Guidelines for Conducting Competition in the High School Indoor Weight Throw

By Tom McTaggart, New York State Track and Field Rules Interpreter

Introduction

In its June, 2014 meeting, the NFHS Track and Field Rules Committee revised Rule 8-2 (Special Events) to say that the Indoor weight throw may be included in the order of event for indoor meets. Listed in Rule 8-2-1 it says, "…The following may be included in the order of events: f. Indoor weight throw (using legal weight throw cage)."

This was great news to the many coaches in New York who had been vocal advocates of the event for many years. The Indoor Track and Field Committees endorsed the idea to adopt the event pending when it would win the endorsement of the NFHS. This year's rule change came much sooner than expected, and now it has been adopted by the committees for competition in the NYSPHSAA State Indoor Championships.

NYSPHSAA, the State Indoor Committees, the hard working coaches in New York, and the State Certified Officials' Association all have a vested interest in the growth and success of this event. One of the most important aspects in helping the successful implementation and development of this event is taking on the responsibility of conducting the competition of the event in a manner that is first and foremost done safely. Secondly, it must be done according to rules that help to guarantee safety for all involved – athletes, officials, and spectators.

It will not be an inexpensive effort. The cost of the implements and the safety equipment requirements for competition are substantial, but remember that some of the safety equipment can be put to use in another event (Shot Put) as well.

Remember, how you practice the event at your individual school facility is totally the responsibility of the operating procedures of your local school district. However, once you become involved in *Interscholastic competition*, your responsibilities are now to follow the operating procedures of the governing body sanctioning the event. In this case we are talking about the New York State Public High Schools Athletic Association. If the competition in the Weight throw is administered by certified officials of the New York State Track Officials' Association, they are obligated to follow these guidelines. ***If the competition is not conducted by certified officials, please understand clearly that this does not release you from the obligation to follow these guidelines!!*** **If NYSPHSAA sanctions the competition, then these guide lines *MUST* be followed.**

Outline of this Manual

1) The Weight Throw Area
2) The Weight
3) Rules For Competition
4) Conducting a ***SAFE*** Event

1 -- The Weight Throw Area

Enclosure

All throws of the weight shall be made from an enclosure or cage that shall be centered on the circle, complies with the safety and material provisions of NCAA Rule 1-9-1 (Hammer and Discus enclosures). ***Cage design is acknowledged to provide limited protection for spectators, officials, and competitors. It does not ensure their safety.*** Proper and safe management of the competition significantly lessens the risk to the safety of all involved. Exact measurements and pole placements may vary based upon local physical conditions and cage design, but should provide for the minimum distances specified.

Helpful Illustrations

Figures 11, 12 and 13 from NCAA Rule 1-9 provide illustrations of possible cage designs and a diagram of the circle itself.

Figure 1 of this monograph illustrates **a self-contained caged throwing area** that is sometimes permanently installed at dedicated indoor Track and Field facilities. Examples of such here in New York can be seen at the United States Military Academy at West Point, the Armory Track and Field Center in New York City, and Barton Hall at Cornell University in Ithaca.

Figure 2 will illustrate a throwing area utilizing a portable cage and an unenclosed impact area, with guidance as to how to marshal the area for safety.

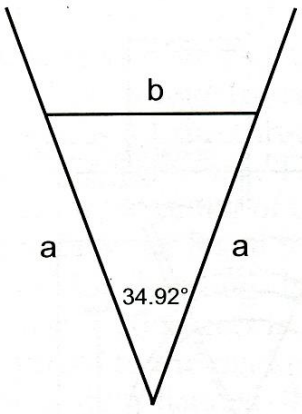
Figure 3 illustrates a portable Shot Put cage that meets the height requirements for the Weight Throw that could be utilized with the caution to keep all people at least 2 meters away from the netting and possibly adding some additional netting to the longer panel facing the circle

Construction of the Cage and the Circle for Competition

a. The throwing circle shall be surrounded by a cage made with ***suitable material***, hung from and between rigid posts, sufficient to withstand and absorb an impact from the implement so that the implement will not escape over or through, and to reduce the possibility of the implement ricocheting or rebounding back toward the competitor. The purpose of the cage is to contain, but not interfere with the flight path of the implement. **"Suitable Material"** in this case, means to follow the recommended guidelines of the NFHS as explained in Appendix A of the NFHS Track and Field Rules as follows: "For both portable or permanent installation, it is recommended that the discus (weight) cage be constructed of heavy nylon netting or other material that will absorb the energy of the discus (weight) to prevent bounce-back". *The IAAF Facilities Manual* – Chapter 6.3.2.2.

suggests for the Hammer Throw event that "The maximum mesh size for wire netting be 0,05m and, for cord netting, 0.044m and the maximum breaking strength of cord or wire shall be 300Kg. Alternatively, the energy absorption of the mesh shall meet the dynamic such that the netting will withstand an object of 100Kg (220lbs.) being dropped into the netting from a height of 7 m (c. 22 feet)." ***Multiple layers of corded netting of a lesser tensile strength could very well accomplish this criteria if hung properly.***

b. Rigid posts, from 4 to 6 in number, positioned in line with and to the rear of the front edge of the throwing circle, shall be approximately 4 meters (13 feet, 1 ½ inches) from the center of the circle and allow for panels of suitable material approximately 1.91 meters in **width** (6"3"), at least 3.66 meters (12 feet) in **height**, and at least 2.5 meters (8"3") from the center of the circle
c. **Diameter of the Circle:** The inside diameter of the circle itself is the same dimension as the Shot Put (diameter of 2.135m or 7 feet).
d. **Dividing Line:** All circles shall be divided in half by a 5 centimeter line (2") extending not less than 21 centimeters (8") from the outer edge of the circle to the end of the throwing pad and measured at right angles to the center of the circle.
e. **Throwing Sector:** Radial lines 5 centimeters (2") wide shall form a 34.92-degree angle from the center point of the circle. The inside edges of these lines shall mark the sector for measurable throws.
f. **Laying out the 34.92-degree sector:** Instructions are in the NFHS Rules Book under Rule 6-5 (Page 45 in 2015 Rules Book) or utilize the chart below from the NCAA Rule book.



a (meters)	b (meters)
5	3
10	6
15	9
20	12
25	15
50	30
75	45

Figure 9—Establishing the Sector

Illustrations of Weight Throw areas will follow on the next pages.

