track.

Width: minimum 9 m, maximum 12 m.

The entry and the exit cannot be on the racing line. At the exit of the Joker Lap, the cars on the main track have priority.

Safety protection, (see point [4.6.2]) to separate the two roads, must be in place.

It is important that the drivers using the joker loop can maintain visibility to vehicles on the regular track, and vice versa. This is to avoid the risk of incidents when both cars re-enter the same section of track.

At the exit it must be possible for the cars to be driving at the same speed as on the main track. A marshal post will be installed if judged necessary for safety reasons.

3.1.7 Combined layouts

Typically, a circuit or track can have several different possible configurations within the same facility, which are incorporated into its design.

Each of the configurations is considered as a distinct course and its homologation will be assessed based on its specific features.

3.1.8 Number of vehicles allowed and traffic density

For circuits having a minimum width of 10 metres (Start 11 metres), a maximum of 8 cars are permitted to take the start. For circuits having lesser than 10 metres width the maximum number of cars permitted to take the start is restricted to 6. In both cases no more than 2 cars are permitted to start abreast of each other.

ARTICLE 3.2 (For International Events Only) ELEVATION**3.2.1 Longitudinal gradient**

The longitudinal gradient or slope in the direction of travel should not be more than a minimum vertical radius $R=10$ m. in the case of concave profile or $R=15$ m. in the case of convex profile.

The value of R must be adequately increased in bends, in braking zones, and on the approach and exit of corners.

Wherever possible, changes in gradient should be avoided altogether in these sections.

The gradient of the starting straight should not exceed 2%.

3.2.2 Transversal gradient

The transversal gradient or camber must always be positive in the direction of the curve and should not be more than 10 per cent. A designer should provide evidence to the FIA that consideration for surface water flow has been adequately given, most particularly for new circuits particularly when there is asphalt link sections.

3.2.3 Jumps or Ramps

Notwithstanding the requirements set out in Point [3.2.1], the 3-dimensional design of any areas of the track expected to be or act like a jump or take off ramp should be carefully designed and planned by a competent designer / engineer. The three-dimensional design of the racing surface should consider the following, to facilitate a safe design:

- a) the anticipated speed and trajectory of the vehicles
- b) the inclination or declination angles and changes therein
- c) the preceding and following layout of track
- d) the type of track surface (sealed, unsealed or a transition from one to the other)

ARTICLE 3.3 TRACK EDGES, VERGES AND RUNOFF AREAS.

3.3.1 Track Edges

The external limits of the track must be clearly defined: on asphalt sections by a painted white line with a minimum width of 100 mm, and on unsealed sections by the use of kerbs, floppies, tyre bales (see Point 3.3.5) or other barriers to deter excursion.

Should there be a deviation in the course (e.g. an artificial chicane included to reduce speeds) this must be marked in an obvious and entirely unmistakable way.

3.3.2 Verge (Applicable for International Events)

Unless otherwise indicated because of features such as track exit and entry roads, the track should be bordered along its entire length on both sides by verges, usually between 1 m and 5 m wide, having an even surface. Any reduction in width must be made as gradually as possible, the outside of the verge approaching the track at a rate not greater than 15%.

These verges must be free of loose stones, debris or any other obstacles, and should preferably be grass-covered or another similar material. They should be a continuation of the transversal profile of the track between track and verge: any transition should be very gradual.

To deter drivers from using the verge to gain an advantage, the verge material may be substituted for a more viscous alternative, such as sand. In addition, small lightweight tyre bales (see Point [3.3.5]) may be installed at or near the track edges to provide further discouragement as a last resort.

3.3.3 Runoff Areas

A run-off area is that section of ground between the edge of the track and the first line of protection, although it may be less stabilised. See [Article 4.6].

When a run-off area is paved, particular attention needs to be paid to ensuring that drainage is adequate to keep water from lying on the surface and provoking aquaplaning, or from streaming onto the track. This can normally be done with suitable permanent slot drains integrated into the surface. Traps should be foreseen for debris and regularly emptied and the pipes kept clear by flushing. The capacity of track edge drainage should also be increased as necessary.

3.3.4 Kerbs

Where the trajectory of the cars is tangent to the track edge, kerbs may be required.

The kerb should be made of concrete and have an irregular surface to discourage the drivers from using the kerb as part of the track.

The kerb should be fairly smooth close to the track and more uneven away from the track. The width of the kerb shall be approximately 1m inclining upwards from the track edge.

Kerbs can be made in several ways and these criteria will only stipulate the basic requirements.

The base or foundation of the kerb shall be flat, inclining 2-3 degrees downwards from where the track is sealed, to secure drainage, and with a width of 1m.

On this base, material (bumps) shall be added to make the surface uneven.

The added material shall be of fairly low profile close to the track, becoming more uneven at the outer edge (maximum height: 15cm).

The bumps can be made of various sizes in concrete.

The added material must be securely fixed in or to the base

3.3.5 Tyre Bales

Where additional discouragement is needed to deter drivers from using the verge/edge to gain an advantage, tyre bales can provide a more physical and visible deterrent positioned directly at or near the track edge.

The tyre bale should consist of no more than 6 stacks of tyres in a triangular layout, no more than 3 tyres high, all bolted together

The tyre bales should be positioned only where necessary to prevent corner cutting or abuse of track limits where an alternative track limit deterrent is not practical

Tyre bales should not be used as a substitute for an adequately constructed first line of protection (see Point 4.6.2)

CHAPTER 4 CIRCUIT SAFETY MEASURES

ARTICLE 4.1 DEFINITION

The aim of track safety measures is to protect customers, staff and the general public outside of competitions, and spectators, drivers, race officials and service staff during competitions.

ARTICLE 4.2 OBJECTIVE

The objective of safety measures is always to avoid risks, in a way that guarantees everyone's safety as much as possible. This prevention principle must be strictly adhered to and given the responsibilities assumed by the owner of the installations or the organiser of the event, every effort should be made to guarantee this safety.

ARTICLE 4.3 DETERMINING THE SAFETY CRITERIA

When determining the safety measures, the characteristics of the course must be taken into consideration (layout, adjacent areas, buildings and constructions) as well as the speed attained on the sector of track concerned.

The type of track protection recommended is dependent on the available space and the likely impact angle

As a general rule, where the likely angle of impact is small, a vertical, smooth and continuous barrier is preferable. Where the likely angle of impact is large, a deceleration mechanism (for example a paved run-off area) or stopping mechanism (for example a tyre barrier) should be used and it is essential that enough space in those areas be allotted during the circuit design.

ARTICLE 4.4 ELEMENTS INSIDE THE CIRCUIT

As a fundamental safety measure, elements such as posts, trees, streetlights, etc. should be avoided inside the perimeter of the circuits.

In the event that such an element is located inside the circuit, it should be placed as far away from the edge of the track as possible, in areas away from the track exit path, and be heavily protected by protection barriers and covered with impact absorbing material.

For the homologation of a circuit for competitions, no object may be located within the trajectory zone and the minimum distance from the object to any point on the track should be 25 metres.

ARTICLE 4.5 DISTANCE BETWEEN TRACKS AND LANES.

None of the track areas should allow a vehicle to enter another part of the circuit.

If two sectors of the track are situated within less than 25 meters of one another, there should be some form of protection to prevent a competing car reaching the neighbouring part of the track.

ARTICLE 4.6 FIRST LINE OF PROTECTION - RUN-OFF AND/OR SAFETY AREAS.

Open run-off areas are the preferred method to decelerate and stop a car leaving the track.

Free space should be provided in which the speed of a car which has left the track towards the outside of a corner can be reduced, preferably to a stop.

The shape of the area, which should be approved on the basis of the FMSCI Circuit Guidelines, should be related to the trajectory of cars racing on the track and delimited by a stopping device as defined in Article 10.3 of the above-mentioned guidelines, which should be installed in appropriate relation to the first line of protection in the preceding and following straights.

It is highly recommended that this area should normally be used for the installation of a bed of gravel, sand or equivalent material intended to slow down a car

The run-off area should be in the same plane as the track. If it has a slope, this should not exceed 15% upwards, with a smooth transition from track to run-off area, or 5% downwards in relation to the lateral projection of the track surface.

4.6.1 Type of run-off area

4.6.1.1 Gravel beds

Gravel beds should be composed of spherical, river -washed stones or an approved equivalent having a diameter of 5 to 15mm preferably of uniform size. Crushed stone is not acceptable.

Care should be taken to prevent the growth of vegetation, which produces an undesirable binding action.

Ideally the gravel banks should start at the protection barrier line so that they form a deceleration mechanism before the protection barriers or energy-dissipating device.

For each event, the gravel or sand bed should be turned over/scarified to ensure that it has not become compacted.

4.6.2 Protection barriers

Continuous smooth-faced barriers at the trackside may include guardrails, concrete walls or equivalent at least 100 cm high.

Stopping barriers used at the end of run-off areas or at a distance from the trackside include these as well as vertical-faced earth banks, any of which may be equipped with approved energy-absorbing devices such as properly constructed tyre barriers.

There are different types of protection barriers:

4.6.2.1 Guardrails

Guardrails should normally be of triple-rail type conforming to the specifications given in Appendix [1] of the FIA Circuit Guidelines and [Fig-2 and Fig-16].

There should be at least 40cm of horizontal, stable ground behind any guardrail installation.

Refer to Figure 3.

4.6.2.2 Concrete walls

Walls should be at least 100cm in height and respect one of the specifications given in appendices [2a] and [2b] to the FIA Circuit Guidelines.

Refer to Figure 4.

4.6.2.3 Earth bank

Earth banks should be at least 100cm in height with a vertical face maintained by tyres embedded in the earth or another approved stabilising method.

