



# DRONE ODYSSEY CHALLENGE 2024

## Obstacle Challenge

Main Organiser:



Co-Organiser:



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## 1. Challenge Booklet Change Log

Version	Release Date	Description
1.0	12 April 2024	- Official Challenge Booklet release
1.1	24 April 2024	- Drones Mission Run Time

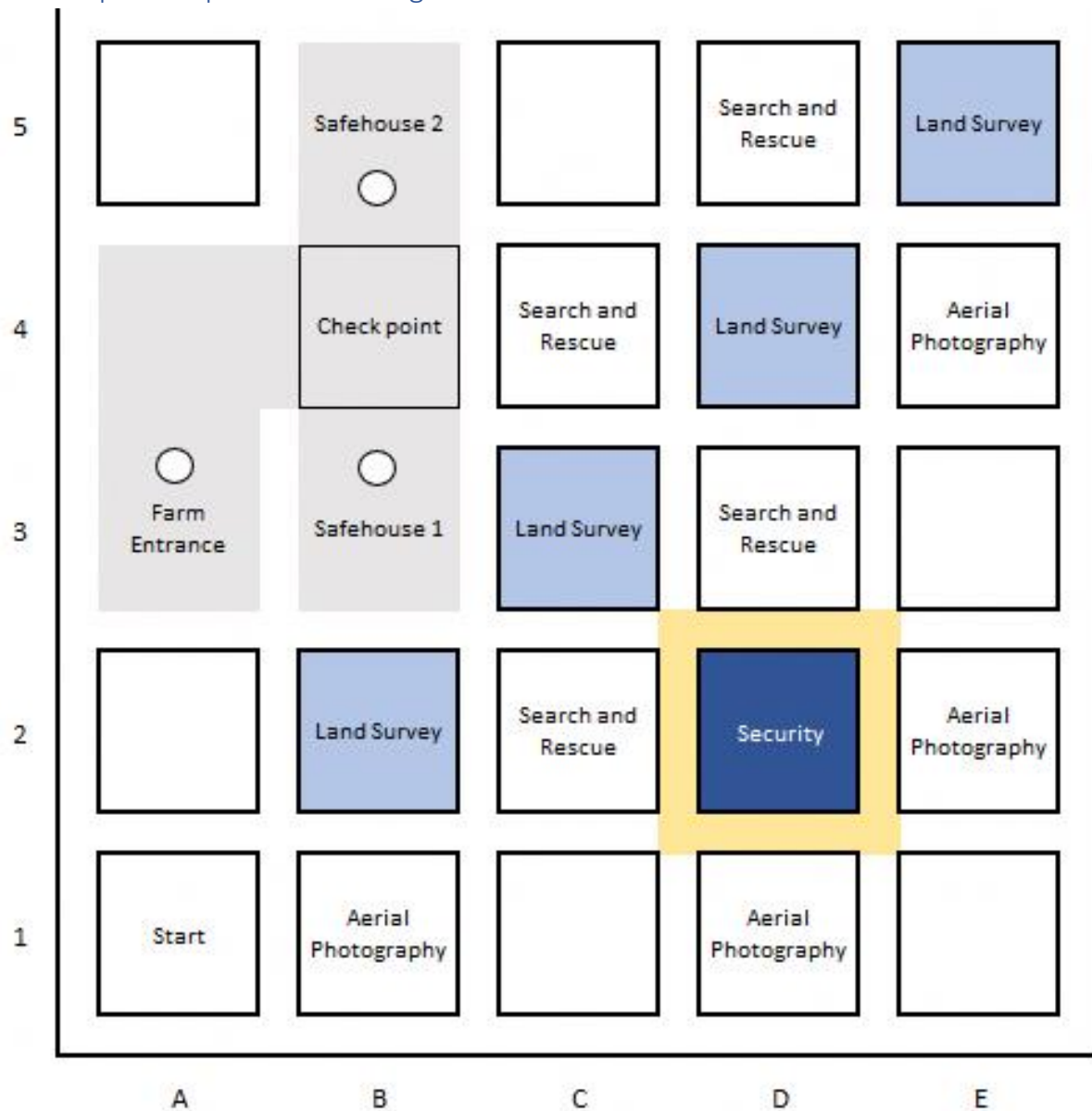
## 2. DOC 2024 Obstacle Challenge

Registered teams will work on their respective mission tasks based on the gameplay announced by the Drone Odyssey Challenge organizing committee.