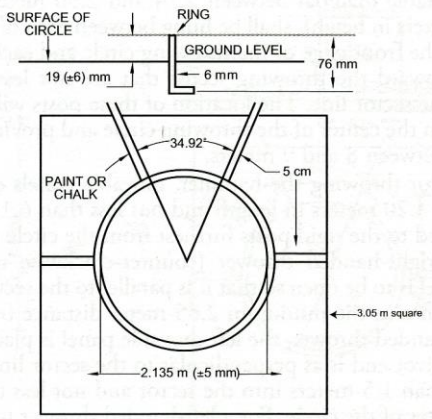


Figure 11—Hammer Throw/Weight Throw Circle
Note: Lines shall not be inside the circle.

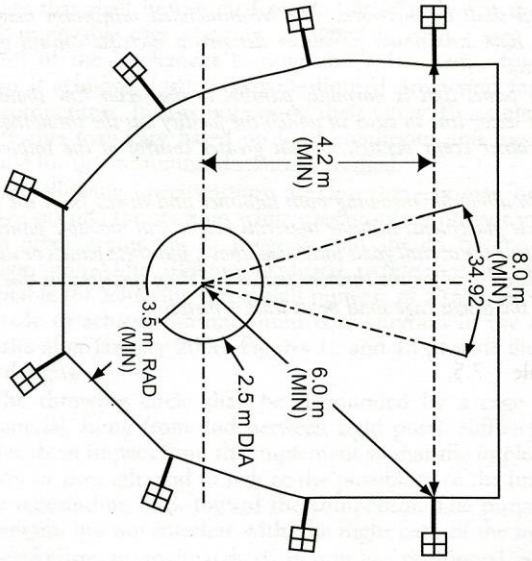
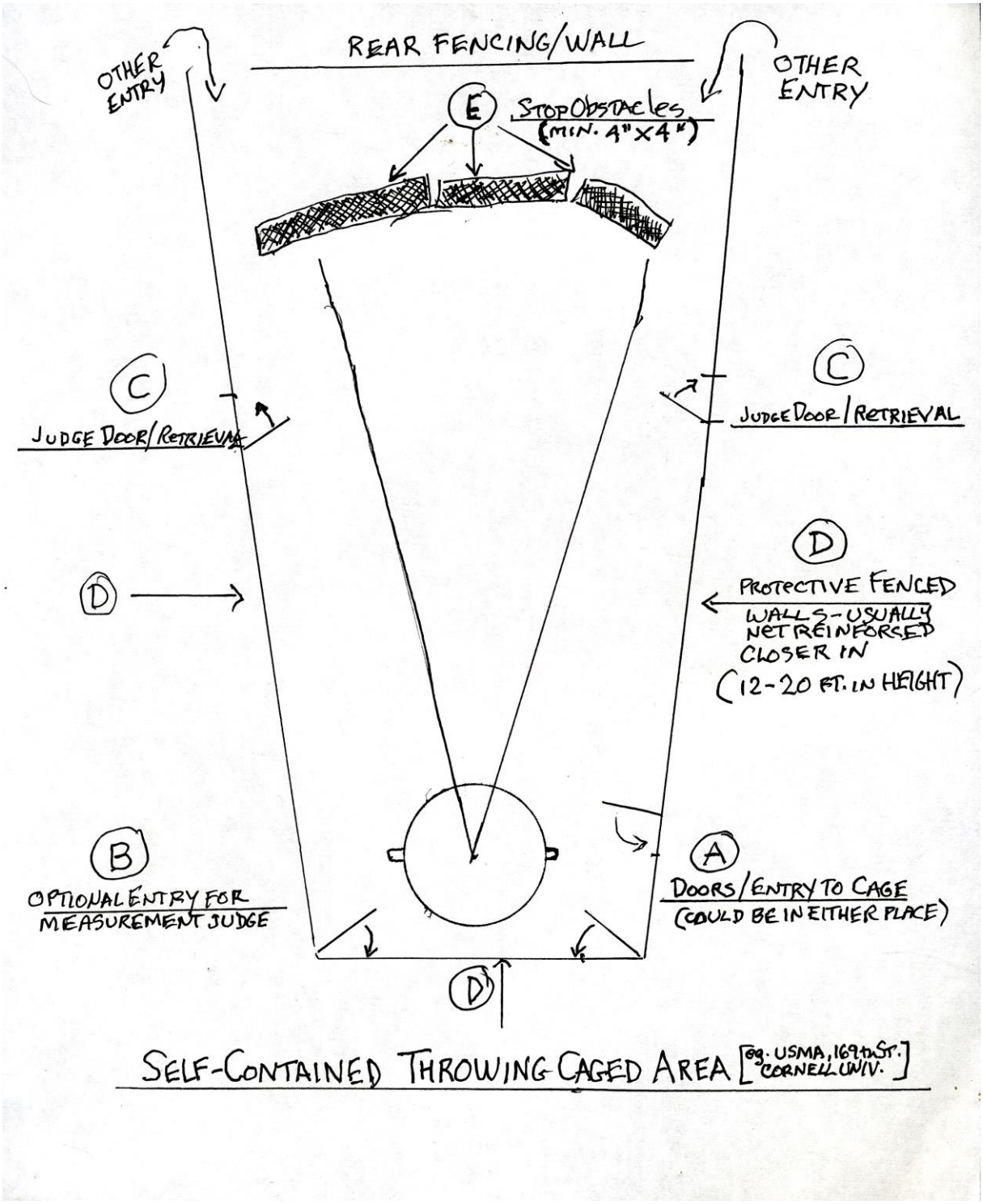