Refer to Figure 5.

4.6.2.4 Tyre barriers

Where most impacts are likely to be at angles greater than 30° to the barrier, it should be protected by a tyre barrier as described in Appendix [5] to the FIA Circuit Guidelines and as Figure 3, or other approved energy absorbing devices.

Refer to Figure 6.

4.6.2.5 Access points in a barrier

Openings in barriers should be constructed according to the drawing [Circuit Guidelines Fig-17].

Refer to Figure 7.

ARTICLE 4.7 SECOND LINE OF PROTECTION. CIRCUIT FENCING.

In general, this shall consist of reinforced wire fencing as defined in 2.8.1 below. It may be omitted if the public enclosure is situated high above or at a great distance from the track, as in 2.8.1 below.

If openings are required in a fence, they should be made as indicated in Article 3.6 of the FIA Circuit Guidelines

4.7.1 Reinforced wire fencing

Reinforced wire fencing capable of absorbing the shock produced by a car, of the maximum weight and at the maximum speed attained on that part of the circuit, leaving the track at an angle of 30° to the barrier,

FMSCI RALLYCROSS CIRCUITS

the specifications of which are given in Fig-4. Access points for marshals must be provided.

Alternative systems may be used, subject to the approval of the Circuits Commission and to the design performance being certified by a structural engineer as being equivalent to that of the above-mentioned specifications.

Although the reinforced wire fencing may be situated immediately behind or above the first line of protection, the maximum permitted distance between the two will be decided for each case individually.

Where the fence is on the same level as, and no more than 1.5m behind, the first line of protection (1m high barrier), the wire netting and cables may be omitted up to a maximum of 80cm above ground (to allow the passage of marshals beneath), provided that this does not affect the integrity and resistance of the rest of the fence.

The fencing for retaining the public shall be situated at least 3m behind the reinforced wire fence. Other cases

Should the first row of the public enclosure be situated on top of a bank at a height in metres equalling more than 1/75 of the speed attained on that part of the circuit, expressed in kph, the minimum height being 2.50m above the level of the track edge, and the face of this bank presents an minimum angle of at least 45° to the horizontal, this definition may be considered as a second line of protection, the fence retaining the public being at least 3m behind this protection and 6m from the track edge.

It may also be possible to omit the second protection in cases where the public is situated very far away from the track. The distance required will be decided for each case individually

4.7.2 Recommended specifications for the reinforced wire fence

The supporting posts must be fixed securely, either directly into the ground, or to the guardrail supporting posts or wall forming the first line of protection.

The posts should be of tubular steel or equivalent, having a minimum outside diameter of 50mm and a minimum wall thickness of 3mm.

The spacing between the posts should be not more than 2m. The top of the fencing should be at least 2.5m above the track surface; at the top of the fence there should be an extension, angled towards the track at 45° to the vertical, so as to add 20cm to the height.

The fence should consist of steel wire mesh with a minimum wire diameter of 3mm in a 90mm x 90mm (approximately) chain-link mesh.

The fence should be reinforced by horizontal runs of multi-strand steel cable having a minimum diameter of 8mm, passing through the supports at intervals of 25cm minimum.

The cable ends should be anchored to maintain tension. This may necessitate triangulation of the end posts; such reinforcement may also be employed for other posts.

Refer to Figure 8.

ARTICLE 4.8 PUBLIC AREAS – PROTECTION

4.8.1 General considerations

As a general rule, the total perimeter of the installations should be protected by a continuous fence that is at least 3 metres away from public access areas.

When deciding areas for the spectators, the characteristics of the course must be taken into consideration in each individual case (layout, adjacent areas, topography, buildings and constructions) as well as the speed attained on that sector of the track.

The spectators should be placed on the same level as, or higher than, the track.

All areas for spectators should be clearly marked; areas prohibited to the public should be materially closed off.

4.8.2 Protection systems

The protection of spectator areas will be decided in consideration of:

FMSCI RALLYCROSS CIRCUITS

- distance from the track;
- height above the track;
- proximity to straights or bends;
- anticipated speed on the track.

Public areas should under no circumstance be less than 5m from the track edge. The following indications are given as recommended minimums:

4.8.3 First line of protection (Where spectators areas are present):

All sectors of track where there are spectator areas will be bordered by approved barriers, as well as by run-off areas as required. Approved Barriers include – Triple layer guard Rail up to a maximum of 1 metre or interconnected concrete blocks. If a guard rail is used a wire mesh fence 1 metre behind the guard rail and at a height of 1.2 metres from the ground will have to be installed. For concrete blocks a wire mesh fence 200 mm high can be installed on top of the concrete barrier.

ARTICLE 4.9 ACCESS AND EVACUATION ZONES FOR EMERGENCY SERVICES.

While typically intended and mandatory for competitions, it is necessary to define the access and exits points for emergency vehicles evacuating injured people.

These points must allow the emergency vehicles to enter and exit unimpeded by the public or other vehicles.

This is why it is necessary that there be well-marked routes that are free from any obstructions to enable the ambulance to exit the circuit and transport injured people to the nearest medical centre as quickly as possible.

4.9.1 Access to the track (For Permanent Facilities Only)

Along the track sides the provision of frequent access points to allow the entry and evacuation of vehicles and/or personnel is essential for the efficient and safe running of competitions. The location of these access points should be established in consideration of the track layout, service roads, observation posts and other installations. Roads permitting intervention vehicles access to run-off areas or to the track may be necessary: they should respect the requirements of Point 3.2.3 d. of the FIA Circuit Guidelines

When the first line of protection cannot be easily climbed over, additional openings for pedestrians may be required. Where the access implies a break in the protection systems, this should be carried out as specified in Article 3.5. of the FIA Circuit Guidelines

Where the access implies an opening in the second line of protection this should be carried out as specified in Article 3.6. of the FIA Circuit Guidelines

All access/exit points should be marked with "fluorescent" orange paint (recommended colour reference: Pantone 15-1364 TC "Orange crush"), for the attention of drivers on the track, as follows:

for vehicles: paint the 2m of trackside wall or barrier immediately upstream of the opening, to a height of 1 m from the ground;

for personnel only: paint the 50cm of track side wall or barrier immediately upstream of the opening, to a height of 1m from the ground. Where there is a break or opening in the second line of protection for drivers to exit the track, this should be indicated with an appropriate sign, fixed to the fence, facing the track, at least 2 metres above track level.

Refer to Figure 9.

Figure 7 illustrates an access point for the entry of a service vehicle or the removal of a car from the track; the dimensions of personnel passages should be adjusted appropriately.

Ideally, any break in the guardrail or other protection system should be affected so that:

- the barrier following the break forms an angle of between 3° (1 in 20) and 15° with the general line of the protection [as described in Circuit Guidelines Fig.7 and Fig. 17];

- a straight line passing through the extremities of the barriers preceding and following the break forms an angle of at least 90° with the track edge;

additionally, where practical, the barrier following the break further extends upstream for a distance equivalent to the width of the opening itself.

For non-permanent barriers forming non-permanent or alternative circuit installations, a reinforcement to maintain the opening in case of impact may be necessary.

ARTICLE 4.10 FIRE CONTROL SYSTEMS

The circuit should have fire control systems in accordance with the regulations of the discipline. For competitions these systems will be determined by the ASN. According to Appendix H

ARTICLE 4.11 GENERAL SIGN POSTING

As a general safety measure, it is recommended that all circuit areas be clearly signposted in a way that the public and people in general can easily identify the restricted access zones.

The no-smoking policy is mandatory in all zones where there are vehicles and where fuel or other flammable liquids are kept, such as the service parks, exit areas, track, paddock, etc.

ARTICLE 4.12 TRACKSIDE ADVERTISING AND STRUCTURES

All advertisement signs must be stable and well secured. The location and characteristics of advertising must in no way interfere with drivers' and officials' visibility and must not produce an adverse or misleading optical effect (e.g. bewildering repetition of brightly contrasting posters, billboards that are not well positioned, and are misleading in terms of the location of the real track, etc.).

All advertising between the track and the first protection barrier is prohibited. Any other structure located behind the first protection barrier must be at least 1 metre away, and not obstruct traffic or emergency services in any way. If a billboard falls, it might potentially fall through a protection barrier; therefore, it should be secured with additional straps to prevent it from doing so.

ARTICLE 4.13 MEDIA PERSONNEL

There shall be a Safety Plan in place for the protection of Media personnel.

All areas reserved for photographers and TV crews should be indicated on the drawing of the circuit and be properly protected from the dangers of the track in the same way as a marshal post.

CHAPTER 5 CIRCUIT INSTALLATIONS

ARTICLE 5.1 STARTING GRID

It is recommended that:

There is at least 70 m of straight from the start line to the first bend.

The starting grid, situated outside of the track, will have a uniform surface of asphalt, tarmac, or concrete, continuing for at least 30 m after the start line.

The first bend has a maximum radius of 25 m and results in a change of direction of at least 45°, these measurements being taken from the centreline of the course.

It is mandatory that:

The width of the starting grid complies with the drawings attached and it must be possible to accommodate a minimum of two cars on the starting grid in one row on the same surface.

The width of the track at the start line (minimum 9 m) is maintained up to and through the first bend.

ARTICLE 5.2 STARTING LIGHTS (For Permanent Facilities)

It is necessary to install a signal light or start system to give the start order in a circuit competition, which must comply with the following requirements:

- a) The lights must be positioned between 10 metres and 25 metres after the start line.
- b) The lights must be positioned at least 4 metres above the track.
- c) The lights must as a minimum along half the track or better yet down the central line of the track.
- d) The Race Director's platform and its entrance must be safety placed and must provide full visibility of the starting area.