This year's theme is **Drone for Good**. Missions are focused on applications of drones. Drones can provide valuable information and assistance in areas that can improve the efficiency and effectiveness of humans.

## 3. Category A1 & B1 Scoring

### 3.1 Sample Competition Challenge



### 3.2 CoDrone Scoring Rubric

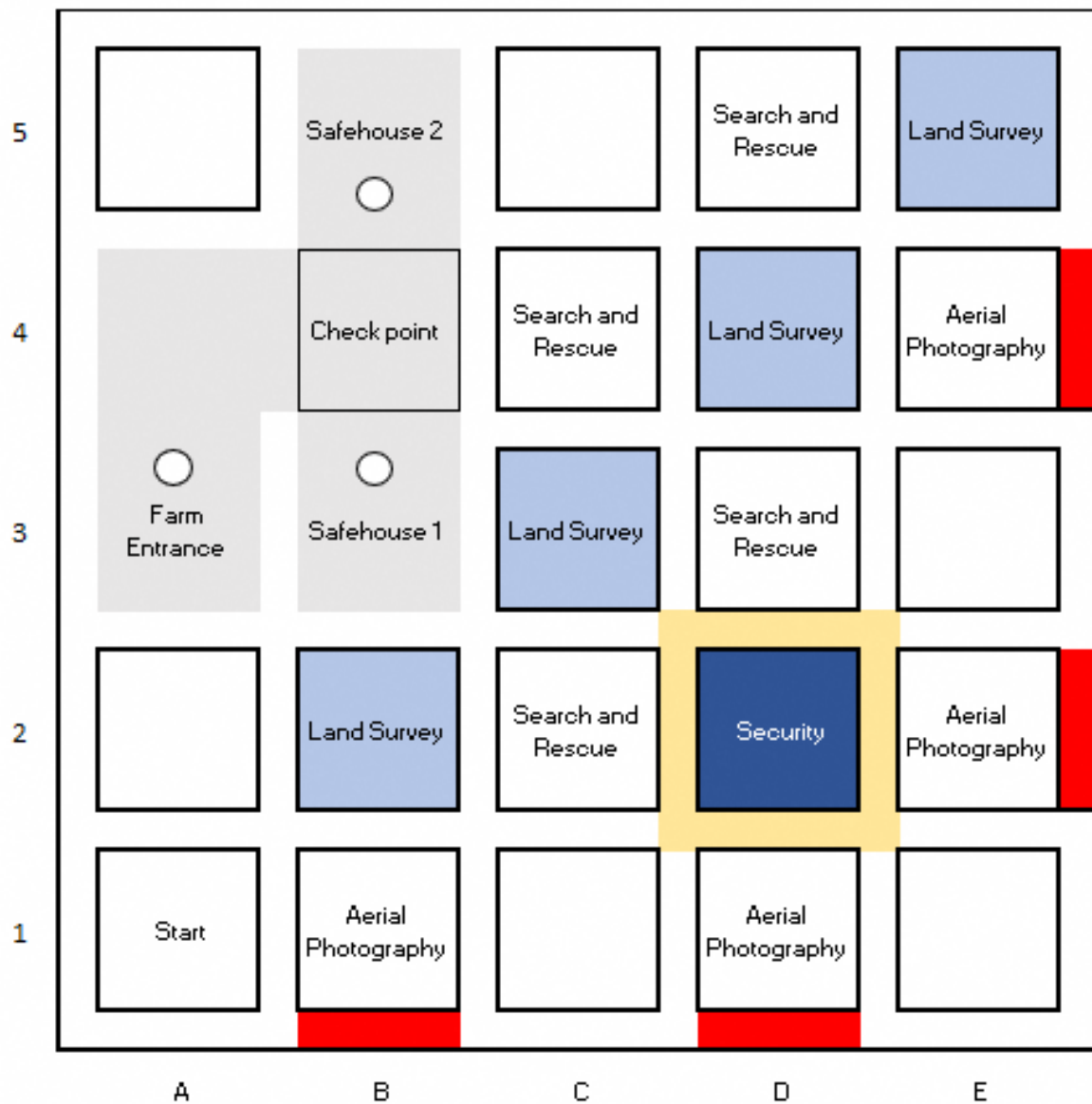
<b>CoDrone</b>	
<b><u>Livestock Monitoring</u></b>	
Herd the sheep(s) to the Checkpoint at the end of the run	5
Number of sheep(s) at selected safehouse at the end of run	10
<b>Maximum Score</b>	<b>50</b>
<b><u>Land Survey</u></b>	
Detect and record the reading in a variable of one location in a single program	20
Detect and record the readings at different locations in a single program	50
<b>Maximum Score</b>	<b>50</b>
<b><u>Search and Rescue</u></b>	
Display the emergency status using the LEDs in one of the disaster zone	20
Fly to all the disasters, record the emergency state, and display the status in sequence at the start zone.	50
<b>Maximum Score</b>	<b>50</b>
<b><u>Security</u></b>	
Patrol the perimeter of D2 in a single program	50
<b>Maximum Score</b>	<b>50</b>