Figure 12

Figures 11 and 12 from NCAA Rule 1-9 (NCAA Rules, p. 24)
Figure 12 is actually a discus cage that could be used for throwing the weight outdoors if a ring adapter is used to make the circle width legal.

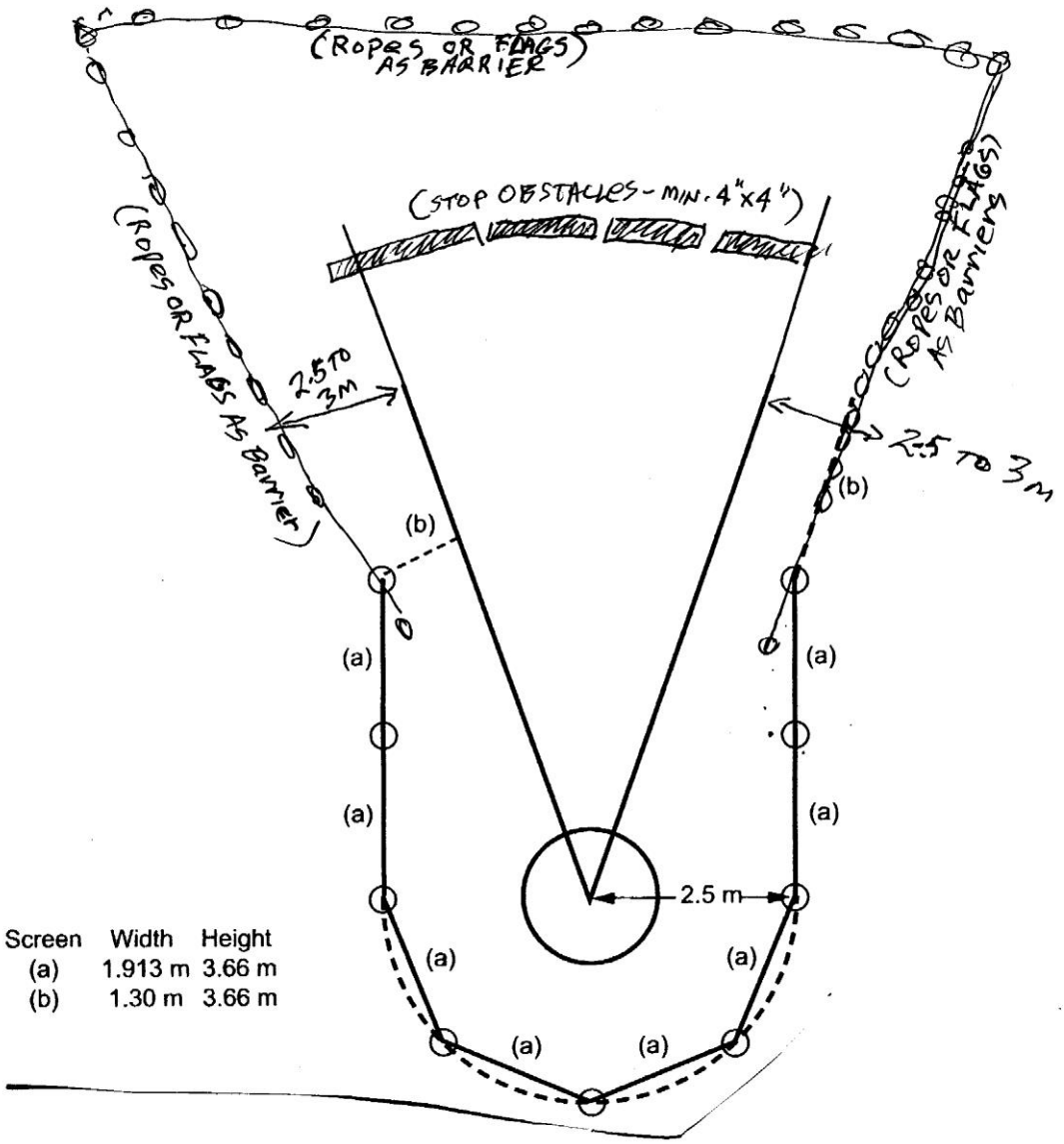
Figure 1 – A Self-Enclosed Throwing Area



The constant barriers involved in using this type of facility constantly remind all of the awareness of Safety in the conduct of any and all throwing events.

