BMX Track Guide

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Introduction

Since January 1993, the sport of BMX Racing has been fully integrated into the Union Cycliste Internationale (UCI). In 2008, BMX Racing entered the Olympic Games in Beijing. With further successful editions in 2012 and 2016 during the Olympic Games in London and Rio de Janeiro, BMX has established a solid position within the Cycling sports and as an Olympic cycling discipline.

Though BMX Racing is still a relatively young sport, inclusion in the Olympic program has caused the elite level of the sport to mature and professionalise rapidly.

Rules and guidelines for BMX track construction are needed to provide consistency and a suitable level of challenge, while managing risk; this guide provide these rules and guidelines for BMX tracks and venues intended to host major events for professional BMX riders. It also provides advice and best practices for BMX tracks used at other levels of the sport – it provides a common understanding of what a BMX track is, and what it should achieve.

The first version of the UCI BMX Track Guide was released after the 2012 London Olympic Games. Since that time, and following our experience in the preparation for the Rio Olympic Games, the UCI has re-examined its vision and philosophy concerning BMX track design.

The goal of this new version of the UCI BMX Track Guide is to ensure that BMX tracks are built in a way the aligns with the UCI's vision and guiding principles for BMX tracks. This will ensure the best possible racing tracks for the highest level professional events, while providing encouragement and advice which has the potential to improve other tracks, but without restricting the development of the sport.

Finally, the design for a BMX track must also consider the venue in which the track is placed. A BMX track is also usually an event venue – it should be welcoming and accessible to the public, while providing the necessary infrastructure for the levels of events that it is intended to host.

Relationship to the UCI Regulations

The rules for BMX racing tracks that are found within Part VI of the UCI Regulations, "BMX Races". These rules define some minimum dimensions and standards for BMX tracks.

The UCI BMX Track Guide is a practical guide which allows the UCI regulations to be applied in a way that will result in BMX tracks that implement the UCI's vision and guiding principles.

UCI Requirements

This document contains two types of advice – requirements and recommendations.

The requirements found in this document are clearly identified, and are expected to be applied to newly built BMX tracks that will host major events. *Major events are defined as UCI BMX Supercross World Cups, UCI BMX World Championships, or the Olympic Games.*

For other tracks that will not host such major events, requirements should instead be considered as recommendations or best practices (unless otherwise stated), *which can be implemented where it makes sense to do so, given the purpose of the track.*

Applicability to New Tracks and Existing Tracks

New Tracks
New BMX tracks intended to host major events must be designed and built in a way that respects the latest version of the UCI BMX Track Guide.

Existing Tracks
Whenever changes are made to existing tracks which will host major events, those changes should respect the UCI BMX Track Guide. Over time, such tracks should be brought into compliance with the UCI BMX Track Guide to the greatest extent possible.

The UCI recognises the large investment that has been made worldwide to develop BMX venues. This said, it is normal for sport venue requirements to evolve over time as a sport develops. While this new version of the UCI BMX Track Guide is generally in line with the requirements and advice presented in earlier versions, more emphasis has been placed on developing BMX tracks as venues for major events and their suitability for close and interesting racing while effectively managing risk.

Before accepting an existing track for a major event, the UCI may decide to require certain reasonable changes to an existing track to bring it in line with the version of the UCI BMX Track Guide presently in force. This depends on the track in question, and is always decided on a case-by-case basis in close consultation with the track owners.

Best Practice
If further investment is planned for an existing track that will host a major event, the highest priority of such investment should be to bring the track more closely into alignment with the UCI BMX Track Guide.

Future Updates

The UCI is working on expanding the body of knowledge about the best ways to design and build BMX tracks.

As the sport develops, we will study “best examples” of existing tracks so that this guide can provide better and more accurate advice about how BMX tracks and individual elements of tracks such as corners and jumps should be built.

The UCI BMX Track Guide will occasionally be updated to include our findings. This guide is a living document that reflects the general direction of the professional level of the sport of BMX racing, and current best practices concerning BMX track design and construction for such events.

Version in Force

The version of the UCI BMX Track Guide that is presently in force is always that which is published on the UCI web site, www.uci.ch.

Any past versions should be discarded; only the latest version should be used.

Important - Sport Development

Every country that succeeds in BMX has strong grass-roots participation in the sport. The first BMX tracks that a country builds should be simple tracks that attract people to the sport and allow them to learn how to race. Countries that want to begin developing BMX as a sport should directly contact the UCI for advice.

Building a track capable of hosting major events is a fine goal, but it only makes sense after a good level of participation in the sport has developed. Even the most advanced BMX nations only need (at most) a few tracks that are capable of hosting world cup or world championships events. Every country wanting to develop BMX needs as many beginner-level community tracks as possible, a lower number of more difficult tracks for developing riders, and eventually, perhaps 1 or 2 "professional" level tracks to allow Elite and Junior riders to develop the skills needed to complete internationally.

The main purpose of the UCI BMX Track Guide is to define how tracks and venues that are used for major events (world cups and world championships) must be built. The advice provided in this guide can be applied other tracks – but for such tracks, this guide is only advice. The most important thing is to build as many BMX tracks as possible, so that more people can be brought into the sport. Over time, as the sport develops, the UCI BMX Track Guide can be applied more often – but at the 'beginner' and 'intermediate' level, this guide is best treated only as an information resource – a reference that can explain best practices and provide advice. Most important for beginner and intermediate level tracks is that they are built in a way that respects the vision and guiding principles for BMX tracks found in the next section.

Vision and Guiding Principles for BMX Tracks

In June 2016, the UCI BMX Commission adopted the following vision and guiding design principles for BMX tracks.

Vision

A BMX track should provide a platform for fair and close racing between riders of roughly equal skill throughout its entire length. It should do so without placing the riders at undue risk, and should allow such racing in a broad range of weather conditions.

Close racing means that riders are racing together in one or more bunches over most of the length of the track, with a realistic possibility that riders can pass each other without undue risk of being ejected from the track, or going outside of the track boundary lines. Put another way, this also means that under most weather conditions, the way in which the track is built should not reduce the race to a single-file line of riders.

A BMX track should provide a technical challenge appropriate for the general ability of the riders in the races for which it is intended, while still allowing the riders to race each other. The track should not be so difficult that the focus of the riders is on more surviving the track than on racing each other.

Guiding Principles of BMX Track Design and Construction

BMX tracks should be designed in line with these principles.

Risk Management and Safety

BMX Tracks should be designed and built in a way so that they protect the safety of the riders in case of an accident or riding error, and also to protect the safety of the people who are working within the track area during events.

In general, this means that:

1. Obstacles around the track which could cause injury due to an impact are either removed, or adequately padded, including camera positions, finish arches and light poles.

2. Fall hazards are avoided or are protected (avoid overly steep banks on the backsides of corners, or along the edges of the straights for downhill tracks, or include fall protection).

3. Jumps are designed to allow for recovery from errors, in particular those due to over-jumping or under-jumping.

4. Flat working space that is free of obstacles and tripping hazards is included around the outside edges of the track (extending at least 2m from the outside boundary line), and between any parallel straights. Space is allowed along the outside edges of corners to allow the installation of crash barriers and to allow working space for the officials, the press / TV crew. More than 2m of clear space outside the white boundary line should be planned in areas where riders are more likely to be ejected from the track (outside edge of the last half of corners, first 20m along the outside edge of each straight following a corner).

5. Evacuation of injured riders from the track infield must be considered when designing and building a track, so that evacuation from any point along the track is possible while keeping the need to cross the racing surface of the track to a minimum.

Fairness and Quality of Competition

The start. To the greatest extent possible, tracks should be designed to avoid excessively favouring gate starting position one. Though difficult to implement, ideally a “hole-shot” would be possible from any gate starting position.

Width. BMX tracks should be wide enough throughout their entire length to allow passing. In general, this means that straights should only narrow gradually, and should align well with the entrances to and exits from the corners, especially for tracks that have one or more split straights.

When taking into account the expected speed of the race at any point along it, the track should be laid out so that as much of the full width of the track as possible can be used. Other than side to side movement to

pass or set-up for the next corner, straights should not be designed in a way so as to require a change in direction – doing so reduces the useful width of the track.

Put another way, the straights are for going straight; the corners are for turning.

Section-oriented design. BMX tracks should be designed in terms of sections, which may or may not be separated by corners. The size, form and spacing of obstacles contained within each section of the track must be suitable for the expected speed of the race as it passes over that part of the track, and must take risk of failure into account.

Corners. Corners are intended to allow riders to turn (change direction) at high speed. The corners in BMX tracks must be shaped to allow this, particularly in the last half of each corner, where riders complete their turn and line-up with the next straight. Sufficient space must be left between the exit of the corner and the first obstacle in the next straight to achieve this, particularly when entering a split straight.

Speed. No feature of a BMX track should make a significant or sudden change of speed necessary. Small adaptations in speed for individual obstacles or corners are part of racing, however, the track should be designed and built to generally allow racing speeds to be maintained throughout its length.

Surface. A BMX track should have a sufficiently hard and consistent surface throughout, which allows riders to maintain good traction. The infrastructure and equipment needed to maintain that surface during practice and racing needs to be present at the venue.

Starting gate. The gate and all of its working parts must be installed and maintained in accordance with the manufacturer's recommendations. Maintenance should be carried out on the gate before an event begins; no further work or adjustments should be made to the gate (unless to fix a problem) once the first practice has started.

Weather Tolerance

The risk of riding and racing on the track under most weather conditions should be acceptable.

Rain. The starting gate, start hill and track should have a sufficiently hard and consistent surface, which does not become slippery or soft in mild to moderate rain (if possible). In case a rain-tolerant surface is not possible, then the track must be equipped with sufficient plastic covers so as to limit damage to the surface in case of rain during an event.

Wind. A track should be aligned with the prevailing winds in the area so that riders most commonly experience either a head-wind or tail-wind, rather than a cross-wind. It is strongly recommended that wind conditions (direction, strength) under which the track should not be used are explored and documented.

Suitability for Events

The default activity in BMX racing is competition. Whenever a BMX venue is built, it should be designed and built in a way that allows it to support events at the level for which it is intended.

This can have an impact on the design of the entire venue, including the track (example: to ensure the necessary working space is available for timing, TV production, track officials, medical evacuation), but it also influences the design of the venue.

Most important of all, a BMX venue is a place where people come to practice the sport of BMX. Even the most basic venue and track should be set up in way to welcome the public and to give a good perception of the sport of BMX racing. Care should be taken to plan the venue so that people know where it is, and will want to spend time there.

The most successful BMX venues are normally those that:

- Are located close to a population and are visible to the public eye
- Can be easily reached, ideally by bicycle or public transport
- Have at least some space for car parking
- Have at least a few basic facilities for the people who will use it, such as shelter, water and toilets

Acceptance of BMX Tracks by the UCI

In general, the UCI divides BMX tracks into two categories. These are:

1. Tracks that are intended to host a major event. Major events are defined as UCI BMX Supercross World Cups, UCI BMX World Championships, and the Olympic Games.

2. Other tracks.

BMX Tracks for Major Events

For newly built tracks that will host major events, the UCI must approve both the design of the track, as well as the finished track in accordance with the principles and process found below.

Other Tracks

The UCI does not approve designs nor does it certify BMX tracks. The track owner is entirely responsible to ensure that their track conforms with the UCI Regulations and UCI BMX Track Guide, if relevant. However, at the request of the track owner and in accordance with the principles and process found below, the UCI may decide to give an opinion about a BMX track design or appoint an expert to assist the builder.

Tracks that will host local, regional or national events do not need any form of UCI approval, neither for the design nor once construction is completed.

Tracks that will host events on the UCI international BMX calendar should respect the UCI regulations, promote good close racing, and protect the security of the riders; the UCI BMX Track Guide is a useful reference document which can help achieve this. However, such tracks do not require any specific acceptance by the UCI unless they will also host a major event as defined above.

BMX Track Acceptance – Principles and Process

1. As a general principle, if a BMX track must be approved by the UCI, then the UCI must be involved in all stages of the design, construction and testing process, and have the authority to require changes at any point during this process before the BMX track is finally accepted and approved. The UCI shall not be held liable for any faults or defects related to such approval.

2. BMX Tracks for Major Events. Given the above, for newly built BMX tracks that will be used for major events, the UCI will appoint an independent expert who will work with the builder on the design, and who will be present during construction to supervise and advise the builder, and who will watch some test riding that take place during and near the end of construction. The independent expert will then decide if minor adjustments are needed based on the test riding. This process aims to ensure that the track conforms with the UCI regulations and BMX Track Guide, and that it enables good racing with an acceptable level of risk. All costs related to the independent expert are the responsibility of the track owner.

   If such an event is proposed for an existing BMX track, then the UCI may decide to send an independent expert to inspect the BMX track and watch some test riding or racing on it to decide whether or not anything needs to be changed. Such changes, if any, are a condition of being awarded the event, and will be done under the same process as described above.

Recommendation: If a new BMX track is being built with a future ambition to hold a major event, then it is strongly recommended that the track owner should ask the UCI to become involved as above, rather than to risk the possibility that future changes might be required in case of a major event bid.

3. Other BMX Tracks. For other BMX tracks, the UCI may be willing to offer an opinion about whether or not the design complies with the UCI regulations and the UCI BMX Track Guide. It is always the track owner's responsibility to monitor the builder to ensure that the finished BMX track complies with the design, and that it promotes good racing with an acceptable level of risk. Taking into account point 1, the UCI shall not be held liable for any faults or defects related to such opinion.
   In the event the BMX track owner is willing to accept the prerequisite conditions, the UCI may accept to offer its opinion and review of the submitted BMX track design. If the BMX track owner, would prefer to proceed as in points 2 or 4, then the UCI will try to find a suitable expert to assist.

4. Confirmation of Compliance. If a BMX track owner requires confirmation that a completed BMX track complies with the UCI Regulations and BMX Track Guide, the UCI may send an independent 3rd party to measure the BMX track. If the BMX track does comply, the UCI may send a letter stating that the BMX track is in compliance with the UCI regulations. All costs related to the inspection are the responsibility of the track owner.

BMX Track Design Factors

Purpose of the Track

What is the intended purpose of the track? Is it a training facility for developing riders? A beginner level track for a new BMX club? Is it intended to host major events?

The design that is chosen depends upon the answers to these questions.

Most tracks are built to be racing tracks which will host events. In this case, the design of the track and the venue in which it is located depends on the expected level of events that the track will usually hold.

Risk Management

Whenever a BMX track is designed, the design of the track and venue must consider risk.

There are many kinds of risks. Just a few that should be considered include:

- Risks to health and safety
  - Riders
  - Staff, such as event volunteers, officials and other work-force
  - Spectators

- Liability and risk of negligence
  - Is the track maintained to a reasonable standard? Who will maintain it? Who will provide the materials and equipment needed for maintenance? When a track is being planned, responsibility for on-going maintenance must be considered.
  - Where the law demands it, is the track enclosed by a fence and made inaccessible when no-one is there to supervise the activity on it?
  - Are the club and track owner protected by insurance?