### 3.3 Parrot Mambo Scoring Rubric

<b>Parrot Mambo</b>	
<b><u>Livestock Monitoring</u></b>	
Herd the sheep(s) to the Checkpoint at the end of the run	5
Number of sheep at selected safehouse at the end of run	10
<b>Maximum Score</b>	<b>50</b>
<b><u>Filming Drone</u></b>	
Take Aerial photography of one location in a single program	20
Take Aerial photography of multiple locations in a single program	50
<b>Maximum Score</b>	<b>50</b>
<b><u>Search and Rescue</u></b>	
Land at one of the disaster zones and return to the start point	20
Land at all the disaster zone in a single program	50
<b>Maximum Score</b>	<b>50</b>
<b><u>Security</u></b>	
Patrol the perimeter of D2 in a single program	50
<b>Maximum Score</b>	<b>50</b>

## 4. Category A2 & B2 Scoring

### 4.1 Competition Playing Field



\* Yellow Marked Areas will be equipped with QR codes

\* Red Marked Areas will be equipped with Images

#### 4.2 DJI Drones Scoring Rubric

<b>DJI Drones</b>	
<b><u>Livestock Monitoring</u></b>	
Herd the sheep(s) to the Checkpoint at the end of the run	5
Number of sheep(s) at selected safehouse at the end of run	10
<b>Maximum Score</b>	<b>50</b>
<b><u>Land Survey</u></b>	
Detect and record the reading in a variable of one location in a single program	20
Detect and record the readings at different locations in a single program	50
<b>Maximum Score</b>	<b>50</b>
<b><u>Filming Drone</u></b>	
Take Aerial photography of one location in a single program	20
Take Aerial photography of multiple locations in a single program	50
<b>Maximum Score</b>	<b>50</b>
<b><u>Search and Rescue</u></b>	
Display the number of people (Mission Pad value) in distress in one of the disaster zone	20
Consolidate and display the total sum of people (Mission Pad value) in distress in all the disaster zone	50
<b>Maximum Score</b>	<b>50</b>
<b><u>Security</u></b>	



Patrol the perimeter in a single program	20
Patrol the perimeter and identify the anomaly (QR Code) in a single program	50
<b>Maximum Score</b>	<b>50</b>

## 5. Mission Attempt

### 5.1 Start of Mission Attempt

- Each Team will be given 1 Mission Attempt.
- Time begins when the referee gives the signal to start.
- Each Mission attempt is 10 minutes.

### 5.2 Ending of Mission Attempt

A Mission attempt will end if...

- The 10 minutes mark is up.
- The drone or team has violated the rules or regulations.
- A team member shouts "STOP", and the drone does not move anymore.