Figure 2

Weight Throw Area with Cage and Open Impact Area



In this type of set-up, the placement of barriers, ropes, or flagging at least 2.5 meters outside the sector area cannot be emphasized enough! **It shows the "Danger Zone".** Only Officials should ever be in this "buffer zone", and only

when it is absolutely necessary! **Athletes and spectators should ALWAYS be BEHIND the cage and at least 2 meters clear of the netting.**

2 – The Weight

Below is NCAA Rule 10, Section 9. ***The only exceptions to these rules will be in "Specifications"*** in ARTICLE 5. In New York State Interscholastic competition the weight shall conform to the following specifications:

	BOYS	**GIRLS**
Minimum Weight:	**25 pounds** (11.34Kg)	**20 pounds** (9.08Kg)
Minimum Head Diameter:	130 mm	120 mm
Maximum Head Diameter:	150 mm	140mm

SECTION 9. The Weight

Head

ARTICLE 1. There are two head types for the weight:

a. All Metal Head: The head shall be a solid sphere made of metal not softer than brass. There shall be no internal movement. The center of gravity shall not be more than 9 millimeters from the center of the sphere.

b. Filled Head: The head shall be a shell made of plastic or other suitable polymer material in the shape of a sphere, designed to protect the landing surface. The head shall be filled with lead or other material inserted in a manner that minimizes any internal void or movement and has a center of gravity not more than 9 millimeters from the center of the sphere certified by the manufacturer. The head may deform upon impact, but must return to the shape of a sphere.

Note: Rubber is not an acceptable material for the shell.

Handle

ARTICLE 2. The handle shall be made of a round steel rod bent into a triangular form with straight sides and no sides exceeding an inside measurement of 19 centimeters nor being less than 10 centimeters. See Figure 23-A. A handle with no permanent connection point shall only be used with the all metal head and must have all sides of the same length. The handle must be rigid and not show evidence of elasticity or malformation before, during or after the competition. Hammer handles are not allowed.

Harness

ARTICLE 3. If the implement includes a harness, it shall be fabricated from a minimum of four straps sewn together to form a sling. Netting shall not be used for this purpose. The harness must not stretch or show evidence of elasticity or malformation before, during or after the competition.

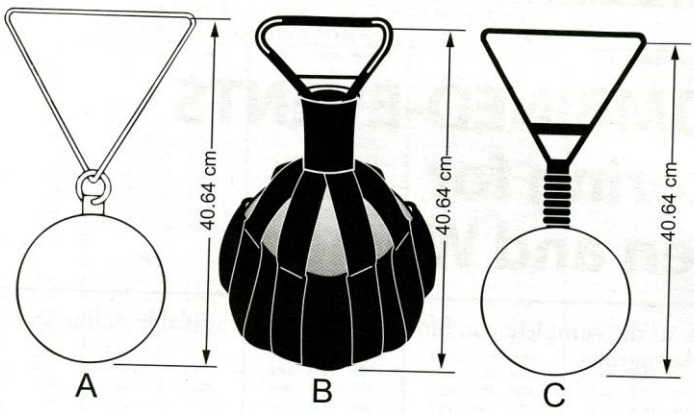


Figure 23—The Weight

Connection

ARTICLE 4. The handle shall be connected to the head or harness in the following manner:

a. After the handle, by means of one and no more than two steel links whose thickness shall be such that the links cannot stretch while the implement is being thrown.
b. Between the last link and the head or harness through an optional swivel.
c. The handle may be connected directly to a Filled Head or to a harness only through a swivel without the use of steel links.
d. A swivel, when used, may be either plain or ball-bearing, and is not considered an additional link.

Note: Homemade or modified implements are not allowed. Repair of broken implements may be made only with the original manufacturer's replacement parts.

Specifications

ARTICLE 5. The overall length of the complete implement as thrown, from the inside surface of the middle of the handle to the bottom surface of the head, in its spherical shape, shall not exceed 40.64 centimeters. See Figure 23.

Note: Measurement must not include any deformed or flat surfaces at the bottom of the head.

The weight shall conform to the following specifications:

	MEN'S	WOMEN'S
Minimum weight	15.880 kg	9.080 kg
Minimum head diameter	145 mm	120 mm

Competition

ARTICLE 6. The rules for the weight throw shall be the same as for the hammer throw. See Rule 6-11 and applicable sections of Rule 6-1.

Specifications for the High School implement were noted on page 8

NOTE: Weights that have all metal heads are designed for use on dirt or cinder landing surfaces. ***If the facility or Games Committee forbid their use, then a" Filled Head" style implement must be used!***

3 – Rules for Competition

General Rules – The General Rules for NFHS Throwing Events in Rules 6-1, 6-2, 6-3 will be adhered to.

Rules Specific to the Weight Throw – are to be observed as follows:

Legal Throw – A legal throw shall be made from the circle and shall land within the legal sector. A competitor must start from a stationary position inside the circle. There are no restrictions on the positions and actions of the thrower while throwing. A competitor may interrupt a trial once started and lay the head of the implement inside or outside the circle and start again from a stationary position inside the circle.

When the competitor is in a starting position before the preliminary swings or turns, the competitor is allowed to put the head of the implement on the ground inside or outside of the circle.

Foul Throw – It shall be a foul throw if, after entering the circle and starting a throw, the competitor:

a. Uses any method contrary to a legal throw;
b. Touches with any part of the body, before the weight hits the ground:
    1) Any surface of the metal band except the inside surface, or
    2) The area outside the circle;
c. Leaves the circle before the weight has made contact with the ground as a result of the throw;
d. Leaves the circle from the front half;
e. Throws an implement that does not conform to the legal requirements;
f. Causes the weight to fall on or outside the lines marking the sector; or
g. Fails to initiate a trial within 1 minute after the competitor's name has been called for a trial (NFHS Rule 6-2-9)

If the head of the weight falls within the legal sector, the throw shall be legal and shall be measured, even though the handle may have had contact the ground outside the sector.

It shall ***not*** be a foul throw if the weight, when released, touches any part of the cage and lands within the legal sector.