5.2.1 Meanings and functioning

The light signals must have the following meanings:

- e) RED LIGHTS SWITCHED ON: prepare to start racing.
- f) RED LIGHTS SWITCHED OFF: the race has started, take the start.
- g) FLASHING YELLOW LIGHTS: delayed start

The yellow lights must be placed next to the red lights and be duplicated at the end of the straight line in the axis of the track.

The lights must have the minimum dimensions and be as intense as the permanent traffic lights used on public roads. It is strongly recommended to use LED type lights.

The switch circuit should enable all of the following combinations:

5.2.2 Standing start

Red lights switched on according to an automated sequence lasting a minimum of 5 seconds, and switched off manually (by the Race or Event Director) when appropriate (all lights switched off = start given).

All lights switched off.

Flashing yellow lights blocking the red lights sequence.

In the absence of starting lights, a flag which is a minimum of 100cm x 100cm can be used to signal the start of a race.

ARTICLE 5.3 REPAIR OR PARKING AREAS

The parking or stopping area for vehicles, ideally located next to the main straight or another straight and away from the track in accordance with safety requirements, must be as level as possible and should not have any type of curve.

ARTICLE 5.4 SIGNALLING PLATFORM

If a signalling platform for team members is installed, it should be positioned in a safe place in relation to the track with suitable first and second lines of protection.

ARTICLE 5.5 PADDOCK (Optional)

There must be a paddock reserved for competitors/drivers beside the track and far enough away from it in terms of safety; it must be linked to the track by a clear entry and exit.

The paddock must be completely fenced by a fence that is at least 2 metres high.

The paddock should be appropriately sized to meet the requirements of each competition. As a general rule, each participant should have a space or place of 6 x 8 metres (width x length).

Such spaces must be accessible by paths allowing ease of access, with a minimum width of 6 metres. The surface area and number of spaces will be noted in the Licence. The paddock and spaces must have the following amenities:

- Power sockets and water
- Waste water draining
system Rubbish bins
- Polluting liquid waste disposal (petrol, oil)
- Polluting solid waste disposal (batteries,
cans) Used tyre disposal
- Public
toilets Car
wash
area

The paddock must be situated in a purpose-built area and must be in one part only, ensuring, as much as possible, quick access at all times to repair areas.

ARTICLE 5.6 SERVICE PARK

There must be a Service Park installed in close proximity to the circuit to facilitate the programme of activities needed to administer an event. The layout and circulation of the Service Park should be considered to provide the most efficient, secure and safe movement of competitors and staff.

5.6.1 Start area

Area accessible from the paddock giving access to the track and/or pre-grid area.

5.6.2 Finish area

Area from the track exit giving access to the paddock and/or Parc Ferme

5.6.3 Parc fermé

Area next to the finish area: an enclosed and secure area where technical checks are conducted.

5.6.4 Refuelling zone

A refuelling area equipped with the necessary fire-fighting safety equipment.

5.6.5 Fuel truck area

A parking area for the fuel truck, preferably located near the refuelling zone.

5.6.6 Scrutineering area

Covered and secure unit where the scrutineers carry out technical checks. Must be equipped with work benches, light and air sockets, a desk and chairs. A covered, secure unit for the storage of technical

FMSCI RALLYCROSS CIRCUITS

equipment should also be provided.

5.6.7 Pre-grid area (Optional)

The area must be accessible from the paddock, with an exit onto the track where drivers will form the starting grid.

5.6.8 Weighing area

An area that is accessible from the track, where the cars are weighed at the end of events.

The scales must be in a covered area. Access to the scales must be facilitated by ramps or by fixing the scales to the ground.

5.6.9 Service Park security

As a security measure, all service parks must have fire-fighting services with several extinguishers spread out in areas with high levels of combustible materials.

ARTICLE 5.7 MARSHAL / OBSERVATION POSTS

Rallycross circuits shall have marshal posts, positioned, manned and equipped in accordance with Appendix H. Flag Signals shall be shown by personnel at the nearest appropriate marshal post.

5.7.1 Number and location

Marshal's posts: should be placed at intervals along the track not exceeding 200 m and each in visual contact with the preceding and the following post.

The posts should consist of an area adequately protected against stones and debris, at least 1 m behind a wall or guardrail barrier rising to at least 1 m above the level on which the marshals stand, or contained at least 1 m back from the edge of a vertically faced earth bank of adequate height.

Each post number should be clearly visible, not only from the track but, as far as possible, to the Clerk of the Course.

Number and location (Appendix H – Circuits - Art. 2.3.2)

These are determined for each circuit in accordance with the circuit characteristics and bearing in mind that:

- no section of the road should escape observation;
- each post should be able to communicate by sight with the preceding and the following one, or shall deploy additional staff to establish a supplementary or relay post to fulfil this condition;
- the distance between consecutive posts (disregarding supplementary posts) should not exceed 200 m;
- each post which is manned by more than two people must be able to communicate verbally with race control;
- each post should be marked with a sign-board bearing a number increasing incrementally from the first post after the starting line and clearly visible from the track, using a clear logical numbering system;

the FMSCI must be notified of any modification in number or location of the posts.

In order to assist with the application of the rules concerning yellow flags (see Article 2.5.4.1 b) of the FIA Circuit Guidelines, the exact point from which a particular yellow flag or light applies (no overtaking) may be defined by means of a yellow lateral marking on the edge of the track furthest from the racing line and/or a flexible vertical marker ("floppy") on the verge. The purpose of such indicators must be explained in the supplementary regulations.

5.7.2 Protection of Marshal posts

Marshal posts shall be protected by an approved barrier as specified in Article [10.3] of the FIA Circuit Guidelines, but not closer than 1m to it. Adequate protection from stones and debris should be provided.

Refer to example in Figure 12.

ARTICLE 5.8 SERVICE ROADS AND ACCESS POINTS

Service roads are necessary to ensure adequate provision of parking and access to emergency vehicles to reach and exit from any point of the track and the medical centre in the event of an accident on the track. Any roads must be situated behind the first line of protection or where practical behind the second line of protection. All roads of the service network should be at least 4m wide or provided with laybys to permit emergency vehicles to pass each other.

Access points to the track should be accommodate as described in [Article 4.9]

ARTICLE 5.9 WATER DRAINAGE SYSTEM (Recommended)

When designing and building the circuit, a water drainage system is essential in order to avoid water accumulating on the track so as not to have an impact on commercial or competition activities.

The drainage system depends on many factors (slope, circuit camber, etc.), but it is essential to install water collection and evacuation points in areas that are prone to water accumulation, such as the inner parts of the curves.

These collection and evacuation points should not pose any risk to cars; therefore they cannot have detachable parts.

ARTICLE 5.10 ELECTRICAL INSTALLATIONS

As a general rule and for future usage, it is recommended to plan an underground cable system. As a result, any future installations would be more straightforward without requiring major works.

ARTICLE 5.11 LAP SCORING:

An electronic / Manual (Count down boards) lap scoring device must be placed in a location visible to the drivers. In the case of a failure, it must be possible to use it manually.

ARTICLE 5.12 LIGHTING

If a lighting system is to be installed, it is recommended that a survey be conducted on how much lighting is required in order to determine where the lamp posts should be positioned to avoid any safety risks.

As a general rule, the posts should be located on the outside of the circuit.

For night usage, it is recommended to follow the FIA Circuit Guidelines.

CHAPTER 6 COMPETITION FACILITIES (For Permanent Facilities)

ARTICLE 6.1 DEFINITION

The competition circuit facilities are those that are needed in order to carry out sanctioned competitions.

ARTICLE 6.2 OBJECTIVE

Facility requirements should take into account the type of competitions that are planned to be held on the circuit. The circuit and ASN should collaborate on the implementation of each project. However, the facilities should take into account the following elements (as a minimum):

ARTICLE 6.3 RACE CONTROL POST

The race control post, situated near to the start line, should provide the Clerk of the Course and his assistants with suitable conditions to perform their duties; it should be accessible only to the staff.

Ideally, the whole circuit should be visible from the race control post. It should have a microphone connected with the paddock and public address systems, and if possible, a telephone connected with the city network.

6.3.1 Location

Race control should normally be located in a building as close to the start line as possible and no more than one floor above ground level and have an independent exit to the track. In order to have maximum visibility over the track.

For the surveillance of competitions, it is strongly recommended that Race control post be equipped with a CCTV system as specified on 8.10

ARTICLE 6.4 RACE DIRECTION PLATFORM

A Race Direction platform should be installed to allow signalling and race control.

This platform should provide as much visibility of the track as possible.

ARTICLE 6.5 TIMEKEEPING ROOM

The timekeeping room must be available and located at the finish line with vision to the track. It should be an adequate size to house the necessary equipment and staff to ensure accurate timekeeping for the competition.

Timekeeping room equipment and installations. See Article 4.9

ARTICLE 6.6 PERMANENT OR TEMPORARY MEDICAL CENTRE (For Permanent Circuits)

6.6.1 Principles

A medical centre is required for competitions.

Whether permanent or temporary, it should be in conformity with Supplement 6 (point 4.2) and its equipment should be in conformity with Supplement 4 (point 2.B) of Appendix H to the International Sporting Code.

6.6.2 Location

The permanent or non-permanent medical centre must preferably be situated in a central location, but efficiently isolated and installed in closed and guarded premises. Under no circumstances, other than to receive treatment, may the public be allowed to enter or cross the area thus delimited. It must also be easy to reach from the track, with an adjoining helicopter area.

Before considering the construction of a new circuit, the ASN must ensure that hospital resources are available within a reasonable distance (in accordance with Article 2.7.3.8 of Appendix H of the International Sporting Code), in order to avoid having circuits that are located in the middle of nowhere.