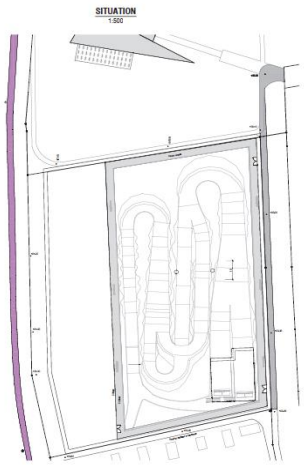
- Risks to events
  - Is the track built and designed in a way that it can be used when raining or in moderate wind?
  - Are there any noise or parking restrictions in the area where the track will be built that could limit BMX events?
  - What is the likelihood of sudden, severe weather that could threaten the safety of people at the venue? Are there rules imposed by local government to deal with these situations? What are the evacuation routes?
  - Will the track surface flood in heavy rain?

A risk assessment should be done as part of the planning process for a BMX track and the venue surrounding it. The design of the track and its venue must be done in a way that manages the risks that have been identified.

Available Space

The most important factor in the design of a BMX track and the venue around it is the amount of space available.

It is common that BMX tracks are built on available land that is given free (or nearly free) to the BMX club that will run the track.



Often, the track owner will have a vision of the track that they wish to build – but is it really possible to build that track in in the space available when taking into account that the track is also an event venue, and taking into account the advice in this document? Sometimes not.

In such cases, the design should either be scaled to fit the available space while respecting the UCI BMX Track Guide, or a different location for the track should be found. It is always better to build a track which promotes good racing and can easily support events while minimising risk than to build a design where all of these things are compromised because there isn't enough space for the chosen design.

Venue Facilities

Most BMX tracks are intended to be competition venues. The facilities which make competition possible must not be forgotten. Depending on the intended level of the events that the track will host, these can include:

- Parking, including a drop-off / pick-up zone
- Registration / administration office
- Storage
- A medical room
- Evacuation routes and ambulance parking
- Water
- Power
- Team area
- Warm-up area
- Staging area
- Information and posting boards
- Team managers viewing area
- Space for a TV broadcast compound
- Timing / scoring office
- Toilets
- Finish area
- Spectator facilities such as concession stands, grandstands and expo area

There is much more to a BMX event venue than just the track.

A track that will host a major international event needs all of these things to at least some extent, while a beginner level track in a region that is just getting started in BMX can make do with a more simple venue. However, regardless of the level of track, all of these things usually need to be considered to some extent.

Planning the BMX Track

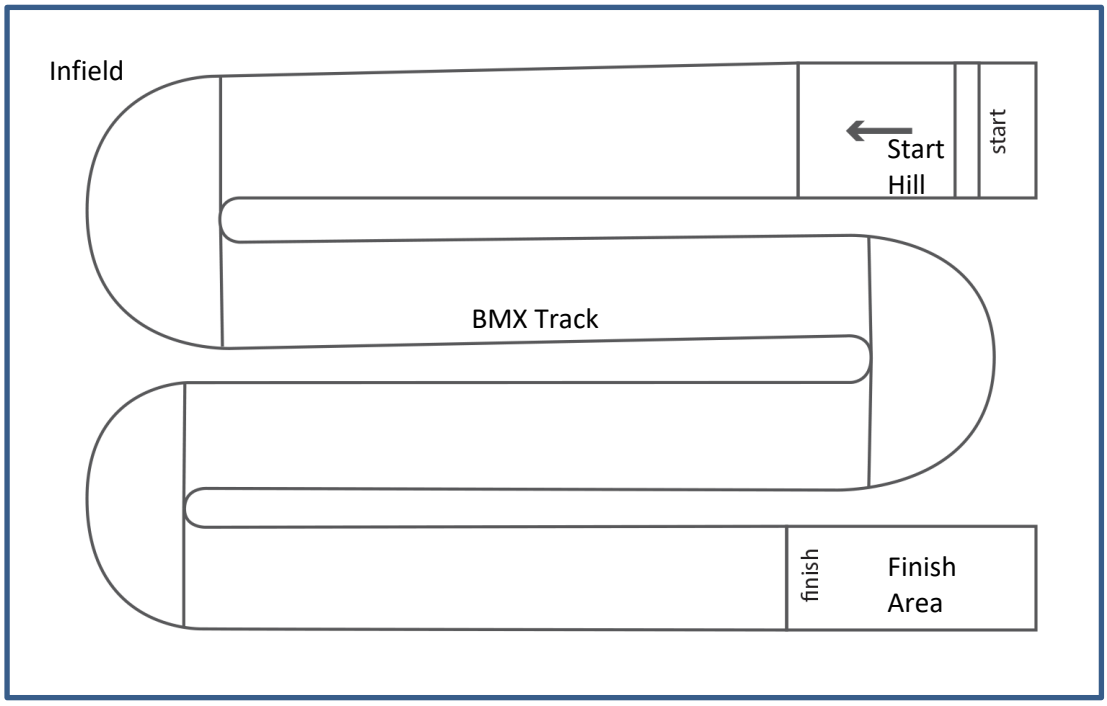
Factors to Consider

The Field of Play

The UCI BMX Track Guide is mainly concerned with the design and construction of the part of a BMX racing venue called the "Field of Play" (FOP). The Field of Play includes the following four areas:

- The **Start Hill**, including the starting gate and access stairs or ramp.
- The **BMX Track**, which includes the riding surface of the track, as well as the banking formed by the mounds of soil along its outside edges and behind the corners.
- The **Infield** - the area between the straights and around the outside edges of the BMX track, up to and including the boundary fence.
- The **Finish Area**, including the finish line and the braking area following it.

The Field of Play also includes any permanent or temporary structures that may be installed within it (example: the Finish Arch).



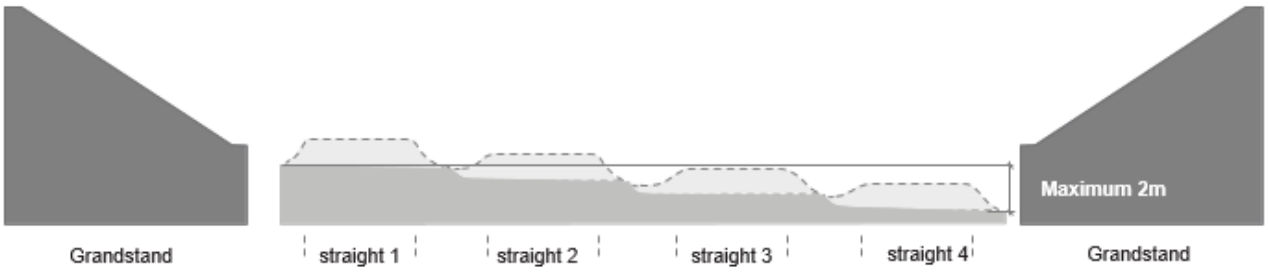
The Field of Play (FOP).

Location

The form and layout of a BMX track depends on the shape and size of the land on which it will be built. The complete Field of Play, designed in accordance with the UCI BMX Track Guide, must fit within the space available.

Grade
The land on which a BMX track is built must be generally flat, or graded to be flat.

Requirement
For newly built tracks, the maximum allowable difference in elevation between the finish line and the bottom of the start hill is 2m. As pictured below, the track should drop as evenly as possible throughout its length.



Wind
The track should be aligned with the prevailing winds in the area so that riders experience either a headwind or a tail wind. Generally, it is preferred that the riders should experience a tailwind when on the first straight.

If strong or unpredictable winds are normal in the area where a new track is being considered, then it is wise to find a more sheltered location, or to choose a design that minimises the effect of wind on the riders.

Water Drainage
In this respect, building a BMX track is not much different than building a house – good water drainage is critical. It is a mistake to build a track without drainage. It is also wise to avoid building a track in low areas where water may collect.

Requirement
BMX Tracks for major events must have sufficient drainage to keep water from pooling on the track surface.

Best Practice
The track should be planned so that the riding surface is always slightly above the grade of the land on which it sits so that water will tend to run off the track surface to the drainage channels built between the straights.

Suitability for Events
The design of a track for a training facility that will not host events can be very different from a track that will host a world cup, which can be very different from a beginner-level track that is run by a local BMX club.

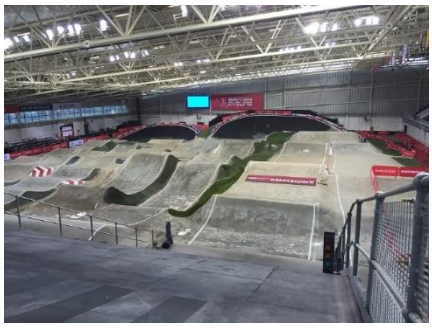
Tracks that will host major events must be designed to support those events.

BMX Track Layout

The track layout that is chosen depends on the factors described above, and on whether or not the track is intended to host major events.

The Standard Layout

For convenience, the UCI BMX Track Guide refers to a "Standard Layout".



A Standard Layout track.

A track which conforms to the Standard Layout is as follows:

- It fits in a generally rectangular area.
- It has either 1 or 2 start hills.
- It has 3 corners each of approximately 180 degrees which are connected by 4 straights
- It may have one or more split straights; that is, straights which are divided along most of their length with one side reserved for the use of the Junior and Elite men.

The Berm-Jump Layout

This is a variation of the standard layout which includes a "Berm-Jump". The second and third straights are split, with the Elite and Junior Men's second straight jumping over the women's second corner. In such a track there are two second corners, one for the Elite and Junior Men, the other for the remaining rider categories.

Berm-Jump Layout

Track Layouts for Major Events

Requirement

Tracks for UCI BMX Supercross World Cups, UCI BMX Supercross World Championships and the Olympic Games must conform to either the Standard Layout or Berm Jump layout.

The UCI may occasionally decide otherwise, but only if it is convinced that the such a variance is justified and the track will still conform to the other elements of the UCI BMX Track Guide.

The main reason why the Standard Layout or Berm Jump layout are used for major events is that they make the most efficient use of space. These track layouts fit into a rectangular area, which provides good cross-track visibility from the grandstands. This compact design also makes it much easier to install the necessary cameras for the TV production and to prepare the venue for the event. Likewise, these layouts provide maximum visibility for the officials and allow for easy access for event staff and medical evacuation.

Track Layouts for Other Events

Tracks for other levels of events may use other layouts, with the understanding that the track should still comply with the UCI Regulations and the UCI BMX Track Guide.

Planning the Field of Play

Key Measurements

Certain key measurements must be considered when planning a BMX track. These are specified in the UCI Regulations.

Requirements

Length: Between 300m and 400m (Note: the UCI may accept tracks up to 450m in length, if the winner's race time will still be in the range of 35 to 38 seconds).

Minimum Width:

- Events on the UCI International BMX Calendar:
  - Start Hill: **10m**
  - First straight: **8m**
  - First corner: **8m**
  - Other straights and corners: **6m**

- Tracks for other events:
  - Start Hill: **10m**
  - First straight: **8m**
  - First corner: **6m**
  - All other straights and corners: **5m**

Best Practice

The widths mentioned above refer to the width of the riding surface of the track as measured between the outside edges of the two boundary lines on opposite sides of the track. The track should be planned so that there is a small shoulder of up to 25cm width outside each boundary line to ensure that the full width of the track can be ridden safely.

Other Requirements

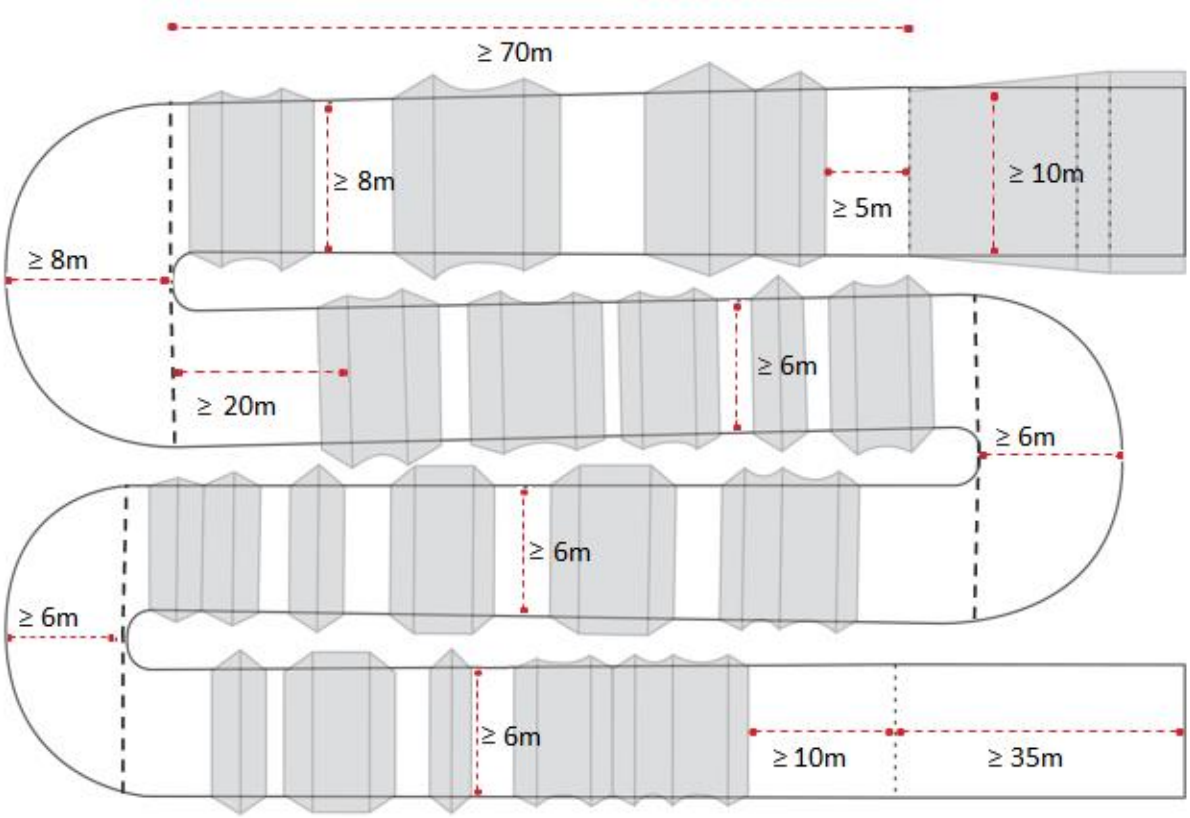
- Minimum distance from the bottom of the start hill to the beginning of the first jump: 5m
  - Often, more space than this is preferred to allow time for some pedalling.

- Minimum length of the first straight measured from the bottom of the start hill to the entrance of the first corner: 70m
  - Note: Tracks for other events can have a first straight that is less than 70m; however at least 70m is strongly recommended

- Minimum distance from the exit of the first corner to the lip of the take-off of the first jump on the second straight: 20m

- Minimum flat distance from the end of the last obstacle to the finish line: 10m

- Minimum stopping distance after the finish-line: 35m (can be a bit less, depending on traction given by the surface and grade; but it must be sufficient to allow riders to stop after crossing the finish line)



Key Measurements - Tracks for Major Events

The Infield

The infield is the area of the Field of Play which contains the BMX track, the start hill and the finish area, as well as the space along the edges of the track and between the straights.

