

Background Information on Transportable 400m Track Facility

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October 17, 2017

The idea is to develop and purchase an IAAF-compliant stadium track system that can be stored and transported to a stadium-of-opportunity. The intent is to de-couple considerations of major meeting locations from concerns of the existence of a suitable, permanent track facility. Following the examples of numerous other sports (e.g., outdoor games in hockey), there could be value in taking the track to the most suitable location. In the international business of large events, this is often a site near some of the major cities in the world. The general ideas surrounding this are published at:

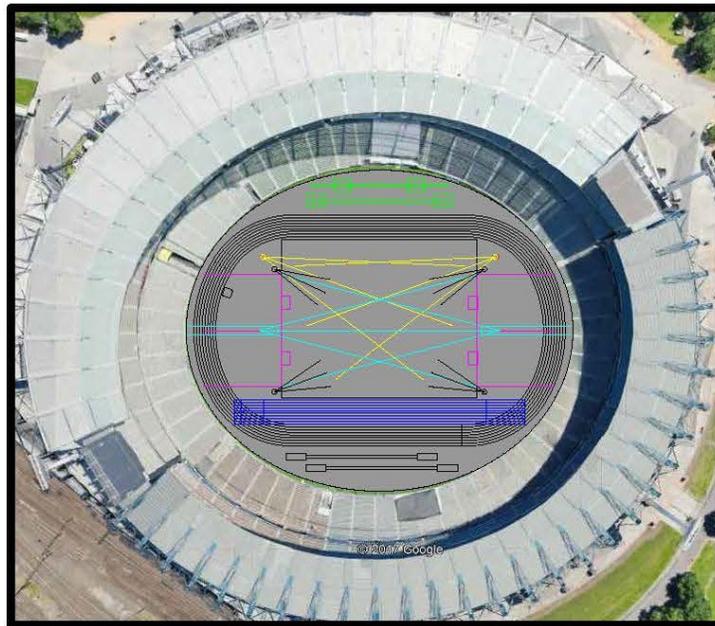
<https://etf-forward.blog/wp-content/uploads/2017/10/Elite-Track-and-Field-Big-and-Small-Harvesting-the-Big-October-13-2017.pdf>

Currently, transportable facilities are limited to banked 200m track systems, used for indoor meetings. The most unfortunate characteristic of such events is their small size: the largest arenas can only support audience sizes that are a small fraction of those for major outdoor events. Similarly, indoor track and field events are negatively augmented (different race lengths, fewer running events, and limited/different field events), and they feature levels of performance that are lower than traditional outdoor stadium competitions.

ETF-Forward would like to support the development of a practical, transportable 400m track facility that can support all of the 20 disciplines (including relay races) that are contested in a major event.

A putative deployment target would be the Melbourne Cricket Grounds (MCG: Melbourne, Australia). This is a 100K capacity facility with an existing field size that is compatible with an elite level facility. The challenge is to provide a competition system that is equivalent to a top-tier permanent facility, with a deployment/removal cost that is commensurate with the finances of a standard major meeting (a few \$M of the ~\$50M to \$100M event revenues).

The Idea in a Picture: Melbourne Cricket Grounds with a transportable facility installed



This document is meant to provide some background for this development.

1. Facility Details

400m IAAF-compliant, 8 lane track with 1.22m lanes

Track shape can be tailored to fit a pre-defined envelope (such as MCG), while still adhering to IAAF requirements, and the World Record Rule (> 50m outer turn radius for no more than 60 degrees of arc). The track pictured above is a “double-curve” design (52 m radius x 60 degrees and 32 m radius x 60 degrees).

10 lane (1.22m) sprint segment that meets the 130m IAAF length specification

In the above picture, this area is separate from the main track straightaway, owing to obvious length restrictions at MCG.

Dual Field-event venues for each event

In the case of long-flying throws (discus, hammer, and javelin), two venues would be designed to allow flexibility regarding winds and general event logistics. However, these events would be used one-at-a-time. For all other field events, it is expected that the two venues could be operated simultaneously.

2. Flexible Configuration

While a general track/sprint segment design may use a fixed geometry, it is expected that other parts of the facility would be modular. As such, for example, the pole vault area (top dead center in the above image) might be moved to the infield inside the 9 O'clock turn, as required by other stadium layouts.

Another positive attribute of this flexibility is its ability to be “quickly” configured, taken here to mean “overnight”. The idea is to match the deployment flexibility/speed of various venues (e.g., hockey

systems and basketball courts) that are used today in indoor arenas.

3. Do Limited Harm in Converting an Existing Facility

MCG starts out as a (very nice) grass field:



Some sort of overlay would be needed in preparation for track deployment. An example might be to use ArmorDeck

<http://www.stadiumflooring.com/stadium-floors-6/heavy-duty-concert-floor-armordeck.php>

One interesting challenge is to provide leveling to the IAAF-required 0.1% slope specification. Whether the initial underlayment, or the track system itself, is capable of slope adjustment is TBD.

Track and Field facilities have at least three subsurface features: long/triple jump sand pits, pole vault boxes, and steeplechase water jump. *It seems to me that within a multi-million dollar rental of a facility such as MCG, one would be allowed to temporarily sink these features into the ground. After all, events are allowed to transform a baseball stadium with tons of dirt for even a one-day event:*

<https://www.supercrosslive.com/>

As such, I would not immediately gravitate to the “raised runway” approaches of indoor facilities. Planar structures should be able to be used with these subsurface items. Similarly, for the throws landing areas, I would not be overly concerned about the height of the runways, relative to the existing grass. In the MCG facility drawing, there is no more than 5600 sq. meters of turf. This could be installed fresh on top of the ArmorDeck (or equivalent) for very little extra cost. This is very common in sporting events of similar size.

4. Weatherproof

Outdoor stadium, outdoor weather. Naturally, the system must be stable and unaffected in the presence of water and humidity. The wood-based substructures of current indoor systems may need to be modified.