6.6.3 Design

The specifications for medical centres for international events are set out in Supplement 6 of Appendix H to the International Sporting Code.

FMSCI RALLYCROSS CIRCUITS

6.6.4 Helicopter pad (Not Mandatory)

If a helicopter is to be provided, the Organiser should dedicate a suitable area for the landing of a rescue helicopter.

The area must be marked according to the local aviation regulations.

The location of the helicopter pad must be decided in co-operation with the ASN and the aviation authorities or an authorised person for the Helicopter Company.

The helicopter pad should be easily accessible from the resuscitation unit.

6.6.5: For Non-Permanent Circuits

SAFETY Ambulance:

Minimum well equipped 1-trauma care ambulance with doctors and one more ambulance to transport the injured to a nearby hospital.

Barricading:

All spectator areas should be well cordoned off. None other than the competitors, pit /service crews and officials shall be present in the pits and other race areas.

Fire Tender & Fire Extinguishers:

A fully equipped fire tender should be present during official practice and races. Adequate number of fire extinguishers should be placed at parc-fermes, pits and Marshall Posts at the track. In case a fire – tender is not available, the Steward's can inspect the available number of extinguisher's and give the go ahead if they feel it is adequate.

Communication:

Wireless Communication is a must between officials, post marshals and ambulances.

Security:

Enough security persons should be deployed to control the crowd from entering in to the pits and racetrack.

ARTICLE 6.7 OFFICES

For the management of competitions, certain types of offices or rooms are necessary to properly conduct the event.

As reference:

6.7.1 Clerk of the course and race director's office (Optional)

Offices should be available for the clerk of the course, race director and secretariat as necessary.

6.7.2 Stewards' room

Offices for the Panel of Steward's room must be available

Normally the stewards' room will be close to race control.

6.7.3 Race Director's Secretariat (Optional)

Office for the Race Director Secretariat

6.7.4 Event Secretariat

Office for the general management of the events

6.7.5 Technical delegate

Office for the Technical Delegate

6.7.6 Technical scrutineers

Office for Technical scrutineers and their equipment

6.7.7 Marshals

Room for Marshals

6.7.8 Briefing/Meeting rooms

Briefing room with enough space to allow the meetings with drivers and competitors

6.7.9 ASN office

Office for the ASN Delegate

6.7.10 Media room

Media room with enough space to allow the media to perform their duties

6.7.11 Speaker's room

Speaker room, located in a point with maximum visibility to the track and equipped with a loudspeaker system

ARTICLE 6.8 TIMEKEEPING

The timekeeping room specified in Article 4.2.1, must have clear visibility to the start/finish line.

It will be located at a distance from the line according to safety requirements and elevated to allow for the greatest visibility of the circuit.

It is recommended that a homologated timekeeping system be installed.

Before installing this system, it is necessary to plan the routing of cables and necessary elements so that these can be put in place prior to laying the definitive surface of the circuit, thereby avoiding costly alterations afterwards.

The system will allow competition practice sessions to be timed, and could also be used in all daily commercial activities (for example, training sessions), providing a broader and improved service for users.

It is possible to install monitors that are hooked up to the timekeeping system in various areas of the paddock, public areas, marshals' room, etc. to allow times to be visible.

Antennae's must be installed in the following locations (at a minimum): Start/Finish line

ARTICLE 6.9 CCTV SYSTEM (Not Mandatory)

It is recommended that a CCTV system be installed to ensure that all areas of the circuit can be monitored during competitions.

This system could also be used for safety purposes to monitor the circuit and its installations during periods when different activities are being carried out.

The positioning of the cameras must take into account their field of view so that all the turns and areas where incidents might occur can be recorded for post-incident analysis. The positioning plan of the cameras can be drafted once the layout of the circuit has been definitively set.

With a view to installing the cameras, it is important to have an appropriate plan for installing containment / conduits for cables and other elements for that purpose before the surface of the circuit is finalised definitively, in order to avoid any safety issues.

ARTICLE 6.10 LOUDSPEAKER SYSTEM

It is recommended that a loudspeaker system be installed. This system must serve all public areas and the paddock so that communications are audible.

The loudspeaker must be perfectly audible for use in competitions and sporting events, including in the presence of background noise in the paddock and in all other public areas.

The speaker must also be provided with an office.

ARTICLE 6.11 PODIUM

Although exclusively used in competitions, it is useful to have a podium available or installed.

The location of the podium, either on the floor or in an elevated position, should be visible from various public areas and the paddock in order to facilitate podium ceremonies.

ARTICLE 6.12 MEDIA ROOM

For competitions, a media room should be set up where the media can carry out their work in the best conditions. The room must be equipped with work tables and chairs, lamps, telephone lines, a fax machine and photocopier.

Although only necessary for competitions, a room with such equipment would also be useful for workshops, meetings or other circuit activities.

ARTICLE 6.13 COMPETITORS RELATIONS ROOM

A space or room for competitors will be necessary during competitions, equipped with a photocopier and a panel of trays for classification purposes and to allow participants to collect the results of practice sessions and any other information. This room could also be used as a reception space for participants.

CHAPTER 7 GENERAL FACILITIES (Recommended)

ARTICLE 7.1 DEFINITION

The general open facilities are those that are recommended in order to support the undertaking of general circuit activities including non-competitive use and the facilities for spectators and public.

ARTICLE 7.2 OBJECTIVE

While hosting competitions will require facilities both for the competition itself and its commercial activities, it is also recommended that general facilities be designed in a way that makes them easily modifiable to facilitate the quick set-up of competitions. In this way, facilities will be better optimised and there will be no permanent structures that are rarely used. There is a freedom of choice in how they are designed.

General facilities should be located at a reasonable distance from the track and should meet the safety requirements so that they do not pose a danger for track or competition activities.

As examples these facilities include the following:

ARTICLE 7.3 SITE SECURITY

Notwithstanding the requirements set out in Chapter 4 (pertaining to the protection of the public from incidents on the track), adequate security arrangements should be foreseen relating to the management of security and prevention of unauthorised access into the track or related areas such as through inadvertent entry into competitive areas or malicious acts of sabotage or trespass. Consideration should be given to the route of the boundary fence and main entry point or security hut.

ARTICLE 7.4 CIRCUIT OFFICES

Notwithstanding the requirements for facilities and offices required for competition purposes, consideration should be given to the facilities needed for general operation of the circuit, such as finance, sales, marketing, maintenance and management thereof. Subject to meeting the requirements set out in Chapter 6, this could be accommodated by flexible office space that is shared with the facilities set out in Article 6.7.

ARTICLE 7.5 EQUIPMENT STORES

Consideration should be given to space needed for storage of equipment and materials needed for the maintenance and operation of the track and associated facilities. For example, maintenance vehicles / plant, grass cutting equipment, circuit safety equipment (tyre bales, guardrail, etc) and spare parts, and any other materials relevant to the maintenance of the track (for guidance refer to CHAPTER 8).

ARTICLE 7.6 WORKSHOP AREA

Appropriately equipped workshop areas for maintenance of circuit equipment and vehicles should also be considered.

ARTICLE 7.7 PUBLIC FACILITIES AND GRANDSTANDS

7.7.1 Restaurant or catering services.

In terms of the location and layout of public areas, these need to be situated so that they can be easily accessed without having to go via competition or activity areas in addition to providing good visibility of the track.

7.7.2 Grandstands and/or grass areas.

All areas designated for the public to view the competition, permanent and non-permanent stands or green areas, should meet the legal construction and safety requirements of the country in question.

7.7.3 Public services.

The number and features of public toilets will be determined by the legislation relating to such facilities in the relevant country. In addition, dedicated public toilets need to be available in the paddock area. The number of such services (disabled, male, female toilets, showers and sinks) should meet the estimated demand; they should also be easy to clean and maintain.

7.7.4 Public parking.

Public parking areas and access should be arranged according to the estimated demand. It is highly advisable that entries and exits be carefully planned to ensure that they are able to deal with extremely high volumes of vehicles and public as smoothly as possible.

ARTICLE 7.8 FACILITIES FOR DISABLED PEOPLE

It is recommended that, as a minimum, the following facilities be provided at all race venues for the benefit of spectators with disabilities:

- a designated viewing area, capable of accommodating disabled spectators in wheelchairs and their carers;
- toilet facilities for the disabled, with wheelchair access, located close to the designated viewing area;
- reserved parking places on asphalt or concrete, with sufficient space to permit the movement of wheelchairs, located reasonably near the designated viewing area;
- medical facilities which, although not necessarily for the exclusive use of the disabled, have been designed with them in mind, with appropriate ease of access;
- paved pathways that permit wheelchairs to travel between the facilities mentioned above.

ARTICLE 7.9 PARKING AREAS FOR COMPETITORS

Adequate parking areas should be provided. The layout plans should examine the location of these areas to ensure that they can be easily accessed and do not hinder competition or commercial activities.

ARTICLE 7.10 CAMPING AREA – GUESTS

It is recommended that a camping area be provided for caravans and/or catering areas, teams, etc. located adjacent to the paddock and easily accessible for guests. It should be equipped with light fixtures, water and waste facilities. There should be public toilets nearby.

CHAPTER 8 GUIDANCE ON CIRCUIT MAINTENANCE

ARTICLE 8.1 CIRCUIT MAINTENANCE

It is recommended that the FMSCI should conduct regular inspections during the licence period.

Proper maintenance of the circuit and its installations is a condition of the licence; it is recommended that the circuit be checked not only before and during each event, but also afterwards, so that the damage can be assessed and a repair and maintenance programme established.

The main items which need regular attention include:

8.1.1 Track surface

Cleanliness and general condition.