Requirements for Major Events

For major events, the BMX track design chosen must fit the available space within the Infield such that the following points are satisfied. For other tracks, unless otherwise stated, these are recommendations.

Doing so provides the necessary space to support events and to minimise risk.

1. Along the outside edges of the track, there must be a distance of at least 2m between the edge of the track riding surface and any boundary fence; this is referred to as the "Safety Zone" (this is a basic requirement for all BMX tracks). Otherwise, padding or other protective elements may be needed.

2. There must be a flat and smooth pathway with a minimum width of 1.5 m between the first and second straights, between the second and third straights and between the third and fourth straights. These 3 pathways are used for track worker access, medical evacuation, cable runs for timing / TV production, et cetera.

When planning these pathways, it is important to consider that the footprint of the track is always wider than the riding surface. This is because the bases of the jumps are always wider than the tops when the soil is piled.

3. Whenever the lowest level of the track riding surface between jumps is more than 40cm above the access pathways, occasional access stairs or ramps must be cut into the bank edge to allow access to the track surface from the pathway.

4. If possible, all obstructions within the Field of Play must be at least 2m away from the edge of the riding surface of the track. If such an obstruction can't be avoided, then it must be padded or covered to protect the riders in case they are ejected from the track. This is a basic requirement of all BMX tracks.

5. The back sides of the corners and the sides of the jumps must be smoothly formed to help avoid rider injury in case a rider is ejected from the track.

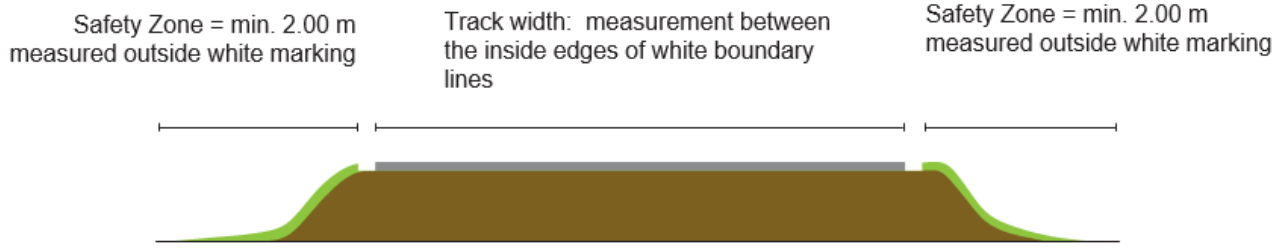
Corner edge with pathway and gently sloping back-side.

6. The corners must be formed such that the top of each corner has a flat access path approximately 1m wide. If the corner is paved, the pavement should cover this path to form a top-cap along the corner edge, to prevent water penetration and erosion. This path should follow the form of the corner as it rises from the level grade, running along the outside boundary line. The purpose of this path is to allow access by track staff and officials, and to allow the installation of protective elements such as air fence.

7. In case of a steep drop-off behind a corner or along the track edge can't be avoided, fall protection must be installed.

8. In case the preferred BMX Track design does not leave sufficient space for the access paths and the safety zone described above, then a different track design must be chosen which will allow these areas to be created. Otherwise, a different location for the track which has enough space for the chosen design should be selected.

9. It is best to plan that structures such as light poles are placed along the edges of the field of play, but never inside of it.

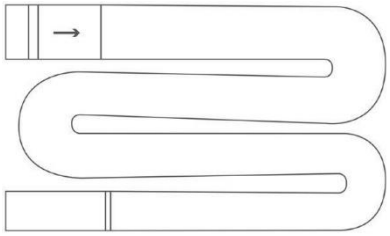


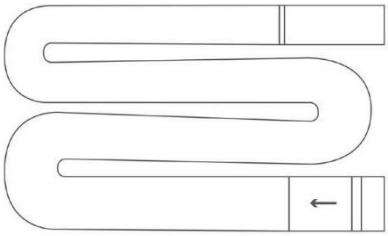
The Safety Zone

BMX Track Layouts for Major Events

Track Direction

All track diagrams in this document are shown with a left-hand first corner; however, tracks can also be built with a right-hand first corner. For example:





Second Start Hill

For the sake of simplicity, all of the track layouts below are presented with a single start hill. However, each of these layouts can also be built with two start hills (8m and 5m). However, doing so will require the Field of Play to be up to 15m wider than the dimensions listed below.

The Field of Play is often not a perfect rectangle; the end of the Field of Play where the start hill is located is often wider than the far end where the first and third corners are located.

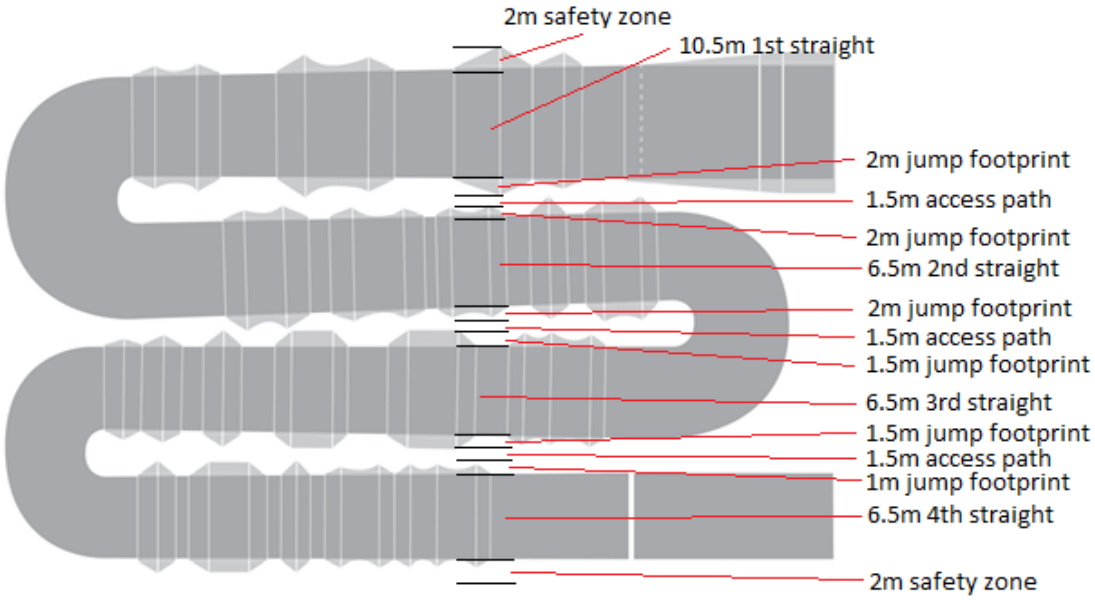
Minimum Width of the Field of Play for Major Events

The widths listed below are calculated to include:

1. The 2m safety zone along the track edges
2. The minimum width of each straight plus a 0.25m shoulder on each side to ensure that the actual width of the riding surface can be built to conform to the minimum width
3. Up to 2m for the base width of the jumps along both sides of each straight
4. For split straights, 1m of transition space between both halves of the straight is included to account for the jump footprint of the side of the straight with taller jumps
5. The minimum 1.5m wide access pathway between each straight

What not to do: There is no space between the third and fourth straights. Also, the safety zone between the track and the retaining wall is very tight.

The dimensions below are only the minimum required for the Field of Play. Other venue areas such as staging and the team area are not included. More space is needed for these. These dimensions are provided for planning purposes. In some cases, it may be possible to comply with the UCI BMX Track Guide with less space (depending upon the track layout, start hill and size of the jumps). However, to accept a design that proposes less space, the designer must first prove to the UCI that the track will comply with the UCI BMX Track Guide.



Calculating the minimum width of the Field of Play.

Width of the Straights

It is recommended to plan an extra 0.5m (up to 0.25m on each side) for the width of each straight above the minimum in order to ensure that the riding surface of the track meets the minimum width. This is because the edge of the track is often not hard-packed enough to be rideable, and because the track width can vary slightly along the length of each straight, depending on the height of the jumps. This is also important during split straights, as there is usually a strip of unusable track between both sides of the straight.

Jump Footprint

When soil is piled to form the jumps, the base width of each jump can easily be up to 4m wider (2m on each side) than the width at the top, depending on the jump height. Less space is needed for jump footprint for the third and fourth straights as the jumps are not as tall.

While it could be possible to use a retaining wall to reduce the base width of the jumps, this approach should generally be avoided due to the fall hazard that it creates. Having a sloped banking along the sides of the jumps reduces the risk of serious injury in case a rider is ejected from the track – they have a better chance to stay on their bike.

Jump footprint - the base is wider than the top. In this case, not enough space has been left for the access path between the straights.

Access Path

A flat access path of 1.5m minimum width is required between the straights. This is enough space to allow a medical golf-cart to travel beside the straights to assist with medical evacuation, for worker access, and for the cable runs needed for timing and the TV production.

Minimum Recommended Length of the Field of Play for Major Events

The minimum recommended length for the field of play for tracks that will host major events was calculated as follows. For tracks used for other events, less space is may be used, depending on the design proposed.

- Length of the start hill (30m for 8m start hill + stairs) +
- Length of first straight (minimum 70m) +
- Space for the first corner (25m)

For a 5m start hill, approximately 5m less length is needed.

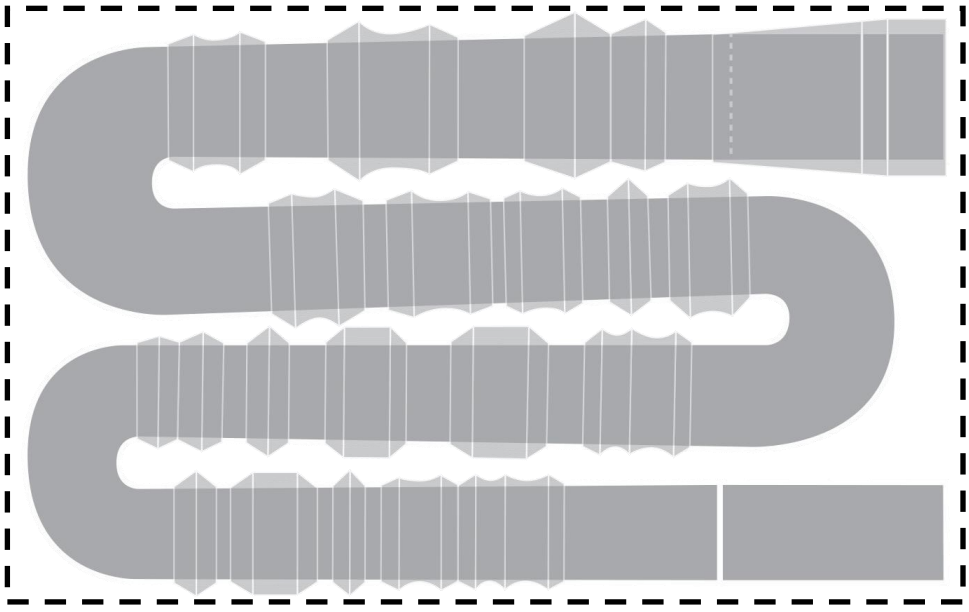
Best Practice
If possible, the first straight should be longer than the minimum. Normally, long first straights are more fair than shorter first straights. The relative advantage given to the rider in gate position 1 is usually less on tracks with longer first straights.

Track Layouts

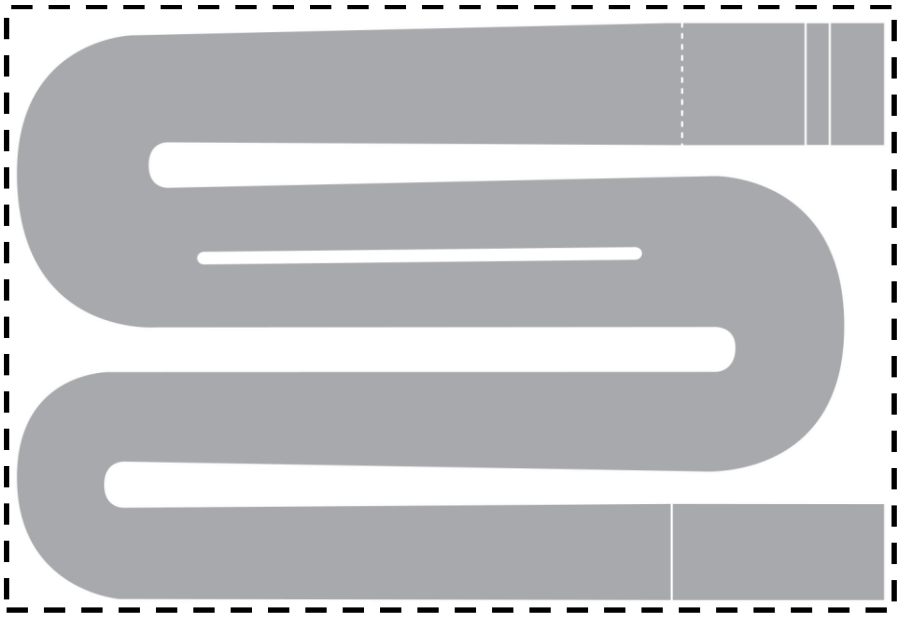
Requirement
Unless otherwise approved by the UCI, BMX Tracks that will host major events must use one of the following layouts. BMX tracks used for other events need not follow these restrictions, as long as the UCI Regulations and other elements of the UCI BMX Track Guide are respected. In each case, the minimum amount of space needed for the Field of Play is listed. Depending on the design, more space may be needed.