It shall ***not*** be considered a foul throw if the head of the weight should touch the ground during the swings and turns the competitor makes before the release is made.

If the weight should break during a throw or while in the air, it shall ***not*** count as a throw provided it was made in accordance with the rules. If a competitor

thereby loses equilibrium and commits a foul, it shall not count against the competitor.

Measuring a Legal Throw – The measurement of a throw shall be from the nearest edge of the first mark made by the head of the weight to the inside edge of the circle along the extended radius of the circle. ***It is permitted to use chalk on the implement to make the mark upon impact more evidently visible,***

Measurements shall be recorded to the nearest lesser ¼ inch or centimeter. Measurements will be made with non-stretchable tape such as fiberglass, nylon, steel, or certified scientific measurement device (laser). The judges shall hold the tape in such a way that the readings will be at the circle.

4- Conducting a ***SAFE*** Weight Throw Event

It is IMPERATIVE that if this event is to be successful in our state that all our coaches and officials become hyper-aware of the safety risks involved in all throwing events. The increased size and amount of weight in this implement becoming launched should be enough of a motivation for us all to put a dramatic focus on conducting this event safely. This concern should carry over into the conduct of all throwing events. Safety should become our biggest concern from the time the event venue is set up, through the warm-ups, the competition, and the closing down of the competition area.

Safety Rules that ***EVERYBODY*** should follow (Athletes, Officials, fans)

No matter what, when people arrive at the site with throwing implements of any sort, whether it is during warm-ups or competition, the following rules ***MUST*** be followed, reminded about and enforced at all times:

1. **Never turn your back on the ring or the impact area!**

2. **When talking to anyone, talk to their side or "over their shoulder" and not face to face!** When you face each other, one of you has turned your back on possible trouble and will not see any sudden danger.

3. **NO ELECTRONICS (phones, iPods, and headsets) should ever enter into the competition area!** When you are reading that text, you could be struck. When your headset is on, you might not hear that "WATCH OUT!" that might save your life.

4. **Stay ***BEHIND*** *and* ***AWAY*** **from the cage unless your are the Thrower!** The only person in the danger zone EVER should be the person creating the danger – the thrower.

5. **GAMES COMMITTEES -**- Try to schedule the Weight Throw ***EARLY in the competition schedule*** (maybe the first event?) when you will have less of a fatigue factor with officials and athletes, as well as less pressures in regard to spectator safety.

Safety Rules that Coaches and Officials *MUST* follow:

1. **ALL the rules we listed before X10!** In addition to them:

2. **Do not tolerate any horseplay in the competition area at any time!** The competition is serious, so the athletes should be as well.

3. **Any "hangers on" or spectators who refuse to follow your safety rules should be REMOVED from the area!** Stop the event until they either comply, leave, or if not have the meet director, Referee or Security come over and remove them.

4. **If the Games Committee has not designated a "Coaches Box", make sure that when athletes go to see their coaches or to view film that it is BEHIND the cage or in a safe area.**

CONDUCTING WARM-UPS as Officials and Coaches.

This is probably the most hazardous of times, since this seems to be when everyone is in their "own little world" in preparing for the event. So, here are some things you must do:

1. **REMEMBER, warm-up can not start until the Official or Coach conducting the event sets the athletes up in a disciplined manner.**

2. **Arrange the athletes for warm-up into groups.** If you are warming up a flight of 12, create 2 groups of 6 and put them in line. Thrower 1 will enter the cage, throw, and leave the cage immediately. ***The weight will remain in the impact area***. Repeat the process for throwers 2 through 6. When Thrower 6 (i.e. the last thrower of the warm-up group)has thrown and the weight has landed, ***send the group out together to retrieve*** their implements. Get them to go back to the safety area and wait for their second throw. **DURING ALL THIS – Keep reminding them about those first 4 rules of safety.**

3. **Repeat this process with the second group.** When they get back to safety, have the first group assemble to get their second throw.

4. **Repeat the process** until the agreed upon warm-up period is completed.

5. **NOTICE – At NO TIME during all this was anyone allowed to be in the impact area except when we had the group retrieval!** Allowing anyone into the impact zone would be like allowing people to walk about freely on a shooting range. It just should never happen.

6. **BE A BENEVOLENT DICTATOR when supervising warm-ups.** Remind the athletes that you are doing this to protect their safety.

7. **At the end of warm-**ups, go to a safe area and brief the athletes on how the competition will be managed, their order, etc. and the process of how they will get their implement returned after an attempt.

CONDUCTING THE EVENT ITSELF as Officials/Coaches

This event requires **FOUR (4)** people *minimally* to conduct it efficiently and safely. ***Coaches & volunteers may occupy these roles if necessary, providing they follow these guidelines!***

FIVE (5) people works even better yet!

You need:

1. JUDGE 1 --Someone to judge and mark the point of impact

2. JUDGE 2 --Someone to pull the tape through the center of the circle They also judge fairness as well from one side

3. JUDGE 3 -- Someone to judge the fairness of the throw and read the distance out.

4. JUDGE 4 -- A judge to act as flight coordinator (calling up the athletes), "GATEKEEPER" of the cage, and recorder. This person will always repeat back the mark read by Judge #3.