8.1.2 Edges, verges and lateral areas

All edges, verges and lateral areas should be level with the edge of the track and all areas behind kerbs filled in and level. In all grass-covered areas, the grass should be kept trimmed; dry grass and all vegetation should be removed. Vegetation should be removed from gravel beds. All lateral areas, up to the first protection, should be kept clear of any obstruction.

8.1.3 Guardrails

All guardrail supports should be checked to ensure that they are firmly fixed to the ground. All nuts and bolts should be checked for tightness. Correct overlaps must be maintained. The maximum spacing between the bottom rail and the ground and between the upper rails should be 4 cm. The circuit engineer should certify the specifications of the installation. Where guardrails are supported by wooden posts, these should be regularly inspected for deterioration and moisture impregnation.

8.1.4 Tyre barriers

Tyre barriers should be checked to ensure they are firmly attached to existing structures and to each other. Tyres should be bolted tightly in piles before installation.

8.1.5 Spectator and debris fencing

These fences should be checked regularly for support and tensioning. The fences should be checked for deterioration.

8.1.6 Kerbs

Kerbs should be continually checked for damage. Broken kerbs should be repaired/replaced immediately.

8.1.7 Drains and drainage

Drains should be cleaned, and inspected by the ASN for correct operation prior to major competitions.

8.1.8 Service roads

Service roads should be kept in good condition, with smooth surfaces; they should be kept clear of all obstructions.

8.1.9 Circuit demarcation lines

All demarcation lines for Track and Pits should be kept clear and clean and preferably repainted prior to major competitions.

8.1.10 Observation and vision

Clear vision should be maintained at all times between consecutive Marshal Posts/Signalling locations, etc. Trees and vegetation should be cleared or trimmed to maintain good vision.

8.1.11 Communications

Telephone and other communications should be checked.

CHAPTER 9 HOMOLOGATION CRITERIA

ARTICLE 9.1 HOMOLOGATION OF COMMERCIAL ACTIVITIES

The homologation or permits for commercial activities is determined by the legislation in force in the relevant country.

ARTICLE 9.2 HOMOLOGATION OF COMPETITIONS

The homologation of competitions by ASNs is mandatory for all circuits hosting national competitions or events.

Additionally, for circuits wishing to host international events, it is necessary to obtain an FIA homologation as such events must meet the required FIA criteria.

The design of the circuit should respect the indications given in the sporting regulations for international Sporting Regulations for Rallycross events Chapter [2].

GUIDELINES FOR RALLYCROSS CIRCUITS CONSTRUCTION AND SAFETY



APPENDIX A - FIGURES

FIGURE 1 – EXAMPLE CIRCUIT LAYOUTS

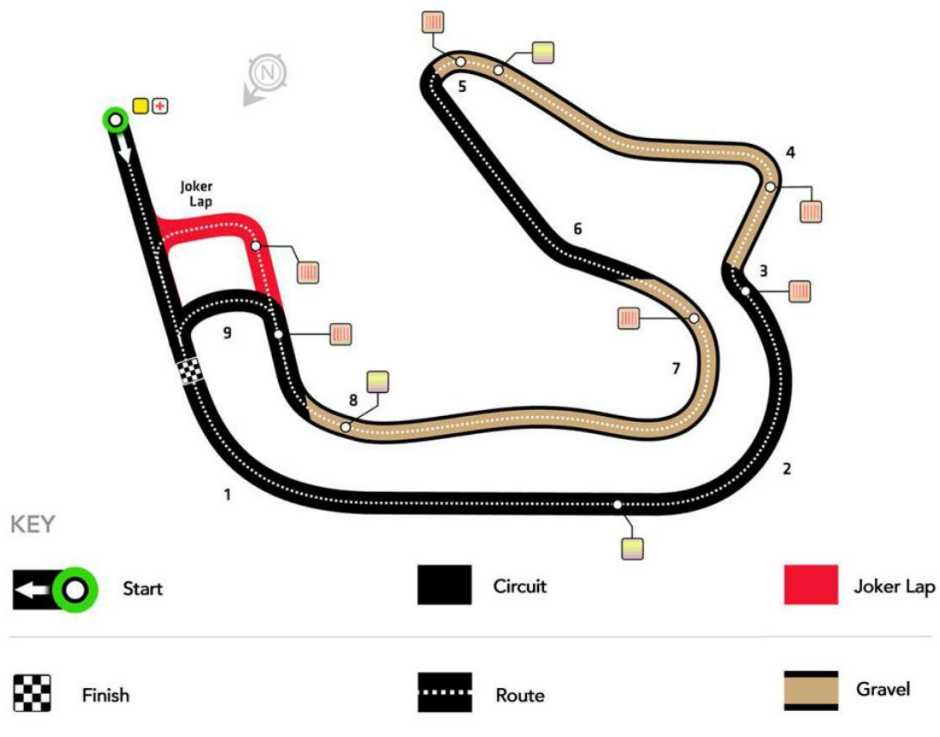
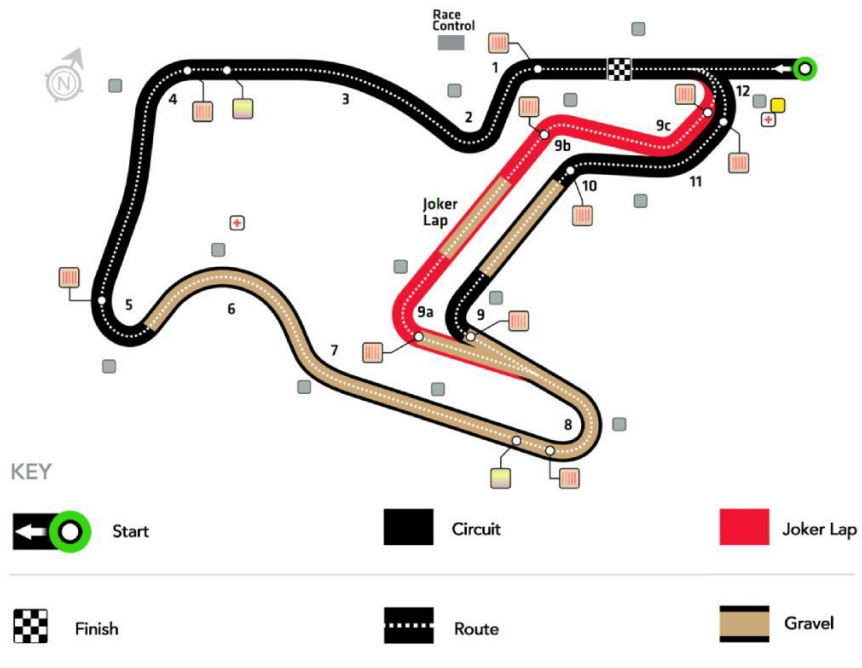