Standard Layout – Single Straight – <u>Major Event Tracks</u>

Minimum Field of Play Width, Single Start Hill: 47.5m
Minimum Field of Play Width, Double Start Hill: 62.5m
Minimum Field of Play Length: 125m



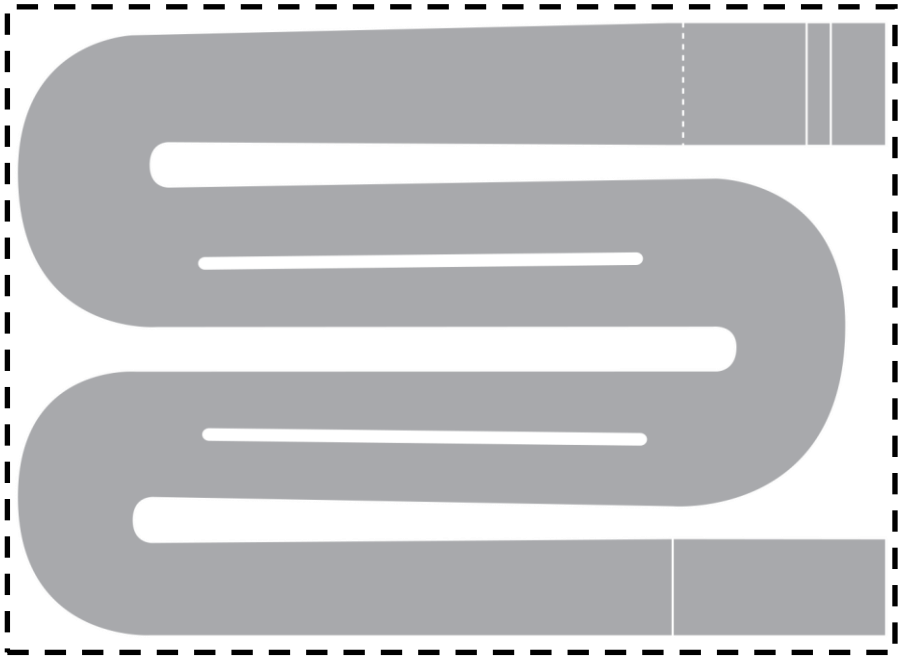
Standard Layout – Split Second Straight – <u>Major Event Tracks</u>
Minimum Field of Play Width, Single Start Hill: 56m
Minimum Field of Play Width, Double Start Hill: 71m
Minimum Field of Play Length: 125m



56m or 71m

125m

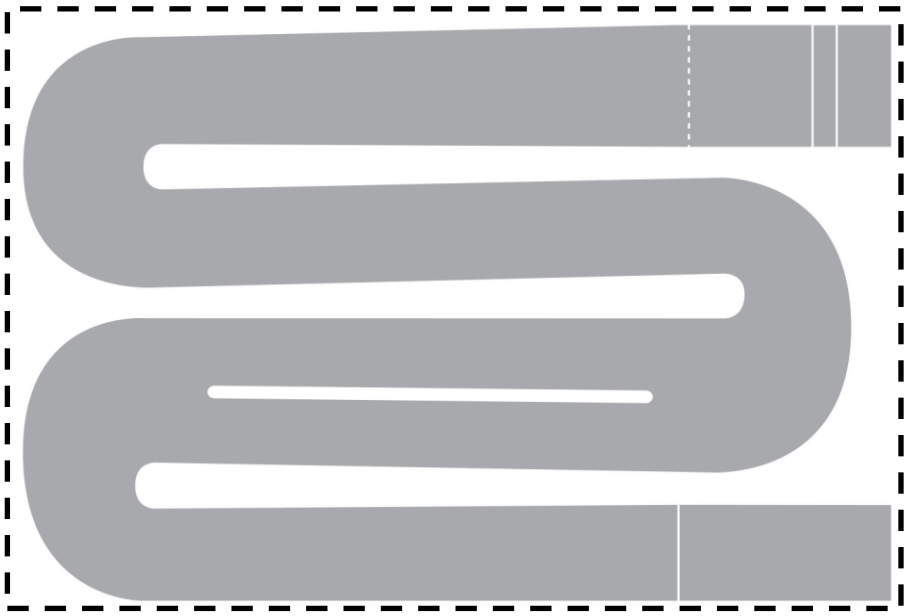
Standard Layout – Split Second and Third Straights – <u>Major Event Tracks</u>
Minimum Field of Play Width, Single Start Hill: 65.5m
Minimum Field of Play Width, Double Start Hill: 80.5m
Minimum Field of Play Length: 125m



65.5m or 80.5m

125m

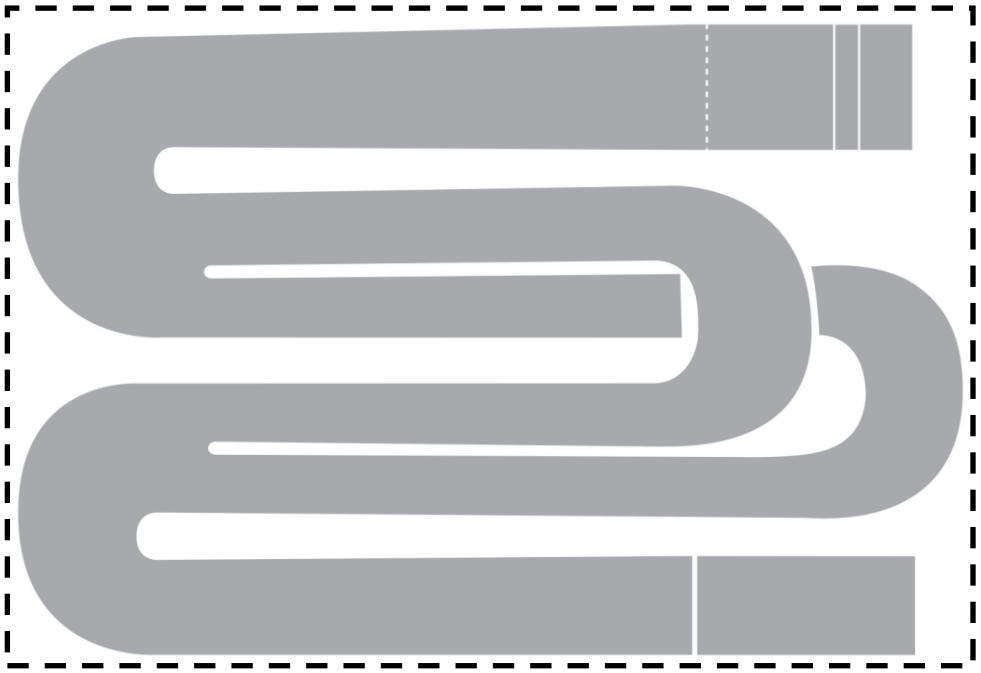
Standard Layout – Split Third Straight – <u>Major Event Tracks</u>
Minimum Field of Play Width, Single Start Hill: 55.5m
Minimum Field of Play Width, Double Start Hill: 70.5m
Minimum Field of Play Length: 125m



55.5m or 70.5m

125m

Berm Jump Layout – <u>Major Event Tracks</u>
Minimum Field of Play Width, Single Start Hill: 65.5m
Minimum Field of Play Width, Double Start Hill: 80.5m
Minimum Field of Play Length: 125m



65.5m or 80.5m

125m

The Start Hill

All BMX tracks normally have at least one start hill. Some tracks, which are intended for both professional and amateur riders have two start hills.

Tracks for Major Events

For major events, there are two start hill standards – an 8m tall start hill and a 5m tall start hill.

The 8m start hill is required for:

- The UCI BMX World Championships (Junior and Elite categories only)
- The Olympic Games

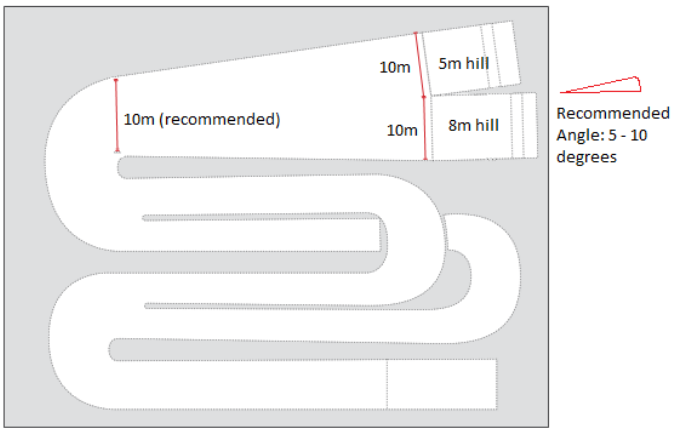
The 8m start hill is normally expected for UCI BMX Supercross World Cup events, though the UCI may occasionally consider world cup bids for tracks that have only a 5m start hill.

The 5m start hill is required for:

- The UCI BMX World Challenge (held at the same time and venue as the UCI BMX World Championships). This implies that world championships venues must have both an 8m start hill and a 5m start hill.
- The Youth Olympic Games

In case a track is built with two start hills, the 8m start hill can be either on the inside or outside. Also, as pictured below, it is preferred that the bottoms of both start hills are aligned, though this is not mandatory.

For tracks with double start hills, it is strongly recommended to keep the entrance to the first corner no wider than about 10m; however, if the start hills are almost parallel, this may not be possible.



Example: Recommended angle of double start hills.

Example of Double Start Hills

Materials

There are no restrictions on the materials that can be used to build a start hill. However, the entire riding surface must be flat without significant gaps, cracks or bumps, and must be covered with a high-grip material.

The structure of the start hill must be strong and stable. Scaffolding start hills must be certified and inspected in accordance with the laws of the country in question.

A start hill with a high grip surface. The high-grip decal extends the entire width of the start hill riding surface.

The most common designs and construction materials include:

- Scaffolding with a wooden surface
- Concrete or asphalt surface backfilled with dirt
- Concrete surface with a building that houses storage and offices found in the space beneath

Requirements

- The start hill must have a high-grip riding surface that allows the riders to maintain traction in all weather conditions. This must extend from the gate to the bottom the start hill along its full width. In case a decal is installed on the start hill, it must have the same grip as the all other parts of the start hill surface across its entire width and length. All parts of the start hill riding surface must have a slip resistance value of at least 13.

- In case of a track with two start hills, they are normally placed at a slight angle to each other in order to allow the gate on each hill to be properly aligned with the first corner. It is best if this angle is between 5 and 10 degrees.

- The design of the 8m and 5m start hills must respect the dimensions and angles found in the plans provided by the UCI. These can be obtained by writing to the UCI BMX Coordinator. Start hills build before the revision date of this guide are exempt from this requirement.

- For outdoor tracks, there must be a drainage channel installed along the bottom edge of the start hill as pictured below; this prevents water from pooling in this location during rain.

Drainage channel at the bottom of a start hill.

Tracks for Other Events

As described in the UCI Regulations, the start hill for other tracks must have a height of at least 2.5m above the grade of the first straight, and have a riding surface at least 10m wide; the incline extending from the starting gate to the level grade at the bottom of the start hill must have a length of at least 12m.

Other than the above regulations, there are no restrictions or other dimensions regulating the size and shape of the start hill for other events.

Start Hill Access

Unless built into the side of a hill, riders access the top of most start hills is with a staircase or a ramp. Depending on the height of the start hill, the stairs or ramp will likely switchback several times before reaching the top.

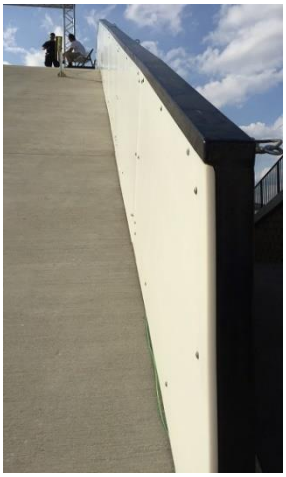
Requirements

- In case a ramp is used, the slope should be gradual enough so that the riders can push their bicycles up the slope without much effort. A ramp width of at least 1.5m is needed.
- In case stairs are used, the stairs should be wide and flat with a reasonably gentle grade, each stair should rise no more than 15cm to 20cm. A gutter or narrow ramp should be installed along one edge to allow bicycles to be pushed up rather than carried. Again, the stairs must be at least 1.5m wide.
- For stairs or ramps consisting of multiple flights, a landing should be installed between each flight to allow a level resting space.
- The stairs or ramp must have a railing for their full length, which has enough cross-pieces to prevent falls, even from small children who aren't as tall as the highest level of the railing.

Staging Space

There should be enough space immediately behind the starting gate for two complete heats of riders to be staged – that is, one in the gate, and 2 heats waiting behind the gate.

Staging space behind the starting gate.



Start Hill Fence - Best Practice

Fall Protection

Requirement

The stairs and ramp, as well as the outside edges of the start hill (back and sides) must include railings that will prevent falls by both adults and young children.

The barrier found along the edges of the start hill between the starting gate and the bottom of the start hill must be constructed in such a way that it is impossible to fall or ride off either side of the start hill after leaving the gate. Likewise, there should be no protrusions that a rider could collide with along the inside surface of this barrier other than the warning lights which form part of the starting gate system.

Best Practice

The surface of the entire barrier fence facing the riding surface of the start hill should be solid and smooth for its full height and length as in the picture below.

The Starting Gate

The Starting Gate must be a system which guarantees a fair start for all riders. All starting gate systems must observe the applicable provisions of the UCI Regulations.

Requirements

- The start gate shall be a minimum of 7.3 metres in width for BMX events on the UCI BMX calendar. The gate shall have a height of at least 50 cm, with an angle no greater than 90 degrees with the slope of the ramp which supports the bicycles' wheels when they are in their starting position. Starting positions 1 through 8 must be clearly marked on the gate; gate position 1 is the lane on the side of the gate corresponding to the inside of the first corner.

- The electronically controlled gate, to be used at all BMX events on the UCI BMX calendar, must be outfitted with a system of appropriately coloured starting lights located so as to be clearly visible from all starting lanes without disadvantage to any rider who is in the "riders ready" position. In case of a failure of the gate release system, the gate shall fall to the dropped position.

- A "voice box" system is mandatory at all UCI sanctioned events described in appendix 3 of the BMX rulebook. Whenever a timing scoring system is utilised, the timing system must be activated,

whereupon the time starts running, at the moment the gate-start mechanism is activated causing the gate to drop.

- The track owner alone (or sometimes the event organiser, in case of a temporary installation) is responsible for the installing and maintaining the starting gate system in accordance with the manufacturer's instructions. The UCI does not accept any liability arising from an incident or injury involving a starting gate. Any costs arising from improper installation or maintenance are the responsibility of the track owner.

- For all events registered on the UCI International BMX Calendar, a back-up air compressor must be in place and ready to use in case the main system fails during the event. Likewise, the track owner must have on hand sufficient spare parts to repair the air system in case of a leak.

Starting Gate for Major Events

The UCI is proud to work in partnership with Pro Gate as the official starting gate supplier of the UCI. Pro Gate brand starting gates must be used for major events.

Starting Gate for Other Events

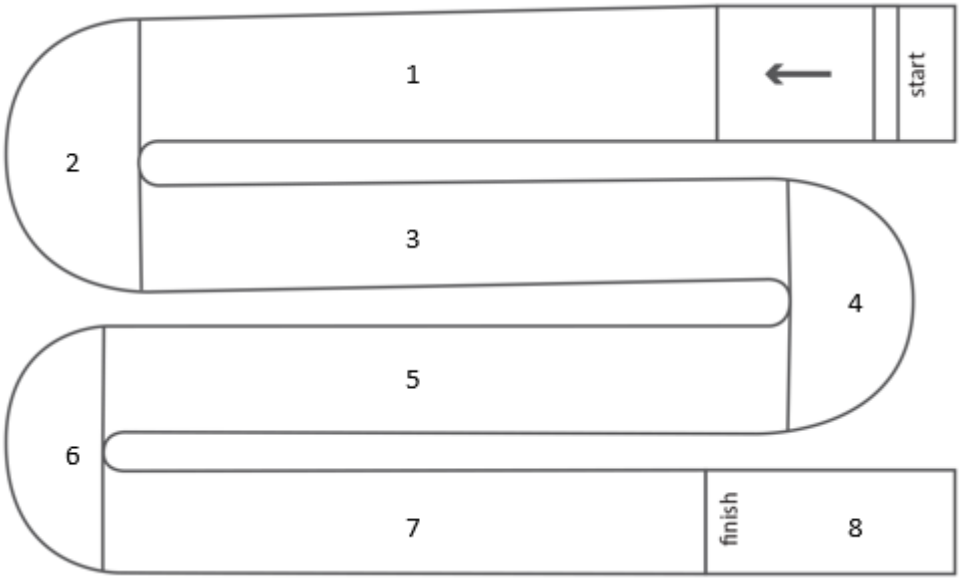
There are no restrictions on the type of starting gate that may be used for other events as long as the gate complies with the UCI Regulations.