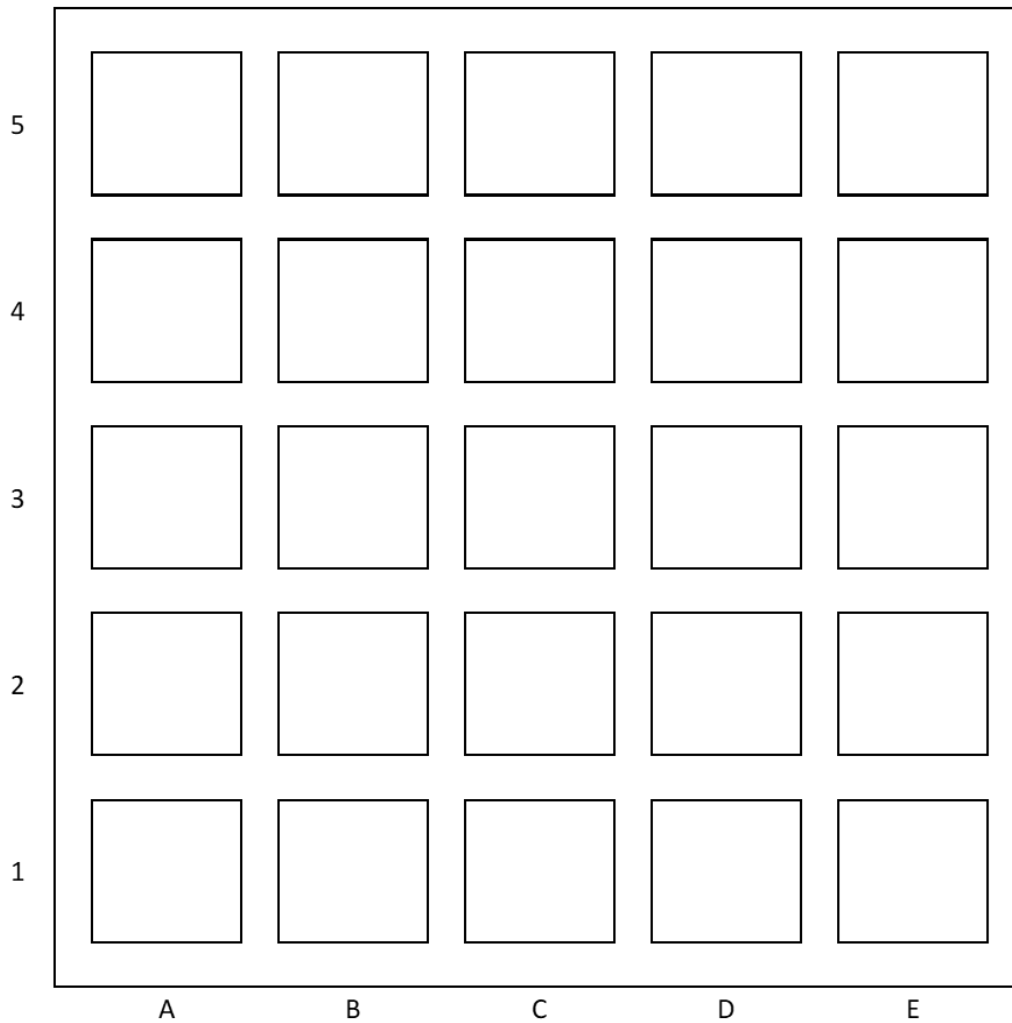
## 6. Scoring Submissions

Once the Mission attempt has ended, time is stopped, and the judge scores the attempt. The scores are noted on a scoring sheet (on paper or digital), the team needs to sign off the scores (on paper or digital signature/checkbox). Once the score is signed off no further complaint is possible.

If a team does not want to sign off after a certain period, the judge can decide to disqualify the team for this round. It is not allowed for a team coach to join the discussion with judges on the scoring of the run. Video or photo proofs will not be accepted.