FIGURE 2 - KERB TYPES

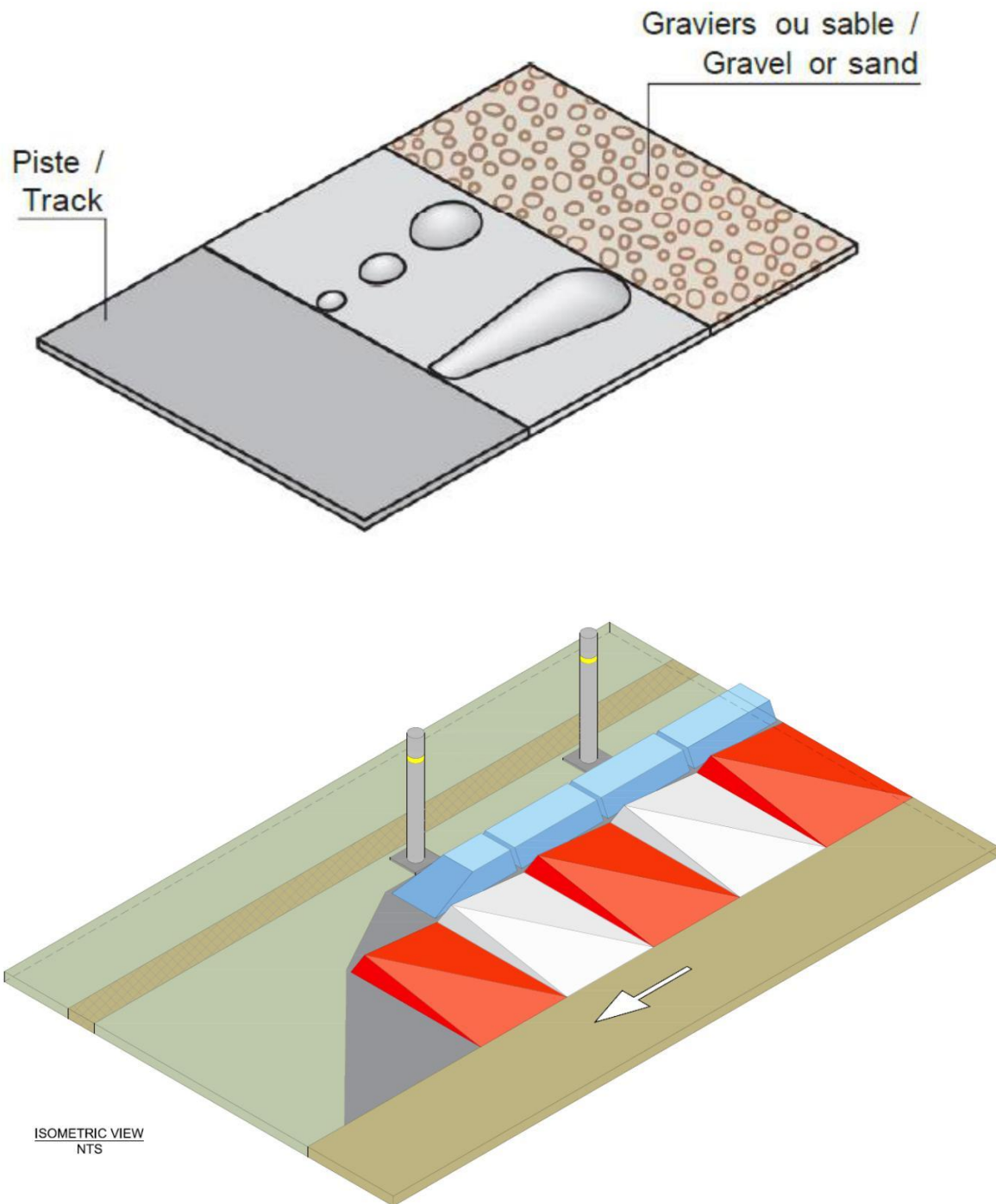


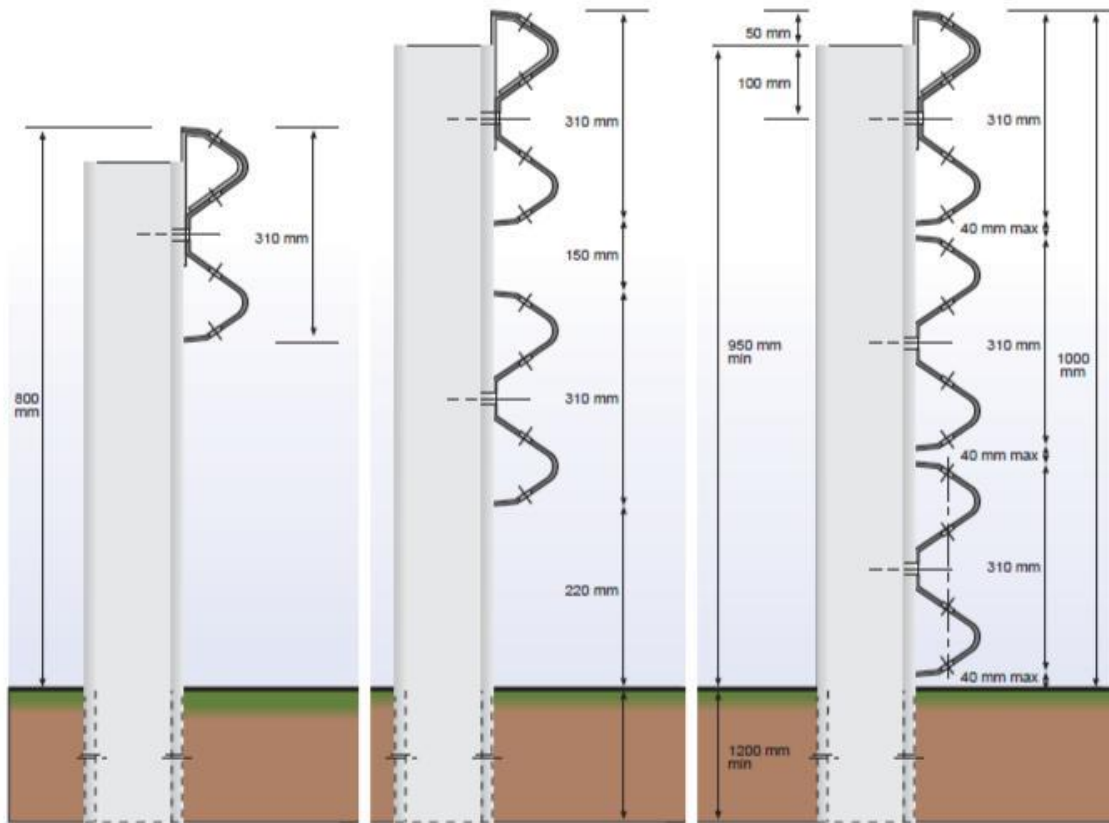
FIGURE 3 – GURADRAILS

FIGURE 4 – CONCRETE WALLS

- ELEMENT DE MUR POUR CIRCUIT TEMPORAIRE
- WALL ELEMENT FOR TEMPORARY CIRCUIT

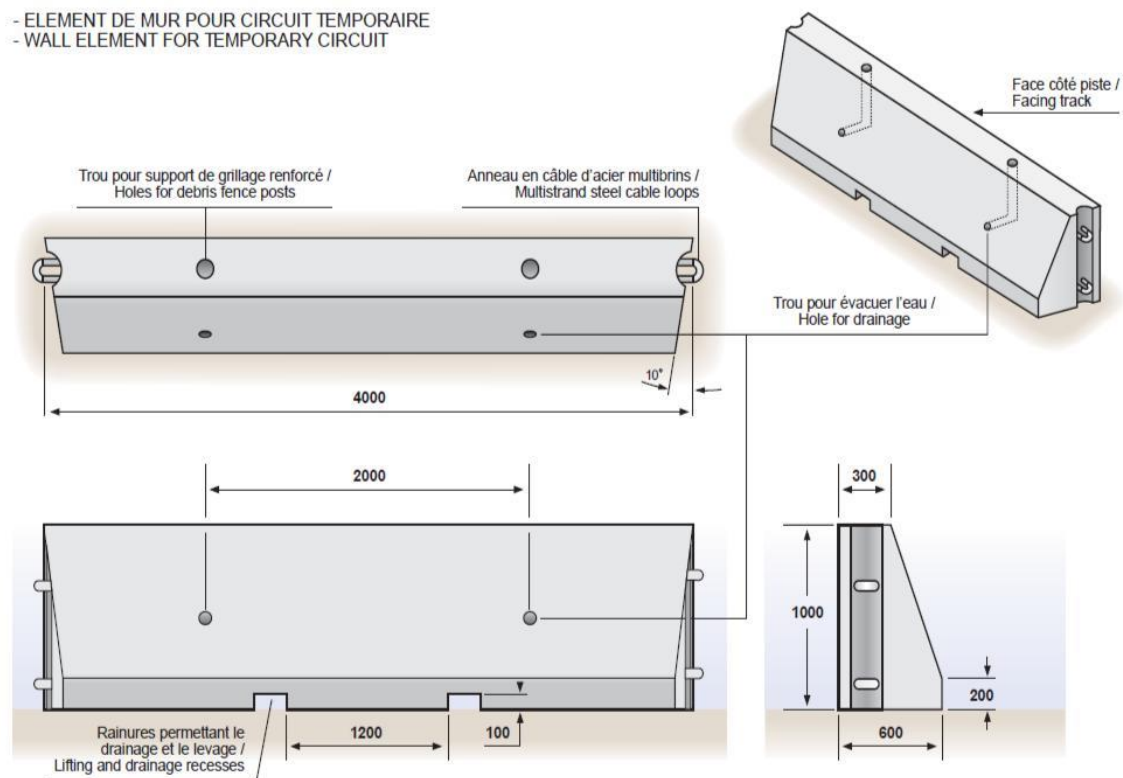


FIGURE 5 – EARTH BANKS



FIGURE 6 – TYRE BARRIERS

Touring car tyres of the same diameter are attached to form a homogeneous barrier, of maximum 3 rows deep and at least 1m high, placed in front of a permanent rigid barrier (see specification in appendix 5).

Preferably five or six bolted tyre piles are fastened together in a staggered pattern, to form barrier units which can be easily handled by a fork lift truck. After positioning, these "5-pack" or "6-pack" units should be secured to each other and to the wall or guardrail to form an integrated barrier.