Gate Installation Best Practice - Gate platform slightly recessed to eliminate the small drop between the gate surface and start hill surface.

The BMX Track

Key Elements of a BMX Track

The Standard and Berm Jump track layouts are composed of the following elements.



1. The First Straight
2. The First Corner
3. The Second Straight
4. The Second Corner
5. The Third Straight
6. The Third Corner
7. The Fourth Straight
8. The Finish Area

BMX Track – Sections

Straights and Corners

Straights

Straights must follow a straight-line path between the corners which connect them, oriented in a way such that riders can use the full width of the straight, and still enter the corner at racing speed without going out of bounds.

This ensures that the full width of each straight can be used, and that the alignment of the straights with the corners will not reduce the race to a single-file line of riders.

Track layouts that include features such as “cross-over” jumps (a variation of the Berm-Jump Layout) **are not permitted**, as they introduce the need to make a partial turn within a straight; this reduces the effective width of the track and tends to break the race up into a single-file line of riders through that section.

Straights **must not** include significant changes of direction such as this example of a cross-over jump. Such features reduce the usable width of the track, while adding unnecessary risk.

What not to do: Above are two examples of corners that do not align well with the straights. In the case on the left, the outside boundary of the corner sweeps towards the inside too much at the corner exit, pushing the riders inside. It should be possible to enter the straight following the outside boundary line.

In the case on the right, the riders in the Elite and Junior men's side of this split second straight are forced to move inside when approaching the second corner. This has the effect of reducing the usable width of the track. A rider caught on the outside approaching the corner will likely end up out of bounds on the inside of the corner. The corner should be reshaped and made wider to prevent this.

Corners

Corners allow the riders to turn at racing speeds. The radius of the corner and the steepness of the banking must be shaped to allow the riders to successfully complete their turns at racing speed while staying within the track boundaries.

For the Standard Layout and Berm-Jump layouts, the corners generally allow the riders to turn somewhere in the range of 150 to 190 degrees while maintaining their speed. The arc of each corner depends on the alignment of the straights with the corners.

For other track layouts, corners can be less than this – for example, 90 degree corners.

The First Straight

The first straight should try to give equal opportunity for all riders, no matter what their starting position. It should narrow only gradually from its minimum width of 10m (at the bottom of the start hill) to a minimum of 8m as it joins with the first corner. The first straight must connect the start hill and the first corner in such a way that the starting gate is aligned with the entrance of the first turn.

This track has an excellent first straight and first corner combination. The straight is long enough to reduce the advantage of being on the inside of the starting gate; it is also possible to take a good line though the corner whether outside or inside when approaching the corner.

The first straight usually includes the largest jumps on the track measured by horizontal distance travelled, as this is the highest speed part of the track. These jumps must be achievable for both male and female riders.

In doing so, the space between the take-off and landing of all jumps on the first straight should be filled in, to allow for recovery from error, while reducing the risk of injury.

For tracks with two start hills, the entrance to the first turn should be wide enough to ensure that riders from either start hill can safely enter the first corner, but should ideally be no more than about 10m wide.

Requirements

- Minimum width of the first straight at the bottom of the start hill: 10m
- Minimum width of the first straight at the entrance of the 1st corner: 8m
  - The first straight should narrow evenly and gradually along both sides as it approaches the first corner
- The distance from the bottom of the start hill to the bottom of the first obstacle or jump must be at least 5m. This is measured from the point where the start hill surface ends and the dirt surface of the track begins, to the point where the first obstacle or jump begins to rise from the level grade of the track surface.
- For major events, the first straight as measured from the bottom of the start hill to the entrance of the first corner must be at least 70m long.
- Because the jumps on the first straight are usually the largest on the track, enough space is needed between jumps to allow for recovery from error – that is, to allow space for pedalling to recover lost speed, or space to make an emergency stop before reaching the lip of the next jump. This must always be considered.

Best Practices

- For single start hill tracks, it is suggested that the alignment of the first straight with the start hill and the first corner is such that starting gate positions 4 and 5 provide the shortest straight-line path to the inside of the first corner. This helps to ensure that position 1 does not enjoy a great advantage and position 8 does not suffer from a great disadvantage.

- For double start hill tracks, it is best if the alignment of the first straight with the start hills and first corner favours the 8m start hill, with gate alignment as described in the point above.

- For double start hill tracks, if the 8m start hill is on the outside, it may be necessary to define an inside boundary line for the first straight below the 8m hill as it approaches the first corner, such as in the example pictured above. This improves fairness of the start and reduces the risk of crash in the first corner.

The First Corner

The first straight and second straight are normally the highest speed sections of the track with the largest jumps.

As the first corner connects these straights, it must be correctly aligned with both the first and second straight. Also, the first corner must be banked steeply enough given its radius to allow riders to safely turn at racing speeds and line up with the second straight.

The steepness of the banking of a corner and the radius of the corner are related. The smaller the radius, the steeper the banking must be – in some cases, as much as 45 degrees at the steepest part.

Requirements

- Minimum of 8m wide between the boundary lines.

- Sufficiently steep given the size and radius of the corner, especially in the last half of the corner.

- For tracks with a split second straight, the radius of the first corner must favour the “outside” half of the second straight.

Second Straight

The second straight can be a single straight, or it can be split so that there are separate sections for men and women (or challenge category) riders.

Jumps on the second straight can be big and technical to accommodate the high speed of the riders as they come out of the first turn.

Good example of a split second straight; there is plenty of space for riders to line-up with their side of the straight after completing the first corner.

In case of a split second straight:

- For the male championship categories, a sequence of large, technical jumps is fine, but the jumps must be formed and spaced in such a way that the riders have a chance to recover in case of an error as described above in the section concerning the first straight. In case a rider comes to a stop, the centres of the jumps should be filled in enough so that is possible to continue without exiting the men's side of the straight, even if it means pushing his bicycle.

- The backsides (landings) of jumps should still be steep enough so that riders can gain some speed from the landing. Landings that are too flat can be as much of a problem as landings that are too steep.

- For the female championships categories and amateur categories, it should be possible to ride the second straight without jumping. However, jumping should generally be the faster option.

Requirements

- The minimum distance between the exit of the first corner and the lip of the first jump on the second straight must be 20m to ensure that the riders have a chance to properly line-up with the correct side of the second straight.

- For tracks that will be used for major events, the minimum width of the riding surface of the track through the second straight is 6m.

The Second Corner

Good example of a second corner. Steep banking, and plenty of space to line-up before the third straight begins.

The second corner is the point at which riders normally begin to transition from the larger jumps found on the first and second straights to the rhythm section of the track. It is important that this corner is still large and steep enough to allow riders to turn; they still have plenty of speed after finishing the second straight.

Alignment of the second corner with the third straight is just as important as it is from the first corner to the second straight, especially when a split third straight is used. In this case, the exit of the

corner needs to be wide, with steep enough banking in the last half of the corner to allow riders to finish turning so that they can line-up with the correct side of the third straight.

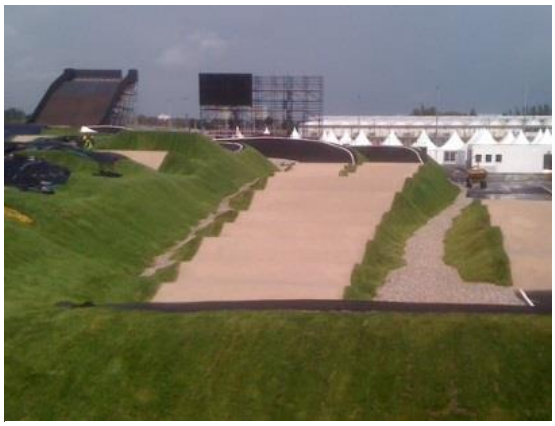
Requirement
- The minimum width of the riding surface of the track through the second corner is 6m.

The Third Straight

The third straight is usually the most technical part of the track. While it normally marks the start of the rhythm section consisting of sequences of rollers and smaller jumps, it can still include some larger jumps.

Requirement
- The minimum width of the riding surface of the track on the third straight is 6m.

Best Practice
- As with the first corner and the second straight, the lip of the first obstacle in the third straight should be at least 15m from the exit of the second corner to give the riders a chance to line-up with the their side of the third straight.



Example of a third straight.

Example of a third corner.

The Third Corner

The third corner is a bit more compact than the other corners; however, it must still be wide enough and steeply banked enough to allow for passing. This is the point in the track where riders set up for the last straight and the final sprint toward the finish line.

Requirement
- The minimum width of the riding surface of the track through the third corner is 6m.

The Fourth Straight

The fourth straight combines pedalling with other technical skills in the approach to the finish line. It usually consists of less difficult jumps and sequences of rollers.

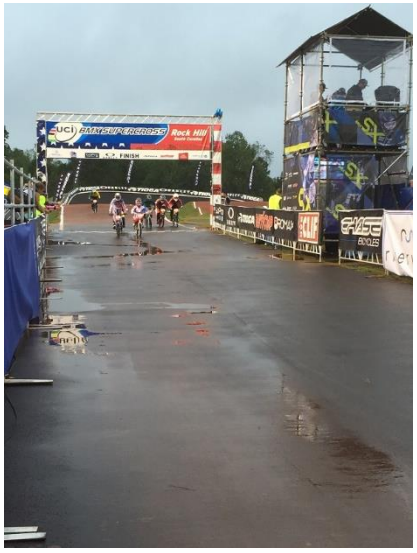
Best Practice

- It can be argued that the fourth straight is the most important; if the rest of the track is well built and the riders are still together as a bunch when coming into the fourth straight, it is the fourth straight where each heat is decided. Planning the track around a decently long fourth straight to ensure a good final sprint is strongly recommended.

Requirements

- The minimum width of the riding surface of the track on the fourth straight is 6m.
- The minimum amount of flat space that must be left between the end of the last obstacle and the finish line is 10m. If possible, 12m to 13m is preferred.

The fourth straight during the men's final in Rio de Janeiro.



The finish area.

The Finish Area

The finish area consists of:

- The finish arch
- The finish line, which is centred under the finish arch
- The braking area following the finish line

The Finish Arch

The Finish Arch is usually a scaffolding structure with 2 legs (one on either side of the finish line), and a cross brace where the finish banner is mounted.

Requirements

- If either of the legs of the finish arch are within 2m of the outside edge of any part of the track, then the surface of the arch legs facing against the direction of travel of the riders must be well padded in case of a collision. This may mean that the both the front side and back side of the arch leg placed between the third and fourth straights must be padded.

- In case one or more guidewires are used to secure the finish arch, the guidewires must be protected by padding or barricade fence to avoid a collision. Likewise, guidewires must each be marked with at least one piece of ribbon at eye-level so that track staff can always see them.

- The legs of the finish arch must be at least 0.75m outside the boundary lines on both sides of the fourth straight. If a rider is riding on the white boundary line, they are still in bounds and must be able to pass underneath the Finish Arch without hitting it. As the minimum width of the fourth straight is 6m, this means that the inside width of the finish arch must be at least 7.5m.

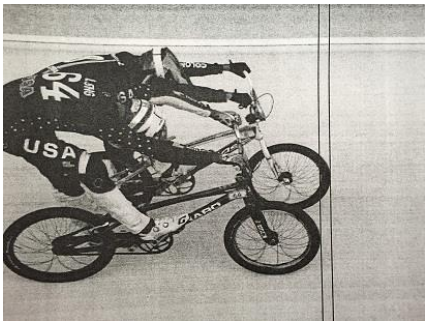
- The lowest part of the Finish Arch structure (including any finish banner or digital scoreboard) must be at least 3m above the track surface. The Finish Arch must be tall enough to accommodate this.

The Finish Line

The finish line must be clearly defined and provide a high level of contrast with the track surface. It should be centred under the finish arch.

Requirements

- In accordance with the UCI regulations, the finish line is a 4cm wide black line painted in the centre of a 20cm white strip. The riders finish the race when their front wheel first cuts the plane rising from the leading edge of the black line.



The finish line must be clearly marked.

Padding on the legs of the finish arch.

The Braking Area

The area following the finish line is critical. As the race is not over until the riders cross the finish line, they are still traveling at high speed. Their safety must be protected until they have a chance to slow down.

During major events, the edges of the braking area are also an important working space for the media. Space must be allowed for accredited photographers and for the TV production.

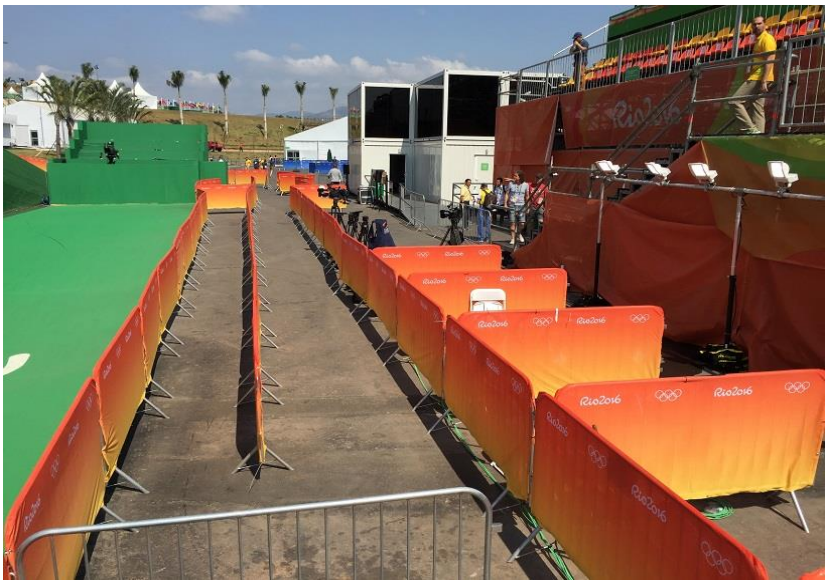
Also, the timing company's office is usually located either at or close to the finish line. Space for this should also be planned.

Finally, the Finish Area also serves to contain the riders so that important post-race tasks can be performed, including post-race interviews, and notification of selection for doping controls.

For tracks that will be used for major events, planning the layout of the finish area to achieve all of these things is an important part of designing and building the track. The finish area must not be an after-thought.