5. RETRIEVER -- Someone to RETRIEVE the implements and place them at a designated place for athlete pick-up.

Using this system in a self- contained throwing cage (Figure 1)

1. Judge #4 (Coordinator/ Recorder) ***will never enter the cage at all.*** They will be the **"GATEKEEPER"** and will never allow an athlete to enter the cage unless the previous competitor has left and they have called the next one's name as "UP" in the rotation**.**

2. **2.** Judges #3 & #2 only enter the cage after they have judged the fairness of the throw. As soon as measurement is made and recorded, they retreat outside the cage and take their positions before the next athlete is called. ***Do NOT let the athletes try to rush this process! You can work quickly, but it is much more important to work deliberately and methodically to ensure safety.***

3. Judge #1 (Marker) should stay out of the cage if there is access/egress through a side door or overlapping panel, They should observe the mark, enter the impact area and stick the mark. Hold the mark until it has been recorded and then promptly leave the cage again. If there is no access/egress panel/door, then the marking judge should station themselves at the farthest corner point from the circle outside the sector and when impact is complete, move to the mark from that area and proceed with measurement.

4. If available, the RETRIEVER should work in the same method as Judge #1 (the Marker), ***only from the opposite side***. When the implement stops, they can pick it up and carry it to the designated retrieval point which is usually just outside the cage in a safe zone, They then should get to their position for the next throw

5. **The Coordinator** (Judge#4) as **"Gatekeeper" should not call the next athlete as "up" until officials are safely returned to their positions!**

6. How this system is deployed is illustrated in **Figure 3** below

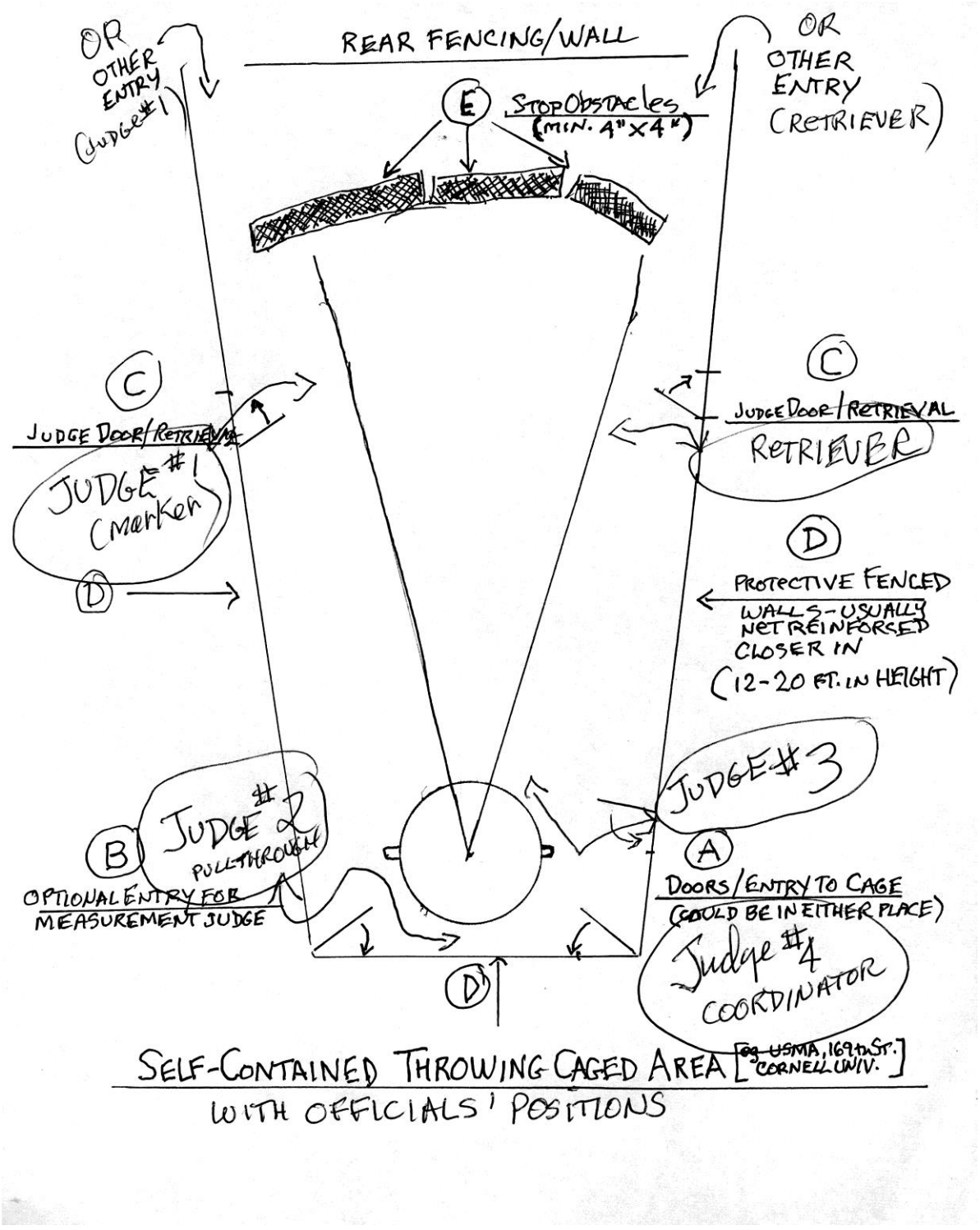

OR OTHER ENTRY (JUDGE #1)
REAR FENCING/WALL
OR OTHER ENTRY (RETRIEVER)
E
STOP OBSTACLES (MIN. 4"X4")
C
JUDGE DOOR/RETRIEVAL
JUDGE #1 (marker)
C
JUDGE DOOR/RETRIEVAL
RETRIEVER
D
D
PROTECTIVE FENCED WALLS - USUALLY NET REINFORCED CLOSER IN (12-20 FT. IN HEIGHT)
JUDGE #2 PULLTHROUGH
JUDGE #3
B
A
OPTIONAL ENTRY FOR MEASUREMENT JUDGE
DOORS/ENTRY TO CAGE (COULD BE IN EITHER PLACE)
D
Judge #4 COORDINATOR
SELF-CONTAINED THROWING CAGED AREA [eg. USMA, 169th ST. CORNELL UNIV.]
WITH OFFICIALS' POSITIONS

Figure 3

Using this deployment system in a Throwing area with Cage and Open Impact Area as illustrated in figure 2 (Figure 4)

The only significant difference is using this layout is where the Marker (Judge#1) and the retriever would station themselves. ***Their safety becomes a paramount concern.*** They should post themselves on opposite sides in the cautionary buffer zone outside the sector lines and as far out toward the "stop obstacles" as possible. This way they can watch the flight of the implement coming out toward them from the side and also see where it bounces/rolls on impact.