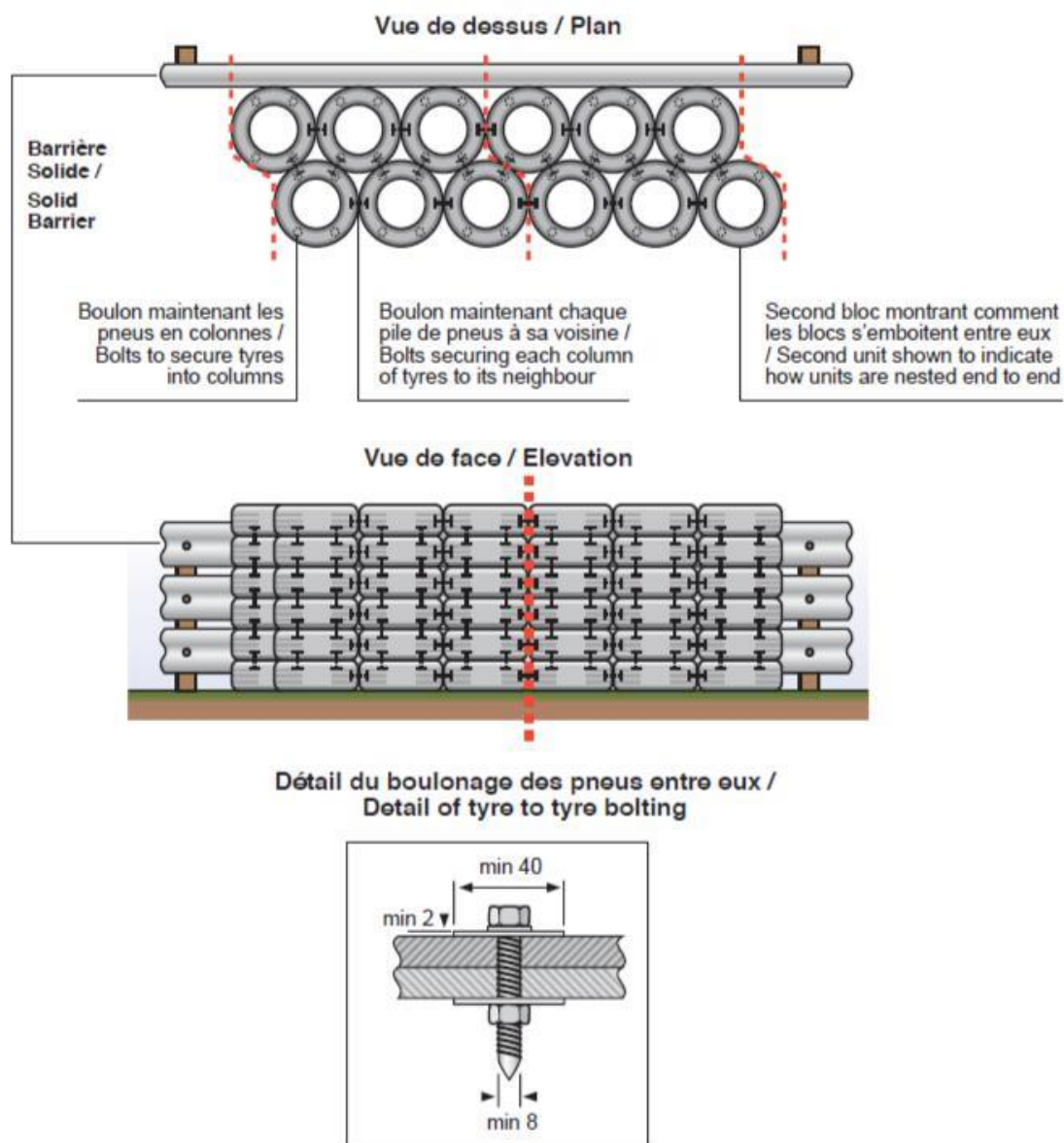


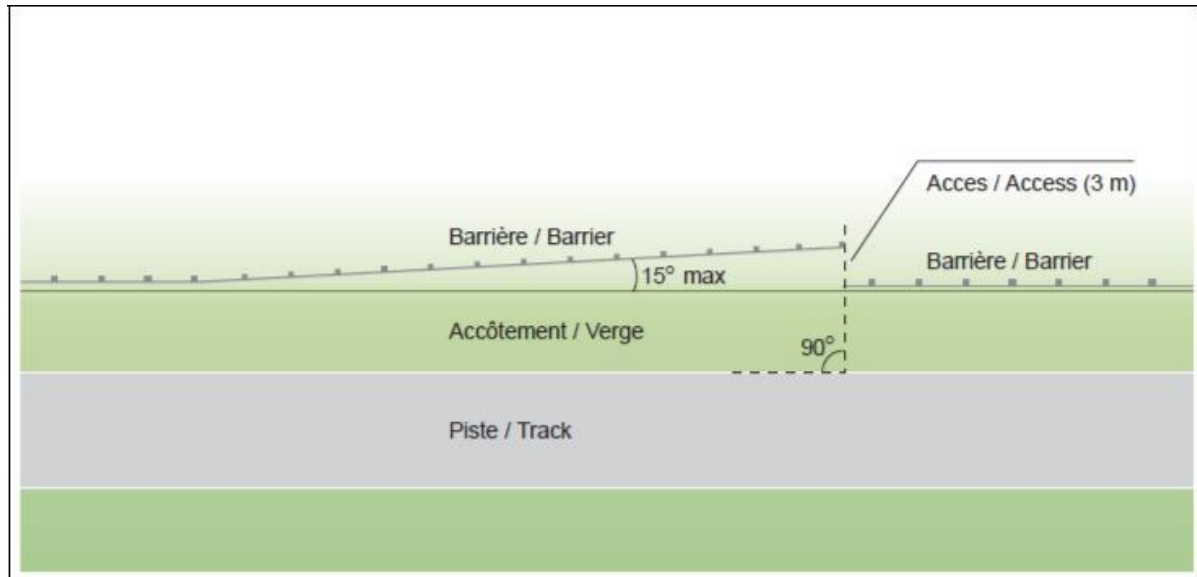
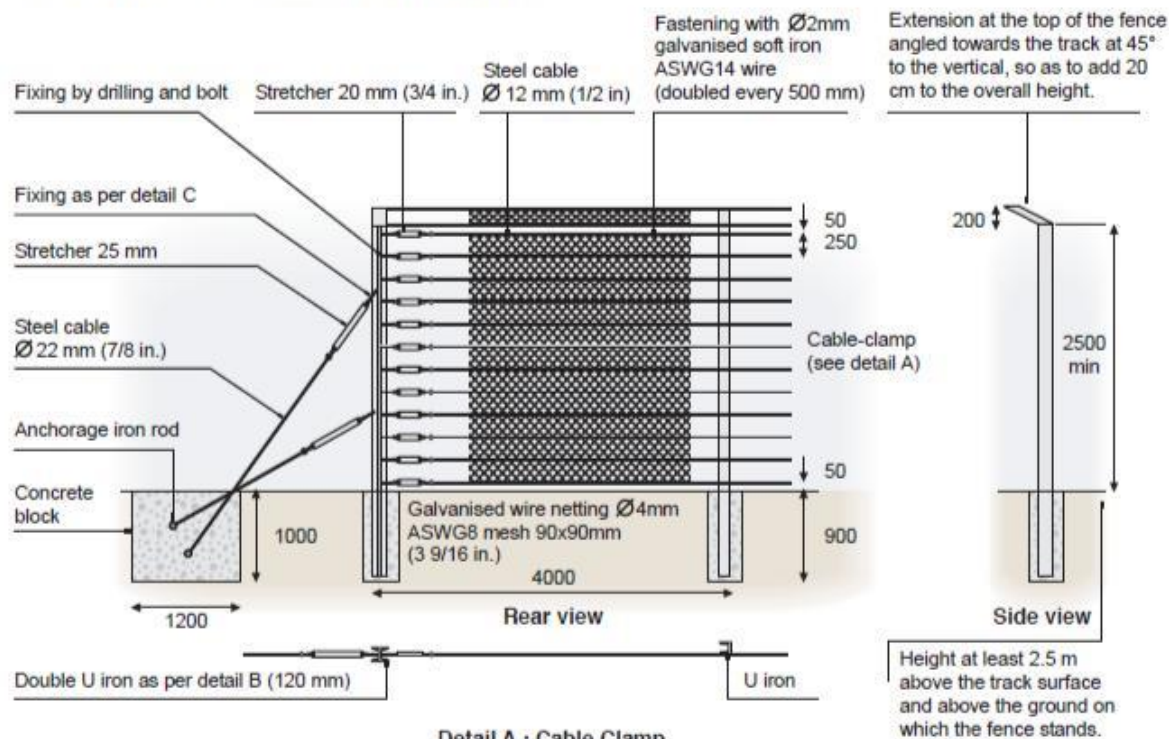
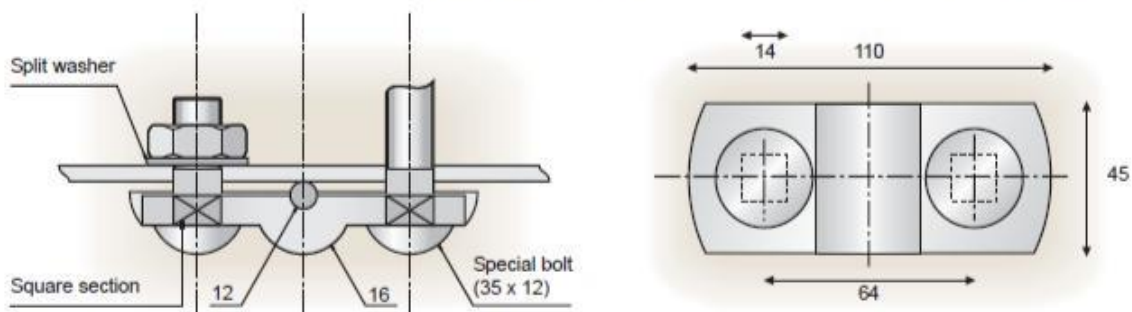
FIGURE 7 – OPENINGS IN A BARRIER

FIGURE 8 – REINFORCED WIRE FENCE

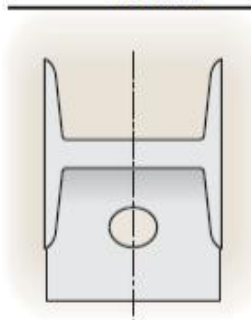
- EXAMPLE FOR SPEEDS UP TO 150 MPH



Detail A : Cable Clamp



Detail B : Double U iron (120 mm)



Detail C : Terminal attachment of reinforced wire fence (detail of fixing to stays)