Requirements

- The braking area must be fully enclosed by barricade fence. This this barricade fence should be placed widely enough so that the leading edge of the fence is protected by the legs of the finish arch.
- The riding surface of the braking area should be a high traction surface such as asphalt so that the riders are able to brake effectively after crossing the finish line.
- The braking area must be at least 35m long, measured from the finish line to the barricade fence at the far end. Distances less than this can sometimes be accepted if surface traction and grade allow riders to stop. The braking area must either be flat or uphill; it should never be downhill.
- Space should be reserved for photographers and the TV production along the edges of the barricade fence and at its ends.
- There should be only a single exit at the far end of the Finish Area. Riders must exit at this location, and should not be allowed to return once they have left. Following this, they may need to pass through an interview area on their way back to the team area. A smaller exit near the timing office along the side of the braking area may also be installed to allow staff access.



Working spaces around the finish area. There is a platform at the end of the braking area for photographers and TV (to the left). Center and right - the interview area or "mixed zone" which riders must pass through after exiting the finish area. The timing office is located in the containers with tinted windows in the center-background. This example is from the Rio Olympic Games; normally less space than this is needed for most events; however, at least some space for this must be planned for every major event.

BMX Tracks - Obstacles

There are many different possible types of obstacles and combinations of obstacles that can be included in a BMX track. These are normally jumps, rollers or combinations of these.

It is not our intention to define the dimensions and nature of jumps in a BMX track. However, it is essential that all jumps are built to be rideable for the target riders, and that they are designed in a way that gives the

riders the best possible chance to recover from a loss of bicycle control without crashing. Also, in case of a crash, jumps must be designed to reduce the risk of severe injury.

When jumping, riders will always try to take the shortest possible path between take-off and landing. Given this, jumps that are shaped to allow riders to take an efficient (short and low) path from take-off to landing are preferred.

The take-offs of two different berm-jumps seen side by side. On the left, the take-off is flatter, resulting in a lower, more direct path to the landing. On the right, the take-off is steeper, with more of a kick at the lip, which tends to send the riders higher into the air. Both allow the riders to travel the distance, but the jump on the left does so more efficiently and with less risk. Also note the back-side of each take-off. The slope of the take-off on the left is more gentle, making it easier and safer to abandon an attempt at jumping and roll through the jump.

Key Points for BMX Track Obstacles

- Technical difficulty should correspond to the intended skill level of the riders who will generally use the track.

- Spacing between jumps and shape of landings should allow riders a good chance to recover control without crashing in case of an error. Certain types of jumps, such as berm jumps require careful planning to ensure that riders have a decent chance to recover control in case of a problem. While the jump itself may be built correctly, what comes before and after such jumps in the track must also be considered. Sequence of jumps can be technical and can demand skill, but they still have to promote good racing at a reasonable level of risk.

    - For example, in the case of a berm jump, there must be enough space between the landing of the jump before it and the lip of the berm jump for a rider to safely slow down or stop in case they will not have enough speed to cover the distance of the berm jump due to some problem earlier in the straight; the amount of space needed can easily be in the range of 15m – 20m.

- Centres of jumps should generally be filled in to provide a safety factor in case a rider doesn't have enough speed to cover the distance of the jump – the consequence of failure should not be severe. This is very important on the first and second straights where the riders' speed is highest. This is also important so that riders can still roll through the track in case they lose speed or are stopped.

- Jumps should be optimised for covering the horizontal distance between take-off and landing quickly and efficiently given the expected speed of the race at that point on the track.

Requirements

- The lip of every jump must be consistent across its entire width.
- The landing of a jump must be at least as wide as the take-off (never narrower).
- When approaching a corner, the alignment of the landing with the corner entrance must be such that landing on either edge of the jump will still allow the rider to enter the corner and stay in bounds.
- Jumps must be designed with failure in mind. In case of over-jumping or under-jumping, what will happen? Does the rider have a good chance to recover control? If the rider can't recover control, what is they chance they can escape without a significant injury?
- Jumps must be designed to be rolled in case a rider loses speed. It should be possible to continue after a stop without going out of bounds.
- The sides of jumps should be banked so that riders can possibly escape to the side without risk of significant injury. Steep drop-offs along the sides of the jumps must be avoided.

BMX Track Markings

Both edges of the BMX track must be marked with white boundary lines. However, if the track surface is a very light colour, a different colour which provides better contrast can be used (example: black or yellow).

The lines need to be wide enough to be easily visible (normally in the range of 8 – 12 cm), and should be reasonably weather tolerant in case of rain (as such, any paint used should be non-slip).

These boundary lines have two main purposes:

1. To provide a visual reference to the riders about the location of the edge of the track surface. This is very important for larger jumps where the landing can't be seen until the rider is in the air.

2. To indicate the boundaries of the track for each category of riders. This is very important when marking the start and end of any split straights, and also the inside boundaries of the corners.

Sometimes, lines might need to be painted across the top of some jumps (take-off and landings) in order to provide a visual reference of where the lip of the jump is, and where the landing begins. Such lines must be installed at the request of the technical delegate.

Berm jump with lines for visual reference.

Within the context of an event, the location of the boundary lines must be checked by the technical delegate or the president of the commissaires' panel if no technical delegate is appointed. This is because the location of certain boundary lines which divide split straights and at the inside boundaries of the corners can have a real impact on the race.

Unlike the example above, the edges of the straights should be as straight as possible. The boundary lines need to follow the straight-line ridable edge of the track surface.

Good example of boundary lines in the first corner. Note how the inside line doesn't hug the edge of the pavement; instead, it has been pushed up-track to ensure that riders take a good line through the corner.

BMX Track Surface

For major events, the UCI strongly prefers tracks with a surface that allows the riders to maintain good traction in wet conditions so that the event can still proceed in case of rain. Such a surface must be installed for the Olympic Games and the UCI BMX World Championships. It is strongly recommended for UCI BMX Supercross World Cup events.

If for some reason this is not possible, sufficient plastic covers to completely cover the riding surface of the track must be available and made ready to be quickly deployed during the event. In support of this, enough track maintenance staff must be available to quickly cover and uncover the track.



The left and center pictures are good examples of all-weather surfaces – on the left, slurry; in the center, crushed limestone. Both remain hard and offer good traction in the rain. The picture on the right is a track that has a top layer made of clay, with a layer of a soil stabiliser called "soil-tac" applied. This is a very good material in generally dry climates, but it becomes very slippery when wet. The track surface on the right can't be used in the rain.

A very dry climate is as much of a problem as a very wet climate. The type of soil used to build the track must remain firm even in very dry conditions. For such cases as this, cement powder or soil-tac can help; also, it is essential that a sufficient water supply and hoses are available to condition and pack the track surface during events. It would be just as impossible to ride on the track with surface conditions such as those pictured to the right.

Requirements for all BMX tracks

- The surface must be reasonably smooth and hard throughout, and well maintained without soft spots or holes.

Requirements for tracks that will host major events

- The corners and the finish area must be paved (asphalt or cobblestones can be used, concrete can also be used if it has a high grip surface)
    - High grip paint of the same type used on the BMX track during the 2016 Olympic Games can also be used on paved areas, if approved by the UCI. A test to demonstrate the anti-slip properties of such paint may be required before approval is given.
- An all-weather surface is required for the Olympic Games and UCI BMX World Championships.

Best Practices

- High-wear sections of the track, such as the space between the bottom of the start hill and the lip of the first jump, or the lips of particularly difficult jumps can also be paved. In some cases, this may be required by the UCI.

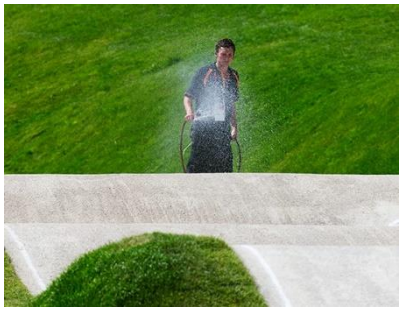
- Surface Colour: While the colour of the surface of a BMX track is not regulated, light or highly reflective colours should be avoided if at all possible; this makes it much harder for riders to see changes in the track surface in bright sunlight. Darker colours are always preferred.

For other events, tracks built entirely of soil without any paving are acceptable.

Surface Maintenance During Events

For tracks that host events, the equipment, staff and materials needed to maintain the track surface to a high standard throughout the event must be on-hand. Examples can include:

- Hoses for watering the track
- Push brooms with stiff bristles for sweeping debris out of the corners and off the track
- Rubber bladed squeegees for pushing water off the track surface in case of rain
- Repair materials such as soil-tac
- Hardening agents such as cement powder, to quickly repair the track surface in case of rain



How to Measure a BMX Track

BMX tracks are measured for three main reasons:

1. During construction, to verify compliance with the approved design for the track.

2. To copy all or part of an existing track.

3. To verify compliance with the UCI regulations and the UCI BMX Track Guide.

The methods used and tools needed vary depending on what is being measured and why. This section explains how BMX tracks are measured to verify compliance with the UCI Regulations and with the UCI BMX Track Guide.

Measuring a track in order to verify design compliance during construction or to produce a replica require more specialised tools and experience in land survey techniques, and is beyond the scope of this document.

Equipment Needed

- A measuring wheel
- Electronic level that can measure angles (a smartphone angle-measuring application can also be used)
- A tape-measure at least 25m long

Procedure

The Start Hill

The start hill must be at least 10m wide. Other dimensions that should be measured include the height, ramp length and angles of the start hill ramp. The necessary dimensions are found in the 8m and 5m start hill designs which are available from the UCI.

The Starting Gate

If a starting gate system which is known to comply with the UCI regulations is installed (example: a Pro Gate), it is enough to verify that the gate works properly. The dimensions and angles of the gate will be correct as supplied by the manufacturer.

The Track

<u>Overall Length</u>

1. Set the measuring wheel to zero.

2. Beginning at the starting gate hinge, roll the entire track along the center-line (mid-point through the straights and corners) until the finish line.

3. Deduct 5% of the total to account for the elevation difference as the wheel passes along the surface of all of the jumps, or 10% for a track with very tall jumps. This will give a quick approximation of the

straight-line distance of the track. For tracks without large gap jumps in the first or second straights, this method can be used (deducting 5% of the total).

4. For tracks with any large gap jumps in the first and second straights, for each such jump, stop and measure a straight-line distance from the lip of the jump to the start of the landing using the 25m tape-measure. Then continue with the measuring wheel to measure the distance to the lip of the next jump.

5. If necessary, perform this process for each of the following start hill / split-straight combinations:
    a. 8m hill, split 2nd straight men's side, split 3rd straight men's side
    b. 8m hill, split 2nd straight women's side, split 3rd straight women's side
    c. 5m hill, split 2nd straight women's side, split 3rd straight women's side

Width

1. Set the measuring wheel to zero.

2. Begin at the outside edge of the track boundary line.

3. Push the measuring wheel along a path at a 90-degree angle to the boundary line until the outside edge of the boundary line on the other side of the track is reached.

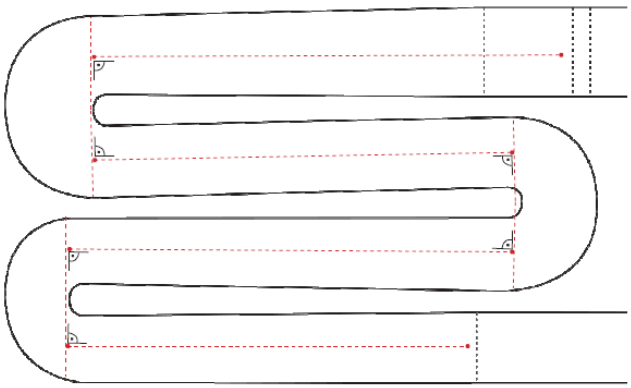
4. Collect the following track widths:
    a. Bottom of all start hills
    b. For each straight or each side of any split straights:
        i. The width at what is estimated to be the narrowest point
        ii. For split straights, both sides where the split begins and ends
        iii. A mid-point width
    c. For each corner
        i. The width at what is estimated to be the narrowest point
        ii. The corner entrance
        iii. The corner exit
    d. The finish area
        i. Width of the finish line
        ii. Width of the braking area (it should not narrow significantly)

At minimum, all widths collected should be those required earlier in this document, given the intended use of the track. A variance of up to 5% is permitted.

Corner Entrance and Exit

The entrance and exit of corners are defined as a line perpendicular to the direction of travel which is drawn through the inside boundary line of the corner, as pictured below.

Bottom line and Inner radius



Other Dimensions

Collect the following distances, measured using the method indicated:

1. Distance between the bottom of the start hill and the first obstacle
    a. Begin at the point where the start hill surface ends and the track surface begins (any drainage channel is considered as part of the track surface)
    b. Push the measuring wheel along a path at a 90-degree angle to the end of the start hill until the first obstacle begins to rise from flat
    c. This distance must be 5m or greater

2. Distance between the exit of the first corner and the lip of the first obstacle on the second straight
    a. Begin at the exit of the first corner as defined above
    b. Push the measuring wheel along a path at a 90-degree angle to the exit of the first corner towards the obstacle which is closest to the corner exit. Continue until the lip of the take-off of that first obstacle is reached.
    c. This distance must be 20m or greater

3. Length of the flat between the last obstacle and the finish line
    a. Begin at the point where the landing of the last obstacle before the finish line joins the flat track surface following the obstacle
    b. Push the measuring wheel along a path at a 90-degree angle to the leading edge of the finish line
    c. This distance must be 10m or greater

4. Length of the braking area
    a. Begin at the leading edge of the finish line
    b. Push the measuring wheel along a path at a 90-degree angle to the end of the braking area
    c. This distance must be 35m or greater

Track Construction

Materials

Best Practice
To achieve a good all-weather surface, a variety of materials set down in layers are recommended in order to give a hard-wearing, all weather surface that is rideable in wet weather as well as dry weather.

Straights

1. Base material: This should be built in 300mm layers. Clay based, dry, non-organic material, good compaction levels.

2. Sub-base material: Laid to the depth of 100-150mm - type 1 stone 25-40mm in size, scalpings, crushed concrete, stone based which compacts well to give a sealed surface.

3. Surface material: A limestone or granite crushed stone surface. This is laid to the depth of 100mm. Material size can range from 10mm to dust or 6mm to dust. In drier climates, a 4mm to dust size can be used. Generally the larger the size the better it handles wet weather. The top layer should compact to a sealed hard surface. Water may be required to get it to the desired finish.

Alternatively, several very thin layers of slurry, a mix of clay, sand, water and soil-tac can be used.

Unless there are no alternatives, a top layer consisting of mainly clay or soil covered only with soil-tac should be avoided – in wet weather, both of these surfaces become very slippery, meaning that any amount of rain during an event will require a delay. Also, tracks without a high-grip all-weather surface need to have sufficient plastic covers to keep the riding surface of the track as dry as possible during rain.

Tracks located in areas that usually don't have significant rainfall can be built without an all-weather surface.

Corners

1. Base material, as above.

2. Sub-base material, as above, although a larger sized aggregate can be used.

3. Asphalt in 2 layers. A 32mm sized binding course (laid to the depth of 75mm) which is then covered by a second layer of 6mm wearing course tarmac (laid to the depth of 50mm). The surface layer should be well sealed so that the stones within the tarmac are unlikely to come loose as the surface wears.

