



Track Build Requirements

Name:

Your track should be **practical** and **reflective** of the other track examples shown earlier.

Minimum requirements for all tracks are listed below. If your track does not meet all of the requirements below, that is alright, however, your tracks score might be negatively affected.

MINIMUM REQUIREMENTS:

- 1) Start area with hill and starting line
- 2) Scale: must be at scale (for length, height and width)
 - a. Length of a regulation track ranges 900 ft to 1300 ft
 - b. Width of tracks vary between 20 ft to 32 ft
 - c. Scale is the ratio of the length, width or height in a model to the length, width, and height of the real thing.

For example, that cat is half the size as the other cat. The scale would be $1/2$. If the cat was ten times larger, the scale would be $1/10^{\text{th}}$. That cat is $1/10$ the the size of the other cat.

- d. An excellent example of scale is using LEGO FIGURES. Most LEGO FIGURES are a $1/48$ scale of real adults. A standard LEGO FIGURE measures 1.5 inches tall.

$1.5 \text{ inches} \times 48 = 72 \text{ inches}$.

72 inches is 6 feet which is the height of an average adult male.

- 3) Your track must have a finish line
- 4) Turns must be **banked**
- 5) Entire track must be sprayed with **soiltac**
- 6) You should attempt to make your track smooth (rolled – hint)

INQUIRY QUESTIONS:

- 1) Start hill/gate:
 - a. What household items can you use to create the a rigid, smooth, flat start hill or gate?
 - b. What angle do most start hills appear?
- 2) First straight/first turn:
 - a. The first straight and turn are wider than the rest of the track. Why is that?
- 3) Track features:
 - a. Some tracks have paved turns. Why do you think that is?
 - b. What track features work best together in **succession**? What features do not work well together in succession? Explain.
 - c. Some tracks have unique features such as **banzai** jumps, water, tunnels and bridges. What unique but practical features can you think of?
 - d. You may notice some tracks have two different types of starting hills and courses built, it is almost like two tracks in one. These are referred to the “pro starting hills” or “pro sets” which are designed specifically for pro (Olympic) riders. The regular part of the track can be utilized by riders of all abilities because of the different features or “lines”. If you look at these tracks, what is the main difference between the pro and amateur lines?
- 4) **Beautification**:
 - a. What features can you add to “beautify and enhance” your track?

Examples:

Some tracks have grass on the sides or in-between jumps.

What can you use to replicate grass? Many tracks have lights.

Why do they have lights? What can you use to replicate lights?

- b. Why do we use a soil tac mixture? What would happen if we didn't?
- c. Track dirt should be hard and compact for bicycles. In Motocross, the motorcycles ride around and the dirt is very loose and fluffy. Explain.

Track Build tips from other successful teams:

- 1) Try to sketch out your design outline on your board with a pencil or crayon.
- 2) If your dirt is a little dry, add water
- 3) IMPORTANT – mix the dirt and water in a separate bowl or area. Do not mix it on the board.
- 4) ALWAYS start with very little water. You can always add more water.
- 5) If your dirt and water mixture is too soupy or runny, add more dirt.