Again, it cannot be emphasized enough: ***it is important that the process be deliberate and methodical and not something done at breakneck speed***. ***It is better that a mark be off by a centimeter than anyone being injured for the sake of zealous accuracy!*** Deployment of officials is illustrated in **Figure 4** that follows on the next page.

When the Event is Completed . . .

1. Immediately put a cone in the center of the circle to indicate that the event is now closed and that the site is no longer to be used.

2. If the cage doors close, close them so that no one is tempted to "practice" and create a hazard.

3. If the gates can be secured at all, do that as well.

4. Check your results for accuracy in scoring. Sign the score sheet and note the time of day the event finished as from the time you signed it.

5. Hand over your score sheet to the Referee for approval and/or submission

Figure 2

Weight Throw Area with Cage and Open Impact Area

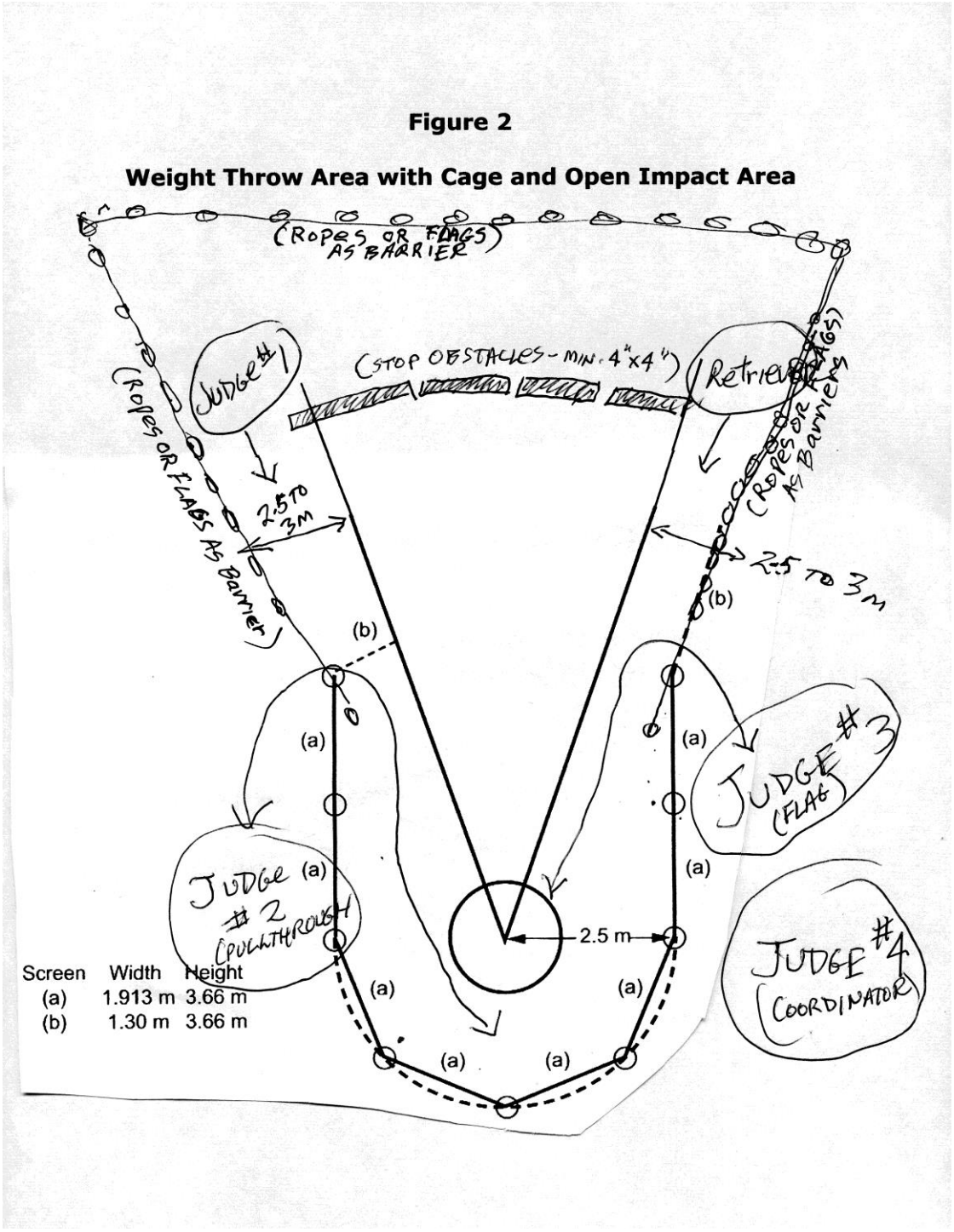


Figure 4

Conclusion

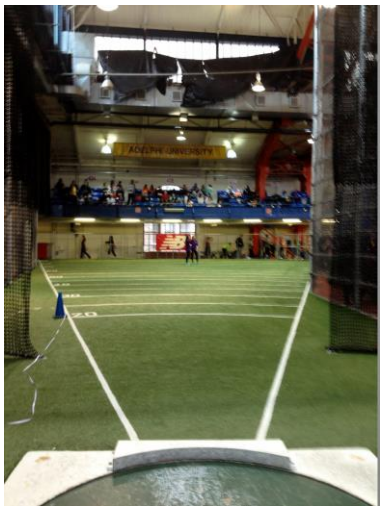
New York State Interscholastic Track and Field and its enthusiastic coaches, officials, and administrators, has over the past few decades had a tradition of a progressive vision of the sport. In our state we were pioneers in embracing the 400 meter hurdles and the steeplechase. Now we are pioneers again in a whole other realm by incorporating the Weight Throw into our highly successful Indoor Track program.