Alternatives:

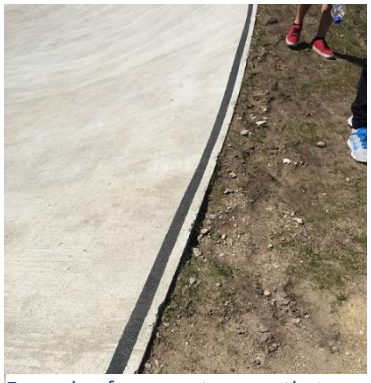
Cement can also be used, as long as the surface is prepared such that it offers a high level of grip.

Paving stones with a high grip surface can be used as long as they are flat and installed to prevent gaps and holes between stones; however, such corners do require regular maintenance to keep the stones in place.

Example of a corner surfaced with bricks.

Example of a corner paved with asphalt. Notice how the pathway on top of the corner is also capped with asphalt. This stabilises the edge of the corner and prevents crumbling; it also keeps rain from penetrating behind the asphalt.

Special high-grip paint used on the Rio 2016 BMX Track. The white Rio 2016 logo is painted using the same type of paint so that traction is consistent throughout. The grip provided was better than that of asphalt. The paint was applied on top of a concrete surface.



Example of a cement corner that was brushed to ensure a good level of traction. The only problem is that the top edge of the corner wasn't capped and was left quite sharp; this should be avoided. Sandbags had to be used to cover the edge to make it safe.

Edges
This includes the edges of the track and back and sides of jumps and corners.

These areas are typically covered in top soil and seeded with grass, or planted with sod. All edges should be smooth, without any obstructions like rocks or light poles. No sharp or unsightly edges. If the climate allows, grass helps to prevent erosion.

Gently sloped edges covered with grass prevent erosion, and reduce the risk of injury in case a rider is ejected from the track.

Artificial Structures

In general, the UCI will not accept artificial structures as part of a BMX track. This can include:

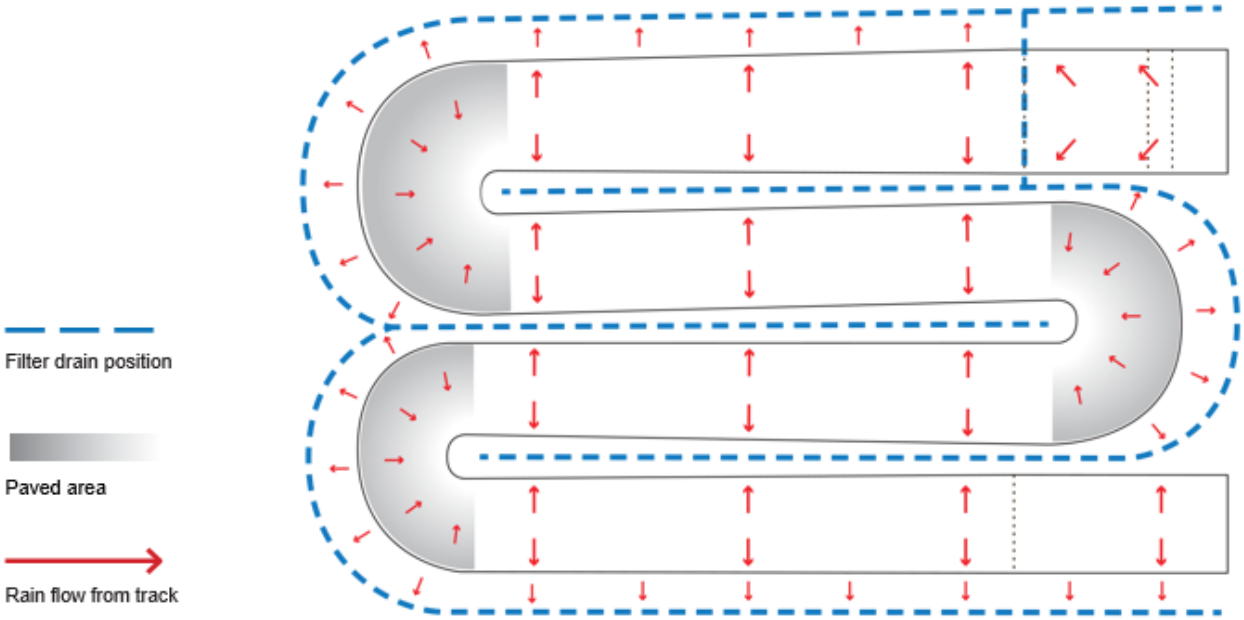
- Portable jumps
- Box jumps
- Tunnels
- Bridges

From time to time, wooden ramps such as that pictured to the right can be accepted, if for some reason a jump made out of dirt is not possible. However, such features must always be justified and agreed by the UCI. They must be constructed in a way such that the level of risk involved in using such a structure is the same as that for a similar jump made out of dirt, and must have a high-grip surface. Whenever an obstacle such as this is considered, it must be tested to ensure that it is correctly built before the event in which it will be used.

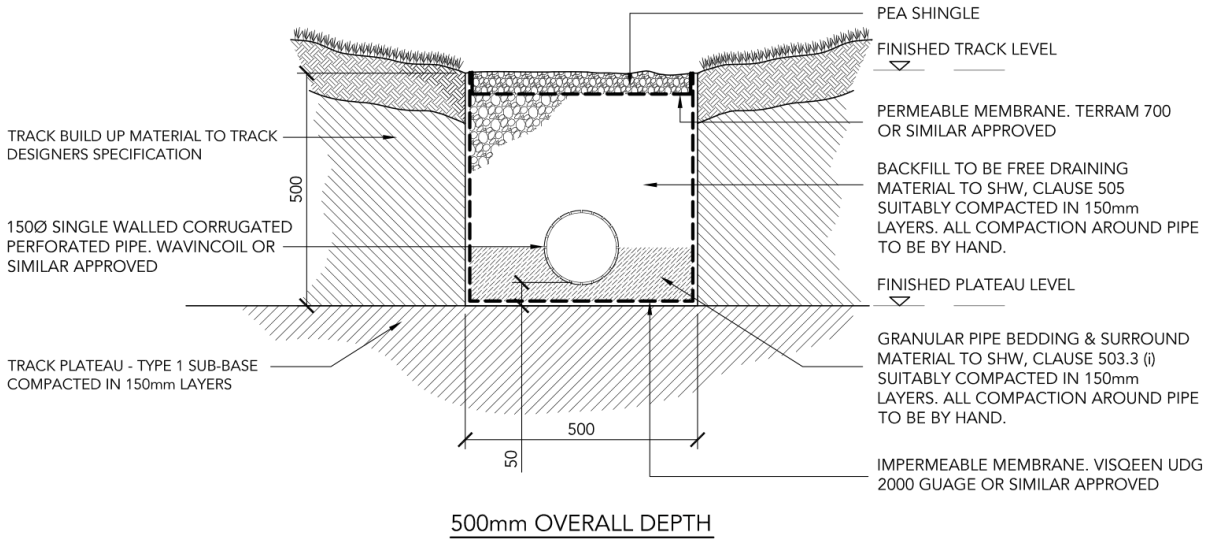
Drainage

All outdoor tracks need to have a drainage system suitable for the climate where they are located. The needs of a track in a wet climate such as England can vary considerably from a track in very dry area like southern California.

If possible, all track surfaces should be slightly crowned (graded) so that surface water can flow to either side (instead of pooling on the track) and can be handled by the drainage system along the sides of the track's straights and turns.



Suggested location of drainage channels.



Drainage Channel Construction

Maintenance

Maintenance of the track should be considered starting from the design phase. An on-going maintenance plan is recommended to be included in the bidding process when searching for track builders.

Regular maintenance depends on the local weather conditions, building quality and the frequency of use. It is recommended to have an inspection by the track builder every year to assess the condition of the track and make any necessary repairs which go beyond ordinary maintenance of the track surface, which is done by the track owner.

Supporting Structures for Major Events

For tracks that will host major events, certain necessary supporting facilities should be planned during construction of the track. Planning for these things, even if they aren't immediately installed, makes preparing a track for an event much easier and less expensive.

Such structures include:

- A start arch, mounted on the start hill
- A finish arch, mount over the finish line
- Cable conduits to allow cross-track cable runs (TV cables, power, and timing)
- Allowance for transponder timing loops under the finish line and at intermediate timing points
- Other structures

Start Arch

The start arch is normally a metal scaffolding structure which holds up the start banner. It can also include a roof to shelter the riders and staff from sun and rain.

Requirements

- The lowest clearance above the highest part of the starting gate must be at least 2.5m. This allows a good view of the riders on the gate, and ensures that even the tallest rider can get onto the gate without having to duck.
- The start arch must be installed and certified by the company that provides it. All liability concerning the installation of the start arch must be accepted by the provider. The provider must indicate the maximum safe wind-speeds such that:
    - The start banner can be attached to it
    - That people can be present under or around it, whether the banner is attached or not

A well-designed start arch. This arch is bolted directly into the concrete pad that forms the top of the start hill.

Finish Arch

The finish arch is normally a metal scaffolding structure erected over the finish line. It supports the finish banner as well as key elements of the timing system, such as photo finish cameras, or even an electronic scoreboard.

Requirements

- The lowest part of the finish arch (or scoreboard hung beneath it) must be a minimum of 3m clearance over the track surface.
- The legs of the finish arch must be a minimum of 75cm past the outside edge of the boundary lines along the finish straight. This is necessary in order to reduce the risk of a collision in case a rider is pushed out.
- The legs of the finish arch much be padded.
- The finish arch must be installed and certified by the company that provides it. All liability concerning the installation of the finish arch must be accepted by the provider. The provider must indicate the maximum safe wind-speeds such that:
    - The finish banner can be attached to it
    - That people can be present under or around it, whether the banner is attached or not

Cable Conduits

Cable conduits allow cables needed for events to run across the infield, underneath the track surface. Doing so shortens the length of the cable runs needed to prepare the infield for a major event. Otherwise, extra cable is needed as runs have to follow the access paths between the straights. Cables are not allowed to cross the riding surface of the track.

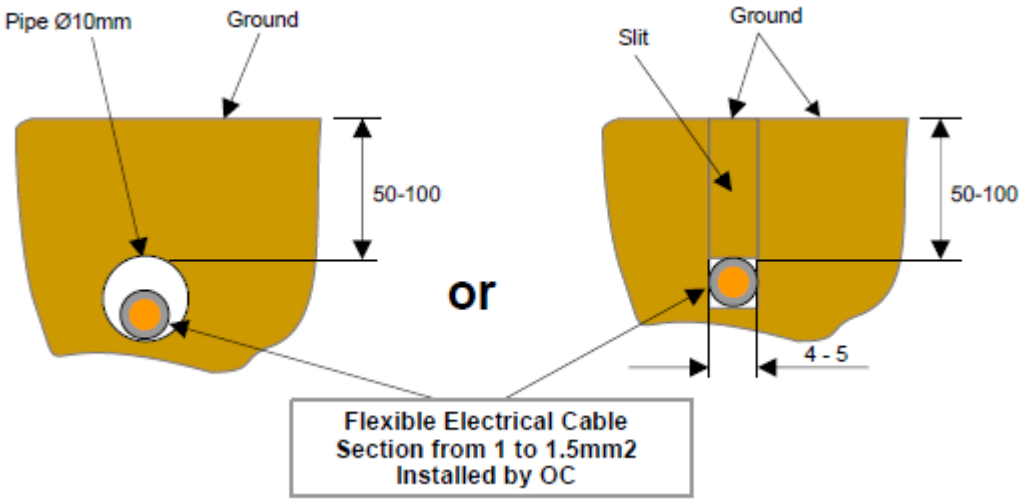
Conduit ends that are raised above grade level such as those pictured above must not be within 2m of the riding surface of the track; also, they must not be in the middle of access pathways. It is better if the ends are cut flush with the surface of the ground.

Transponder Timing Loops

Timing transponders are always used during major events as part of the timing system. One or more detection loops, consisting a thin loop of electrical wire, are installed across the track surface. The best way to install these is to embed a pair of 1cm thick plastic conduits no more than 50mm to 100mm below the track surface at each timing point, as pictured below. The two conduits for each timing point should be spaced 60cm apart.

Alternatively, a pair of narrow grooves can also be cut into the track surface (approximately 3mm wide each, placed 60cm apart) and filled with silicon paste after the wire has been installed in order to keep it in place.

In case the track surface at a timing point is concrete or asphalt, the cables can be laid directly on the track surface, and covered with a tape that has a high grip surface (such as skate-board deck tape).



A transponder timing loop installed across the track at an intermediate timing point. High grip tape was used to attach the wires to the track surface. This can be a good solution, as long as the tape has a high grip surface and sticks well to the track. The surface of the tape is similar to that of skateboard deck tape.

Other Structures

Many other types of structures are needed in and around the venue to support a major event. These can include:

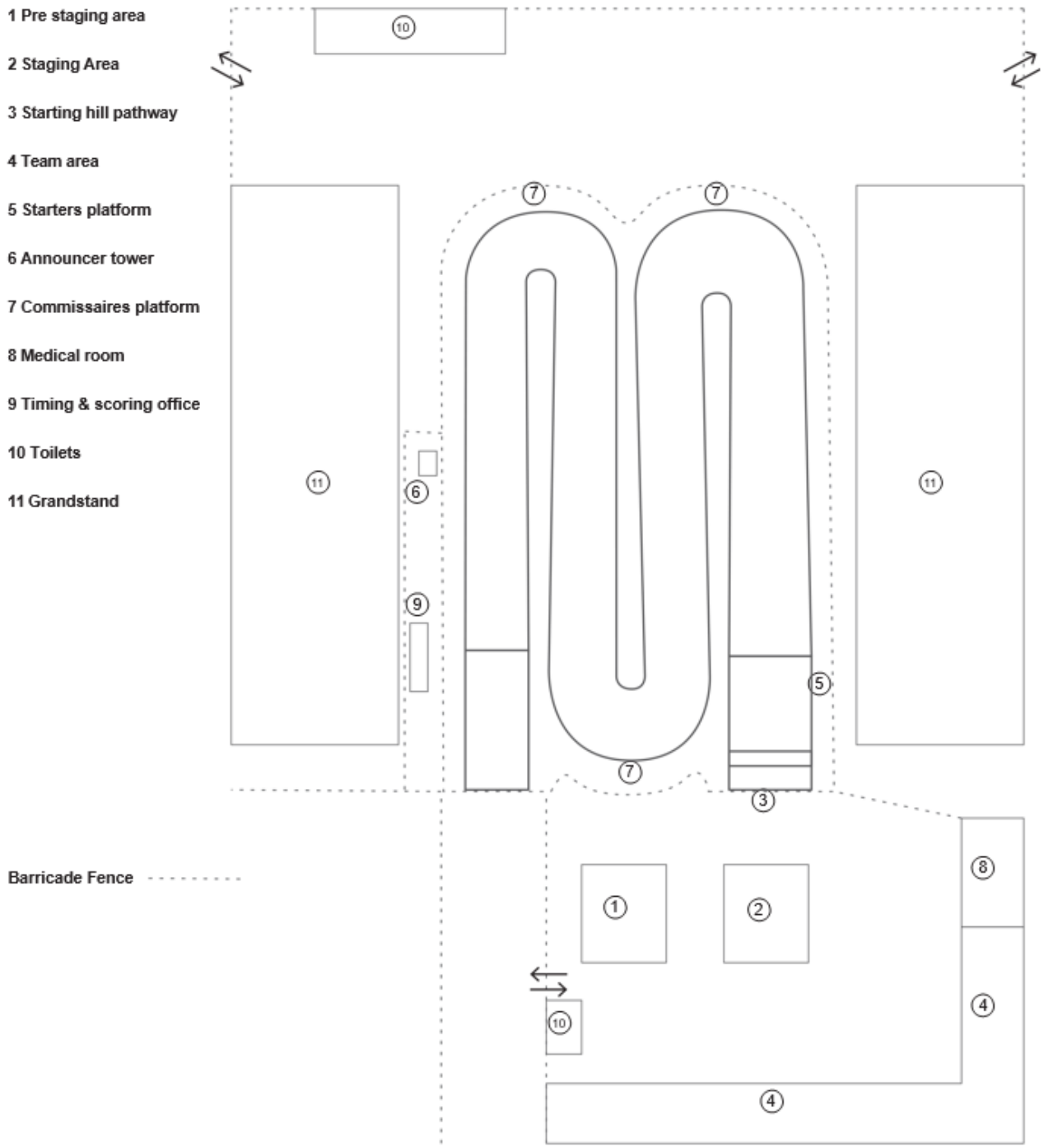
- Tents
- Temporary stages
- Portable offices
- Temporary grandstands
- Scaffolding structures for camera platforms, supports for a large display screen, et cetera

It is important that each of these structures is installed by the company that provides it, and is checked and certified as having been correctly installed.

