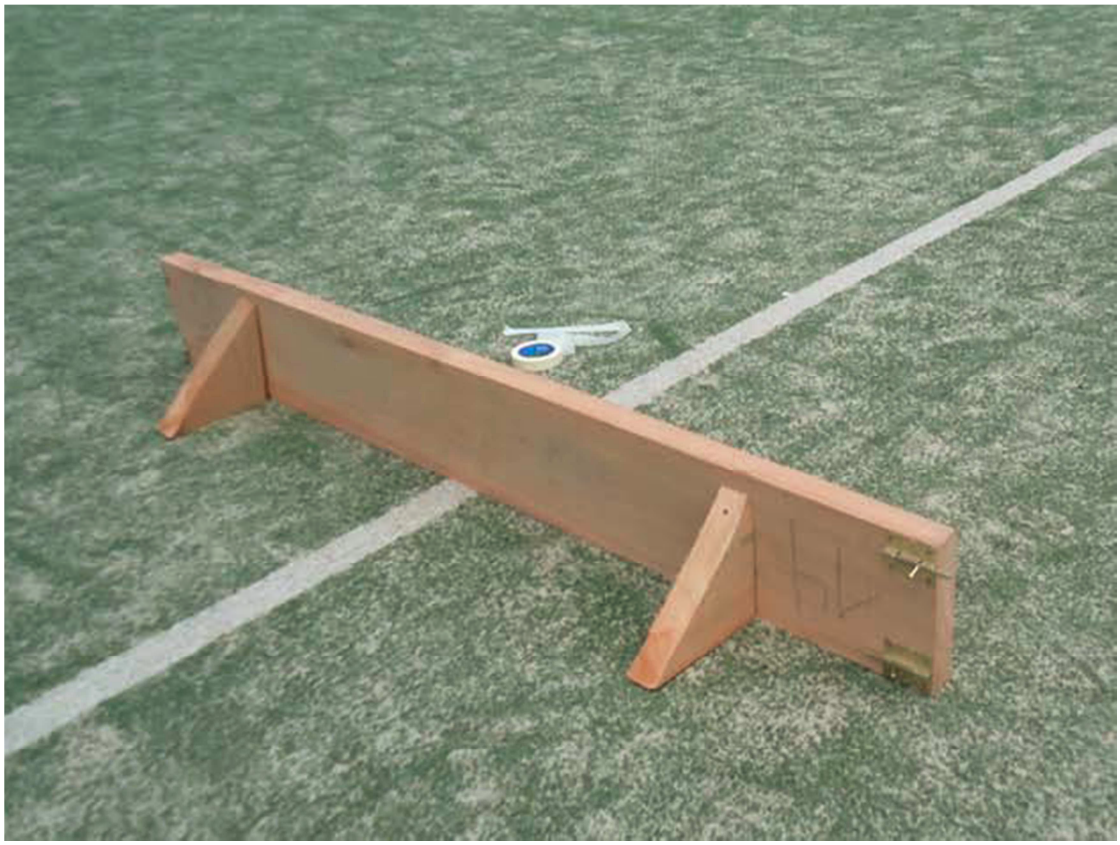
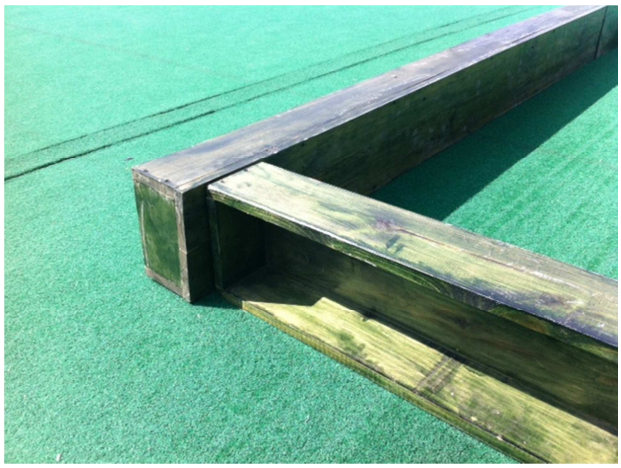
Montevideo, Uruguay



- Specifications:
  - Constructed of wooden boards, approximately 5 cm wide
  - Supported by triangle wooden brackets
- Positives:
  - Boards are locked together which should minimize independent movement of sections
    - has not been tested yet
  - Board facing the field of play is thicker than the Mexico City option, and should provide a better rebound
    - has not been tested yet
- Negatives:
  - Triangle supports create dangerous trip hazard
- Comments:
  - "The current design of the boards in Uruguay is not safe. The triangle supports create an unpredictability that will require umpires to look away from the match to ensure their own safety when they are stepping off the pitch and out of the way of the ball and players. Player safety is also compromised when the players run fast during substitutions and when their momentum follows a ball over the sidelines. If a player or umpire steps on a triangle support, there is potential for ankle injury or more."
    – Lurah Hess (TD)

Mexico City, Mexico



- Specifications:
    - Pine, approximately 2.5 meters long sections
    - Assembled using approximately 2.5 cm wide boards
    - Constructed as 3-sided box, with open face directed away from the field of play
- Positives:
    - Uniform construction creates predictability for athletes & officials when they step over the boards without looking or while moving fast
- Negatives:
    - The thin 2.5 cm boards are not structurally resilient, they absorb the force of the ball and do not provide a good bounce for passing or collecting rebounds – the ball is slowed down dramatically when it is played off the boards.
    - Board sections are light and do not lock together and so the individual sections move easily and independent of one another.
- Comments:
    - "The issue is stability, length, thickness and strength. The boards are not strong enough to hit or sweep with any power against. They do not bounce off like they should and effect (slow down) the game as it was intended. "
      - Mike Whitehead (VCRD team manager – Moorpark, USA)

Moorpark, USA

- Specifications:
  - Solid wooden uniform piece
  - See separate attachment for design details
- Positives:
  - Self-supporting - no need for additional structural support
  - Players & umpires are able to stand on them
  - Uniform, predictable construction reduces trip hazards
  - Thick boards create good rebound of ball
- Negatives:
  - Weight – two people required to move each section
  - Not locked or pinned together so some independent movement is possible, but the weight & mass of the boards overcomes most of this and minimal movement has been seen so far
- Comments:
  - "Since they were made in this country [USA], they do not precisely meet the FIH dimensions which are in centimeters. Notice that they are slanted to minimize the upward rebound of the ball. They cost us about $5,000 for the 16 that we purchased." – Tom Harris (board designer - USA)

Summary of Requirements

- **Uniformity** -> to provide predictably and reduce risk of injury from uneven surfaces and trip hazards
- **Stability** -> boards cannot fall over when hit with ball or stepped on by players/umpires
- **Solidity/Resiliency** -> rebound/bounce of the ball is important – need standard thickness and density so bounce is consistent from one facility to another.
- **Locking mechanisms or sheer pins** -> sections should not move independently
- **Water resistance** -> rain or water on pitch must not cause boards to warp/rot
- **Safe Construction Material** -> free of splinters, sharp edges, and hazardous chemicals
- **Mobility** -> easy to disassemble and move away from the pitch

Respectfully submitted

Lurah Hess
Tournament Director
2014 Pan American Youth Championship (Women)

19 January 2014