A GUIDE TO SETTING UP AN ARCHERY RANGE

OUTDOOR FIELD OF PLAY LAYOUT, WITH SAFETY ZONES.

The diagram opposite shows the metric layout of an archery field.

If archers are shooting different distances, the targets must be staggered, not the shooting line.

The measurements for the safety zones shown on each side of this field are for experienced archers. If novices are shooting consideration must be given to increase this area.

50 metre overshoot exclusion area: There should be no dead ground in the 50 metre overshoot exclusion area, and it should always be clear before and during shooting. Be aware that archers may still be behind the targets looking for arrows that missed the target. Always check this before the signal to start shooting is given.

Side exclusion areas: The exclusion areas each side of the range must be kept clear from all obstacles which could obscure any potential danger.

Range divider: The 10 metre measurement between the two different shooting distances is there to identify separate ranges, this does not permit the archers on one range to collect their arrows whilst archers on the other range are still shooting.

3 metre line: This line is there mainly for tournament purposes. If an archer has an arrow that falls within this 3 metre area the arrow is deemed as not being shot. Therefore another arrow may be shot – but under the guidance of the officiating judge.

Lane width: The spacing between the targets is set so that each archer has a minimum personal space to shoot of 80 centimetres. Lanes are 5 metres wide with two targets in each lane. Targets are spaced 2.5 metres apart.

Shooting line: Each archer stands with one foot either side of the shooting line to shoot their bow when the signal to start shooting has been given.

Waiting line: 5 metres behind the shooting line. Whilst archers are waiting to go to the shooting line they must wait behind the waiting line until the signal is given to advance to the shooting line. When the archers have shot their required number of arrows they must return back behind the waiting line. They wait there until the signal is given to advance to the targets to retrieve their arrows. Never run on an archer range always walk to, and from, the targets to avoid any accidents or injuries.

Equipment area: Shooting equipment only should be placed in the equipment area, any tackle boxes or similar should be kept in the competitors area. Always leave walk ways through the equipment area to allow easy passage for the archers to get through.
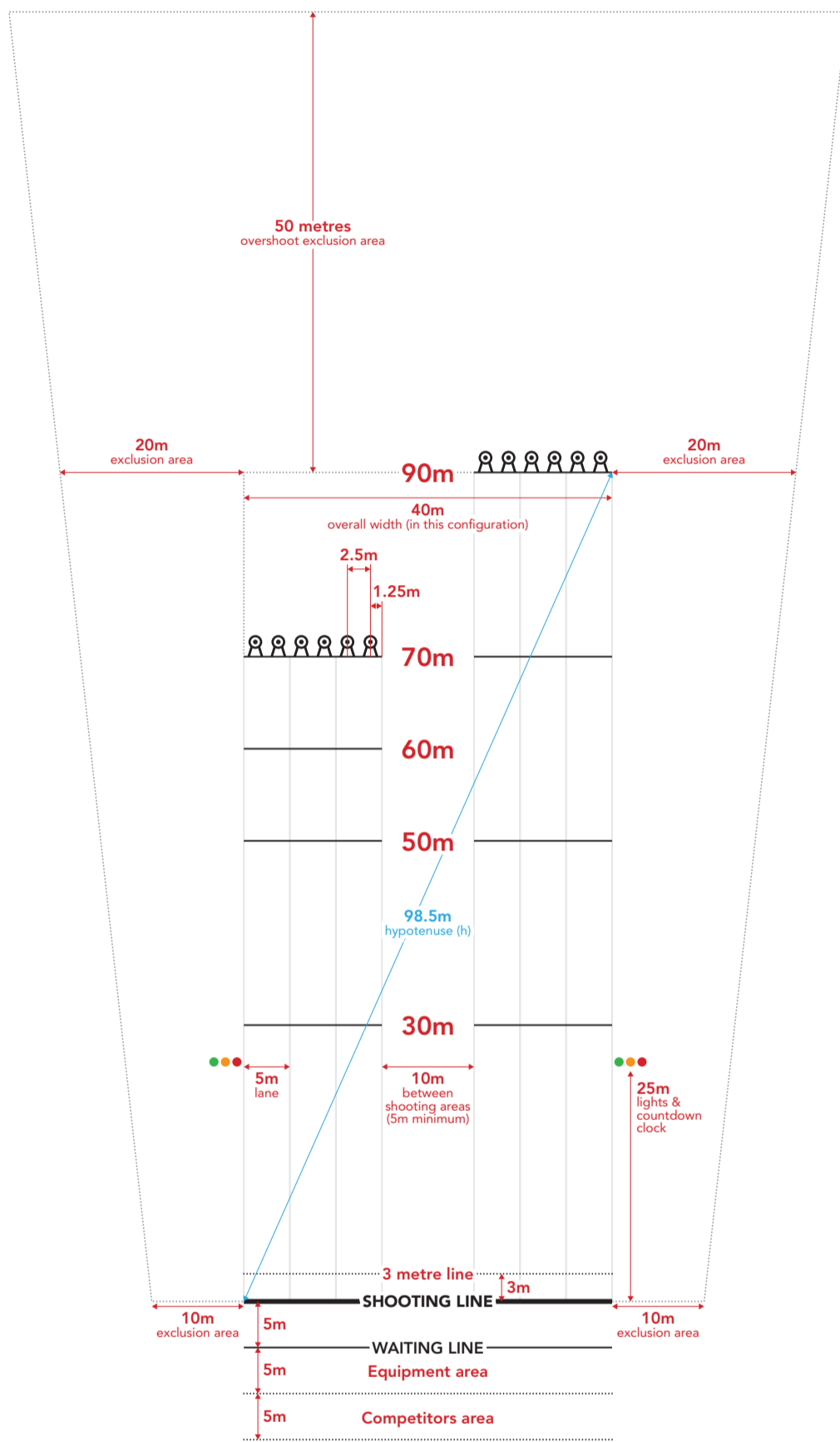
Competitors area: The competitors area is for the archers, team managers and coaches. All spectators should be excluded from this area to minimise accidental damaged to equipment or personal injury.