As with start and finish arches, the maximum wind speed at which people can safely be in or around these structures should be provided by the supplier.

Venue and Facilities

Most BMX Tracks are intended to be event venues. The venue for a major BMX event generally requires the following facilities.



Pre-Staging Area (1)

Depending on the number of riders participating, a pre-staging area should be provided. This is an area where riders are called in groups in the order in which they will race. This area shall be equipped with a PA system and enough fencing to create a well-functioning area. Additionally, signs can be used to indicate the age group that needs to present itself in the pre- staging area.

Pre-staging.

Staging Area.

Staging Area (2)

The final staging area before the start. It shall be preferably covered and have ten staging lanes numbered 1 to 10, where riders shall assemble in accordance with the instructions given by the staging officials. The lanes must be 1m wide and 15m long. For large events, it is also optional (but recommended) to provide a double staging area with 2 times 10 lanes. Ideally, this should be close to the back of the start hill.

Start Hill Access Pathway (3)

If a pathway is not possible, then stairs of minimum 1,5m width are advised, with a gutter to roll the bike up the starting hill. The gutter should be some distance from the railing so that the handlebars don't hit the railing posts.

Team Area (4)

A fenced team area must be provided for teams. Each team should have an area of minimum 3 by 6 meters. The team area is the place at the track where bikes shall be stored and riders can prepare themselves for the race.

Team Area

Starter's Platform (5)

If not built into the start hill, a level platform should be provided for the starter. It is important that the starter has a good view of the track, the gate and the riders. As the starter is in position for many hours, having a flat place to stand is important.

The platform can be covered to provide shelter.

Announcer Tower (6)

A viewing tower can be provided for the announcers, sound technician, the race director and person responsible for sport presentation. Having all people responsible for these tasks in the same area makes running the event much easier. This should be placed in an area that provides a good overall view of the track, while blocking the view of the spectators to the least extent possible. Ideally, it is covered to protect the announcers from all weather conditions.

Announcer Tower.

Commissaires Platform (7)

The commissaires platform can be a platform of 1,5m by 1,5m that is extended from the top of a turn, or can be built into the top of the back-side of the corners from the soil used to build the corner. This enables the commissaire to stand on a horizontal platform and which gives the commissaire a good view of the track and easy access to go down into the infield. This can also be implemented by ensuring that the corners are built with a flat access path along the top edge, as mentioned earlier in this document.

Medical Room (8)

A medical room must be provided during BMX competitions. The size depends on the size of the event. It is recommended to have a room for treatment of patients and a recovery room to keep riders in observation if necessary.

Timing and Scoring Office (9)

A working space for timing next to or close to the finish area and with a clear view of the finish line. A minimum of 2 x 8 meters space is required, and should include a working space and high-speed photo-copier / printer for the secretary commissaire.

Timing Office.

Toilets (10)

Toilets must be provided near the team area, and also the staging area for riders, and in the spectator zones. The following table provides guidelines about the number of toilets needed for events.

	EVENT DURATION IN HOURS						
ATTENDANCE	1	2	3	4	5	6	7
250	2	2	2	2	2	3	3
500	2	3	3	4	4	4	4
1000	3	4	5	6	6	7	7
2000	5	8	10	11	12	13	13
5000	12	20	24	27	29	31	32
8000	20	32	38	44	48	49	50
10000	24	39	47	54	58	62	64
20000	48	77	95	107	115	120	127

Recommended number of toilets based upon spectator attendance.

Grandstands (11)

The grandstands are best placed along the straights to create an arena feeling. The capacity of the grandstands is based upon a realistic estimate of spectator attendance.

It is best to plan for a number of seats that the organiser of an event can reasonably fill. Events that will have a large number of challenge-category riders should generally have larger seating capacity, as the families of the riders need somewhere to sit.

In principle, it is better to have a lower seating capacity which is full, than a larger number of seats that are mainly empty. The following are some guidelines (not requirements, unless otherwise stated):

International Competition: Class 1, Class HC, Continental Championships: 500 – 3000 persons

- Depends greatly on expected number of challenge category entries.

UCI BMX Supercross World Cup: 1000 – 2500 persons

- Depends upon expected participation of challenge categories in side events, plus popularity of BMX as a spectator sport in the area where the event is held.

UCI BMX World Championships:

- Less than 2000 entries expected: 2000 – 3000 persons.
- More than 2000 entries expected: 3000 – 4500 persons.

Olympic Games:

- 5000 – 7500 persons.

Grandstands during the BMX event at the London 2012 Olympic Games.

Annex: Reference Table of BMX Track Regulations and Requirements

These tables are provided for convenience and quick reference. In case of a divergence between the text in the main part of the UCI BMX Track Guide or UCI BMX Regulations and these tables, then the UCI BMX Track Guide and UCI BMX Regulations shall apply, in that order.

The tables are listed in increasing order of level of sanction from local events up to the Olympic Games. In each table, all requirements found in earlier tables apply unless contradicted. In case of a contradiction, then the table for the level of event considered applies instead of the earlier requirement.

When measuring tracks to assess compliance with the UCI Regulations and UCI BMX Track Guide, **the measuring method specified in the section of the UCI BMX Track Guide entitled "How to Measure a BMX Track" must be followed.** For convenience, the tables can be used as a check-list during an inspection.

Important: Unless otherwise stated, all distances are minimum distances. A greater distance than that listed is generally acceptable.

Local, Regional and National Events

No.	Requirement	Dimensions Measured	Acceptable? (Yes / No)
1.	Total length of the track (from starting gate to finish-line) as measured along track centre-line between 300m and 400m		
2.	Start hill: **minimum 10m wide**		
3.	Start hill: elevation minimum **1.5m** above grade of the 1st straight		
4.	Start hill: length of the ramp from starting gate to bottom of start hill minimum **12m**.		
5.	Starting gate: minimum of **7.3m** wide		
6.	Starting gate: minimum height **50cm**		
7.	Starting gate: angle no greater than **90 degrees** with slope of the ramp on which riders waiting to start rest their bicycles		
8.	Starting gate: Gate positions 1 – 8 marked on the starting gate (position 1 on the same side as the inside edge of the 1st corner)		
9.	First straight: minimum **40m** long from bottom of start hill		
10.	First straight: bottom of front side of first obstacle at least **35m** from the starting gate		
11.	First straight: minimum distance between obstacles is **10m**		
11.	First straight: width must start at **10m** from starting gate, reducing to no less than **6m** at first corner		
12.	First turn: minimum **6m** wide; can bank in either direction		
13	Track width following first corner: minimum **5m** wide		
14.	Safety zone: Minimum of **2m** width between edge of the riding surface of the track and any obstruction such as a fence or light pole		
15.	Staging area: located before the start hill, with lanes numbered 1 – 10		

16.	Start hill: access ramp or stairs sufficiently wide, with safety railings installed sufficient to prevent falls of both adults and small children		
17.	Start hill: edges must be protected with a barrier such that it is impossible to ride or fall off the edge of the start hill		
18.	Starting gate: Must be installed in accordance with the manufacturer's instructions		

International Class HC, C1, CN Events

Additional requirements for events registered on the UCI International BMX Calendar in classes CN, C1, HC. In case of a conflict with any point in the table above, then the requirement for CN, C1, HC events shall take priority. Otherwise, the requirements found in the table above also apply to these tracks.

No.	Requirement	Dimensions Measured	Acceptable? (Yes / No)
1.	Start hill: elevation minimum **2.5m** above grade of the 1st straight		
2.	Minimum width of the track after the first corner: **6m***		
3.	A back-up air compressor, with sufficient spare parts for the air system are on hand		

*Note: For CN (National Championships) events, strongly recommended rather than required.

International Class CC, JR Events

Additional requirements for events registered on the UCI International BMX Calendar in classes CC or JR. In case of a conflict with any point in the tables above, then the requirement for CC or JR events shall take priority. Otherwise, the requirements found in the sections above also apply to these tracks.

No.	Requirement	Dimensions Measured	Acceptable? (Yes / No)
1.	Start hill: elevation **5m to 8m** above grade of the 1st straight		
2.	Minimum width of the track through the 1st straight and 1st corner: **8m**		
3.	Surface material of the corners and finish area: Asphalt, concrete, or bricks		

UCI BMX Supercross World Cup

Additional requirements for UCI BMX Supercross World Cup events. In case of a conflict with any point in the tables above, then the requirement for UCI BMX Supercross World Cup events shall take priority. Otherwise, the requirements found in the sections above also apply to these tracks.

No.	Requirement	Dimensions Measured	Acceptable? (Yes / No)
1.	Starting gate: A Pro Gate brand start gate must be used.		

2.	Maximum elevation drop between the bottom of the start hill and finish line is **2m**		
3.	Sufficient drainage to prevent water from pooling on the track surface.		
4.	Track layout: standard layout (as defined by UCI BMX Track Guide) or berm-jump layout.		
5.	Minimum distance from bottom of start hill to start of take-off of first jump: **5m**		
6.	Minimum length of the first straight from bottom of start hill to entrance of 1st corner: **70m**		
7.	Minimum distance from exit of the first corner to lip of the take-off of the first jump on 2nd straight: **20m**		
8.	Minimum flat distance from end of the last obstacle to the finish line: **10m**		
9.	Minimum stopping distance after the finish line: **35m**		
10.	Flat access pathway minimum of **1.5m** wide between all straights (except halves of any split straights)		
11.	When access pathways are more than **40cm** lower than the lowest level of the track grade, then the transition must be gentle enough to walk up, or periodic access ramps or stairways must be included		
12.	Back sides of corners must be smoothly formed, without any obstructions that could cause injury		
13.	Flat access paths along the top edges of all corners at least 1m wide		
14.	Fall protection must be provided whenever a steep drop-off along the edge of the track can't be avoided		
15.	Start hill must have a high grip surface		
16.	**5m and 8m** Start hills built after 31st March 2017 must follow the designs provided by the UCI.		
17.	A drainage channel must be installed across the bottom of the start hill		
18.	Start hill: access ramp or stairs at least **1.5m** wide, with safety railings installed sufficient to prevent falls of both adults and small children		
19.	Finish area: Finish arch legs and supports within **2m** of the riding edge of any part of the track must be protected or padded		
20.	Finish area: The legs of the finish arch must be at least **75cm** outside the edge of the boundary lines on the 4th straight		
21.	Finish area: The braking area after the finish line must be fully enclosed by barricade fence		
22.	Finish arch: Lowest part of the finish arch or anything installed below it (example: scoreboard or timing clock) must be at least 2.5m above the grade of the finish line		
23.	Obstacles: The lip of every jump must be consistent across its entire width		

24.	Obstacles: The landing of a jump must be the same width as its take-off		
25.	Obstacles: Jumps in the approach to a corner must such that the landing is aligned with the entrance to the corner so that the full width of the jump can be used while still allowing the rider to stay in bounds when entering the corner		
26.	Obstacles: Jumps must be designed and spaced with failure in mind, and to allow for a decent possibility for a rider to recover from error		
27.	Obstacles: It must be possible to roll or walk all parts of the track		
28.	Obstacles: The sides of jumps should be banked so that riders can escape to the side without significant risk of injury (steep drop-offs must be avoided, or fall protection must be provided)		
29.	Boundary lines must be marked along both sides of all parts of the track using a colour that is in strong contrast to the colour of the track surface		
30.	Track Surface: Must be reasonably smooth and hard throughout, well maintained without soft spots or holes		
31.	Track Surface: Start hill must have a high grip surface usable in all weather		
32.	Track Surface: The entire track must have a high grip surface usable in all weather, or sufficient plastic covers (in good repair) to protect the entire riding surface of the track must be available for World Cup events		
33.	The contractor who provided any structure (grand stands, stages, tents, start / finish arches) must install and certify those structures, including information about maximum safe wind speeds for those structures		

UCI BMX World Championships and Challenge

Additional requirements for UCI BMX Supercross World Cup events. In case of a conflict with any point in the tables above, then the requirement for UCI BMX World Championship and Challenge events shall take priority. Otherwise, the requirements found in the sections above also apply to these tracks.

No.	Requirement	Dimensions Measured	Acceptable? (Yes / No)
1.	Start hill: 8m start hill for championships categories, 5m start hill for challenge categories		
2.	Starting gate: A Pro Gate is required for both the 5m and 8m start hills		

Olympic Games

Additional requirements for the Olympic Games. In case of a conflict with any point in the tables above, then the requirement for the Olympic Games shall take priority. Otherwise, the requirements found in the sections above also apply to these tracks.

No.	Requirement	Dimensions Measured	Acceptable? (Yes / No)
1.	Start hill: Olympic Games: **8m**, in accordance with the designs provided by the UCI. Start hill: Youth Olympic Games: minimum height above grade of the track at the bottom of the start hill: **5m**		
2.	Starting gate: A Pro Gate is required for all both the Olympic and Youth Olympic Games		
3.	Track Surface: Olympic Games: The entire surface of the track must be a high grip surface that can be used in any weather conditions. Coverage with plastic in case of wet weather is not accepted.		

Contact Information

To receive the plans for the 5m or 8m start hills, or for any questions concerning BMX tracks or this guide, please contact the UCI.

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Updates to this document, as well as other information related to BMX is available at the UCI web site:

www.uci.ch