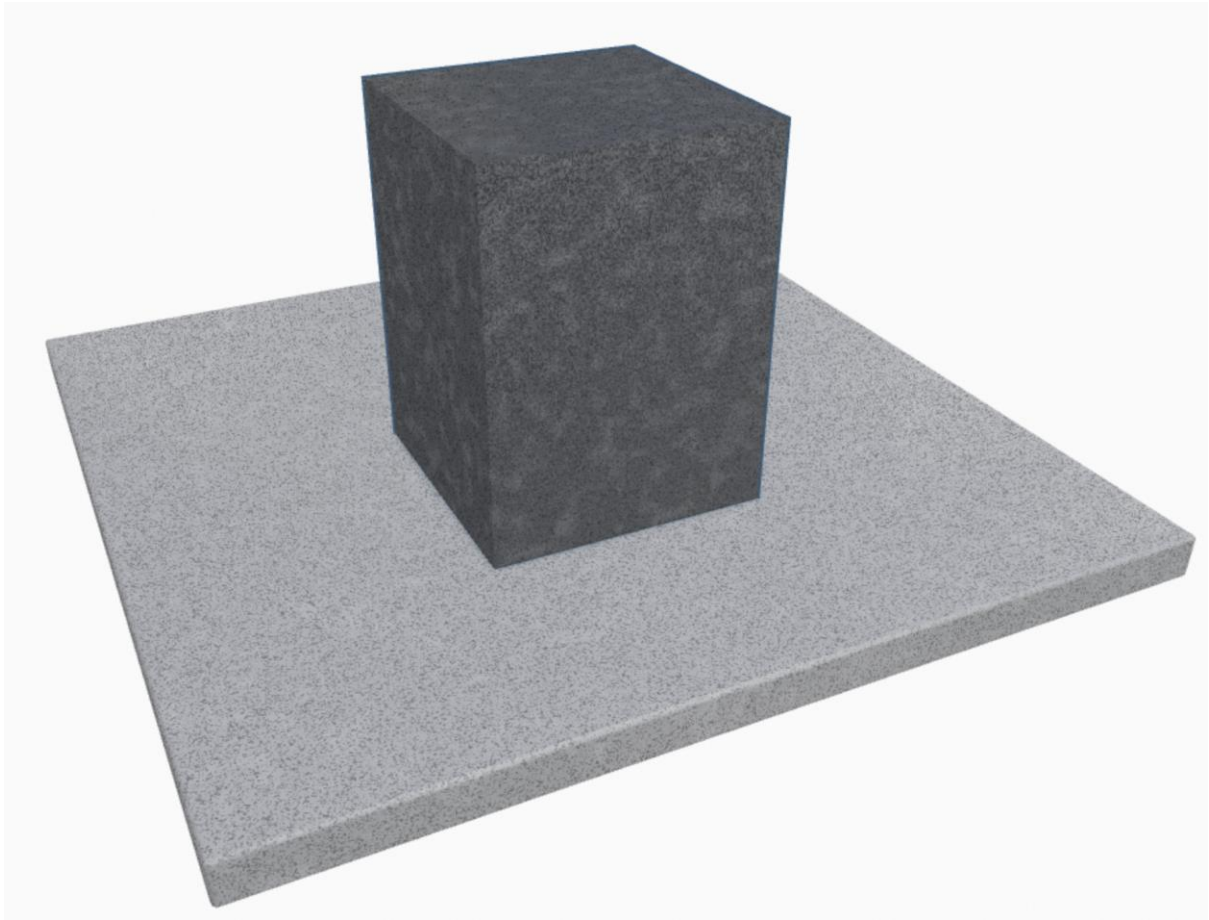
## Annex A:

### A.1 Playfield



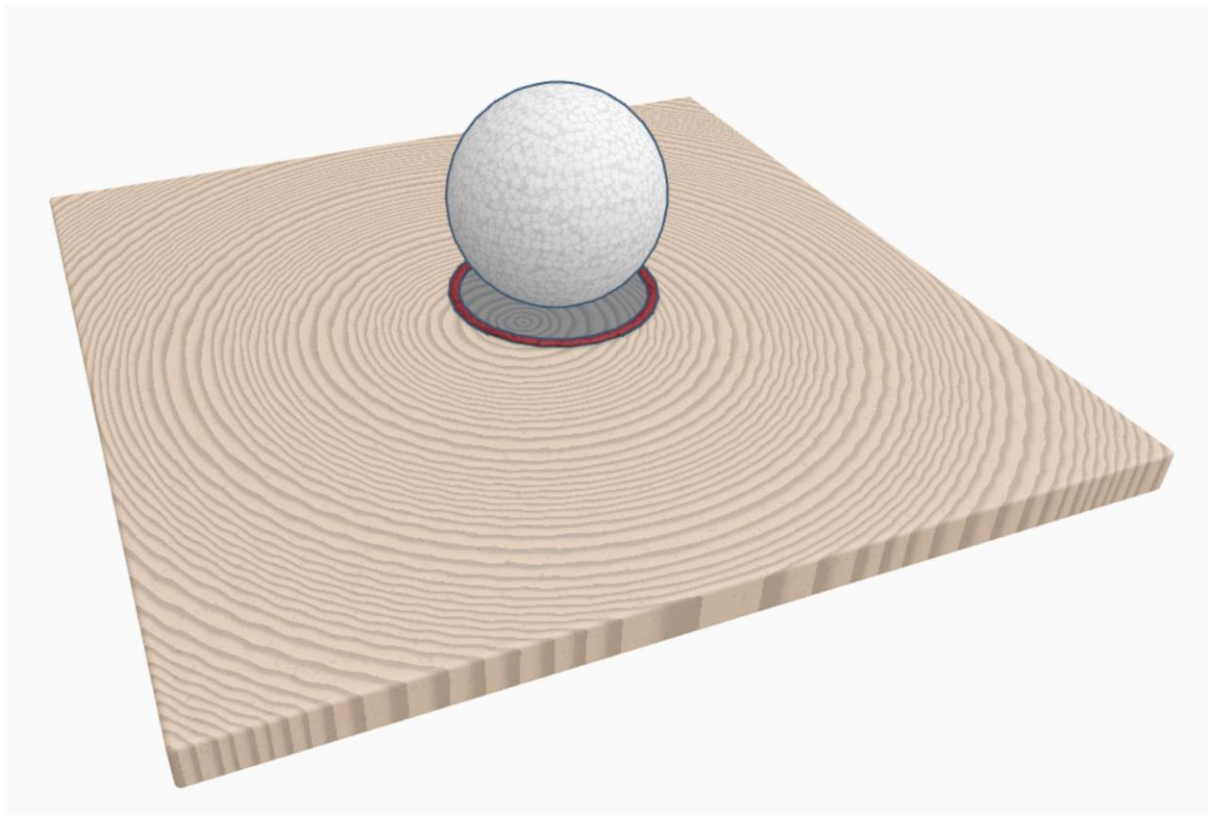
- Size of the playfield is 5(FIVE) by 5(FIVE) meters.
- Maximum flying height of the playfield is 240 cm.
- Each grid is approximately 80cm by 80cm.
- Gap between grids is approximately 20 cm to 30 cm.
- Participants are allowed to bring measuring tools.