Lights and countdown clocks: Placed 25 metres from the shooting line.

OUTDOOR FIELD OF PLAY WITH REDUCED SAFE ZONES.

In a very few cases an archery field with the required measurements for safety is not available. It is possible however to reduce the exclusion zones beside and behind the archery range by introducing security barriers. In some cases we can use the natural features of the field to reduce these areas.

From experience it is found that a barrier behind the target line does not have to be higher than 4 metres. When the distance between shooting line and target line is 90m, the further the barrier is behind the targets, the lower the barrier can be. It is possible sometimes to use a barricade or natural hill behind the target line. A 4 metre high barrier is high enough BUT it is essential that the arrows cannot pass through this barrier.

MAKE SURE THE RANGE IS SQUARED OFF

When marking out the archery range for the first time, you need to make sure it is properly squared off. This can be done with some simple arithmetic. To square off the range, all you need to do is measure the hypotenuse (diagonal) of the range.

Pythagoras' Theorem tells us: **The square of the hypotenuse is equal to the sum of the squares of the two shorter sides.**

Using the example in the diagram opposite, this means that:
hypotenuse(h)^2 = (width) 40m^2 + (length) 90m^2

So the length of the hypotenuse (h) can be worked out as follows:
h^2 = 40m^2 + 90m^2 (work out the squares: 40x40 = 1,600 and 90x90 = 8,100)

h^2 = 1,600m + 8,100m (add the squares of the two shorter sides together)

h^2 = 9,700m (square root √ the total of both sides to find the value of h)

h = 98.5m

We can now see that the length of the **hypotenuse (h) is 98.5m**.
Using this guide will help to make sure the range is accurately square.

50 metres
overshoot exclusion area

20m
exclusion area

20m
exclusion area

90m

40m
overall width (in this configuration)

2.5m

1.25m

70m

60m

50m

98.5m
hypotenuse (h)

30m

5m
lane

10m
between
shooting areas
(5m minimum)

25m
lights &
countdown
clock

3 metre line

SHOOTING LINE

3m

10m
exclusion area

10m
exclusion area

5m

WAITING LINE

5m

Equipment area

5m

Competitors area