We owe it to ourselves to make dramatic progress in this endeavor by conducting the event according to the letter and spirit of the rules from the first day we allow our athletes to engage in this challenge. We also owe it to our athletes, officials, coaches, and track fans to conduct the event as ***SAFELY*** **and** ***efficiently*** as possible given the varying conditions of indoor facilities.

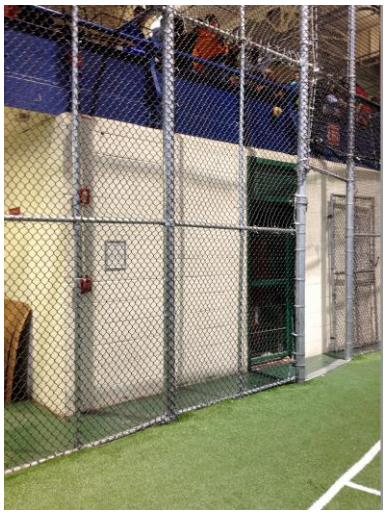
Good luck to all who take up this challenge!

This is a portable Shot-Put cage that is 12 feet in height that would be usable in Weight Throw competition. It probably should be re-enforced with another layer of netting in the rear panels for even greater safety. ***No one should be standing closer than 2 meters from the screening during warm-up or competition!***

Other Illustrations



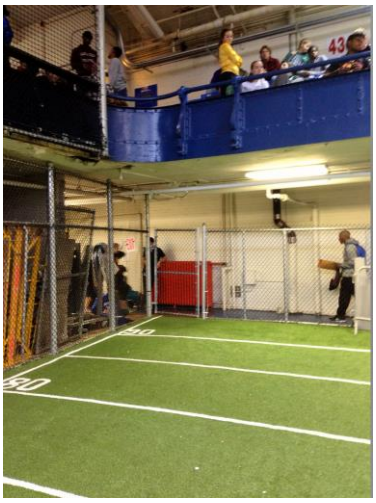
A



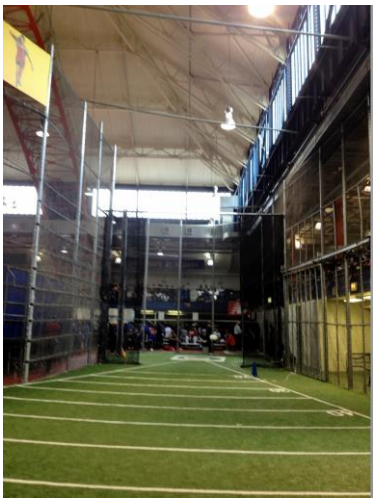
B

C

D



E



F

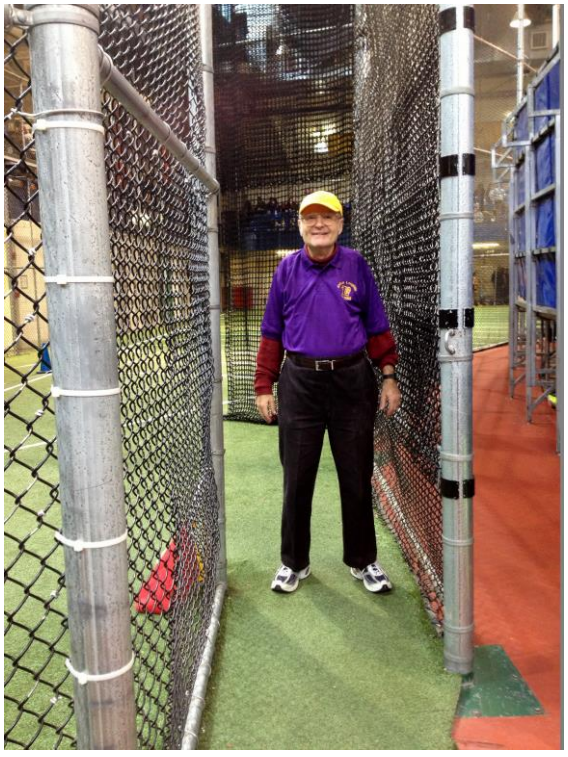
Self-Contained Throwing Cage at Armory Track and Field Center in NYC

A- A view from the throwing circle **B & C –** Side access for Judges

D & E – Access to end of impact area through protective fence

F – View from D & E at end of impact area

Gymnast's Chalk – When the weight is dipped in chalk, its mark can be seen more clearly upon impact with the floor.



The Flight Coordinator – Not only keeps the event moving, but acts as the event's **"Gatekeeper"**, allowing athletes and officials to enter the cage only upon their permission or command. This should happen no matter whether the cage is self-contained or has an open impact area.

Acknowledgements

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- Mr. Mark Heckel, Director, Throws Safety Certification Program of the National Throws Coaches Association

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