## A.2 Obstacle



7. Size of the obstacle is 60cm(Breadth) by 60cm(Breadth) by 80cm(height).
8. Obstacle can be stacked on top of another obstacle
9. Maximum height of obstacle is 240cm

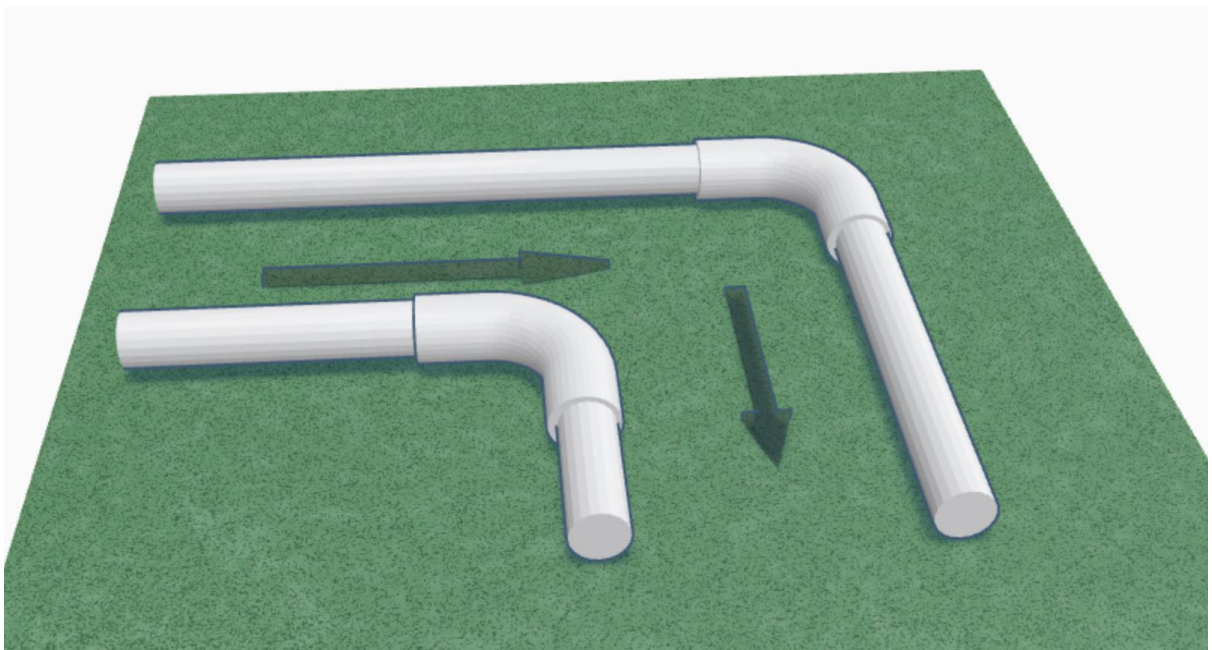
### A.3 Sheep



10. Sheep will be represented by a Standard size ping pong ball.

11. Rubber band will be used to hold the start position of the ping pong ball.

### A.4 Fence



- The fence will be represented by PVC pipe.

PVC size:  $\frac{1}{2}$ "

Annex B:  
Livestock Monitoring



Land Survey



Filming Drone





**Search and Rescue**



**Security**