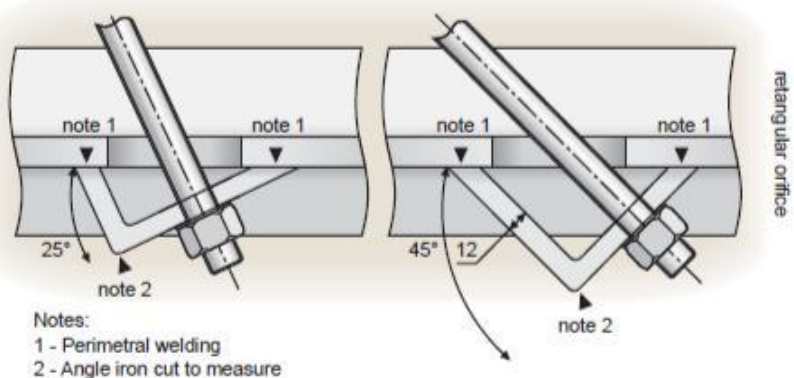


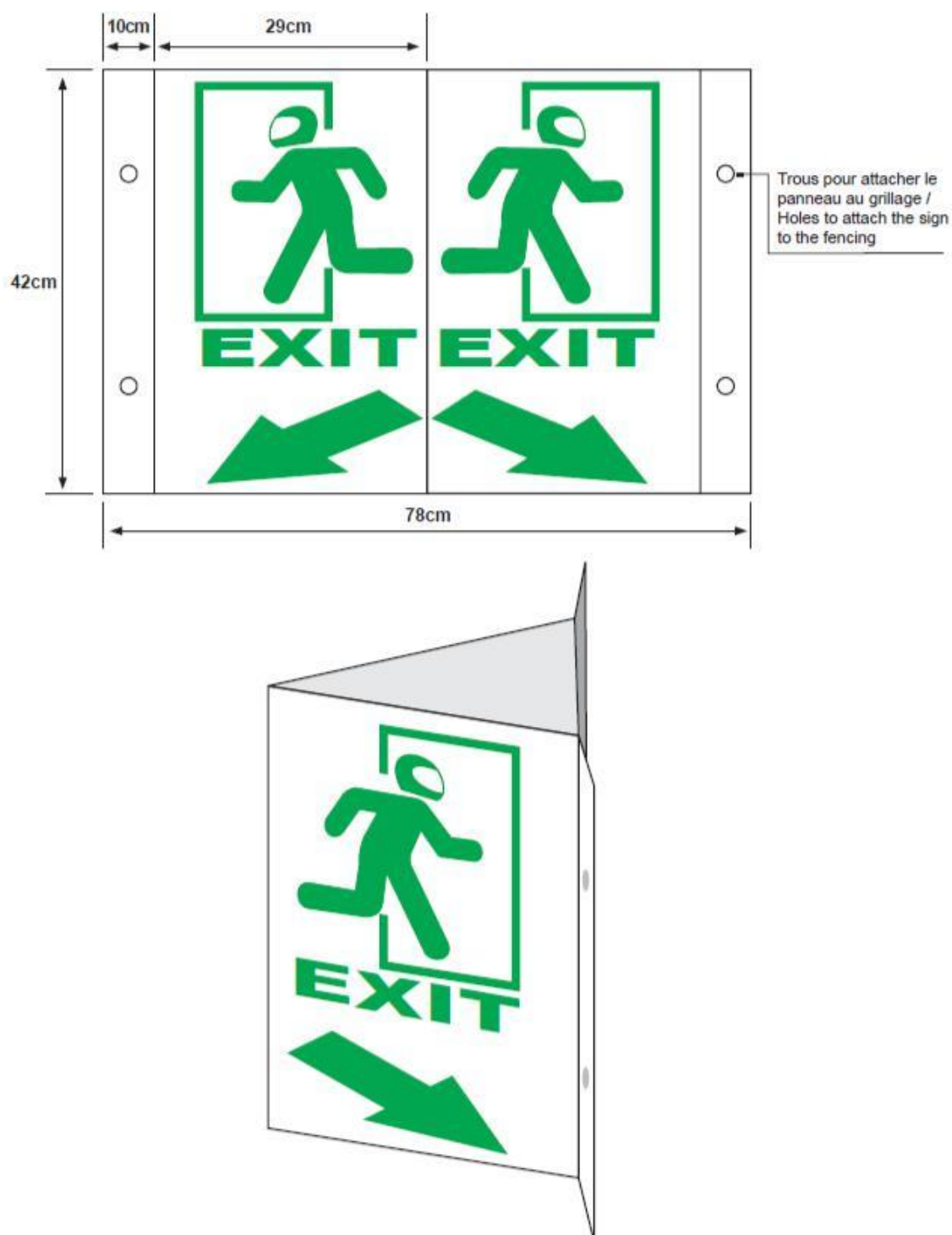
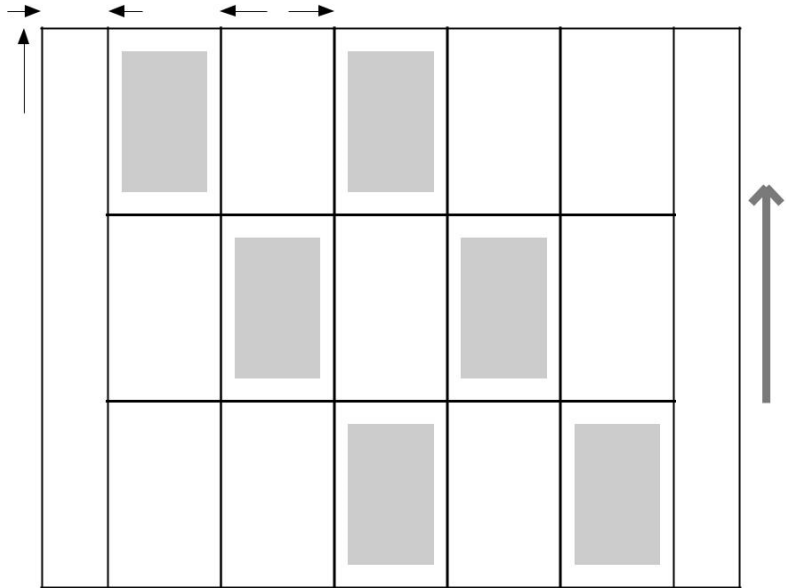
FIGURE 9 – TRACK EMERGENCY EXIT SIGN

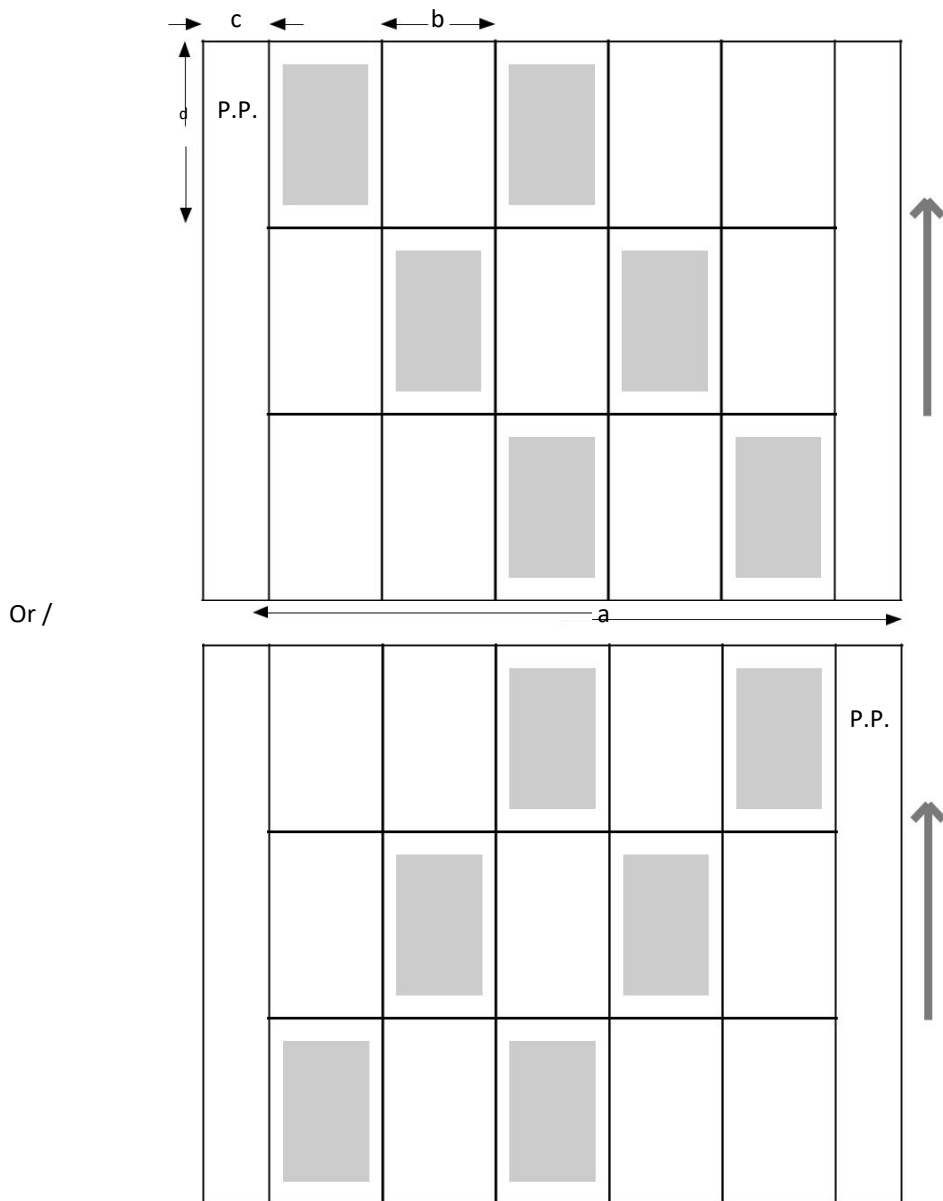
Figure – 10 (a)
DRAWING NO. 1 – QUALIFYINGS



- a: Minimum 09 Metres(minimum width of grid)
- b: Minimum 2.5m (width of grid space per car)
- c: Minimum 1m (minimum space to edge of track)
6m (length of grid space per car)

The side of the pole-position is determined during the homologation of the circuit and declared in the Supplementary Regulations of the Competition in question.

Figure – 10(b)
DRAWING No. 2 – SEMI-FINALS & FINALS



- a: Minimum 09m (minimum width of grid)
- b: Minimum 2.5m (minimum grid space per car)
- c: Minimum 1m (minimum space to edge of track)
- d: 6m (length of grid space per car)

Configuration of the starting grid depending on the side of the pole-position (P.P.) determined during the homologation of the circuit and declared in the Supplementary Regulations of the Competition in question.