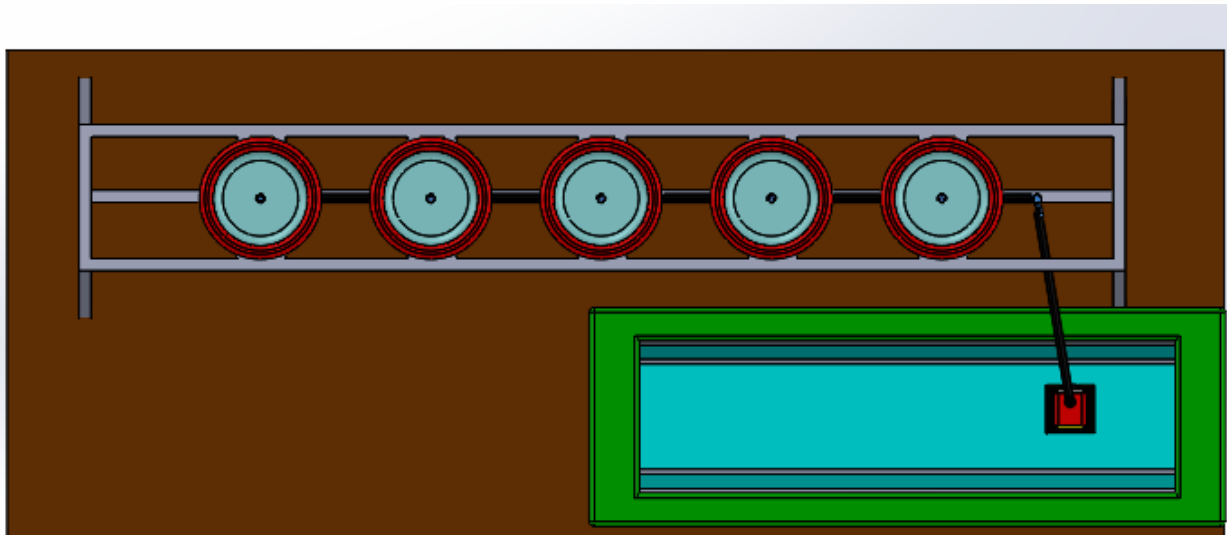
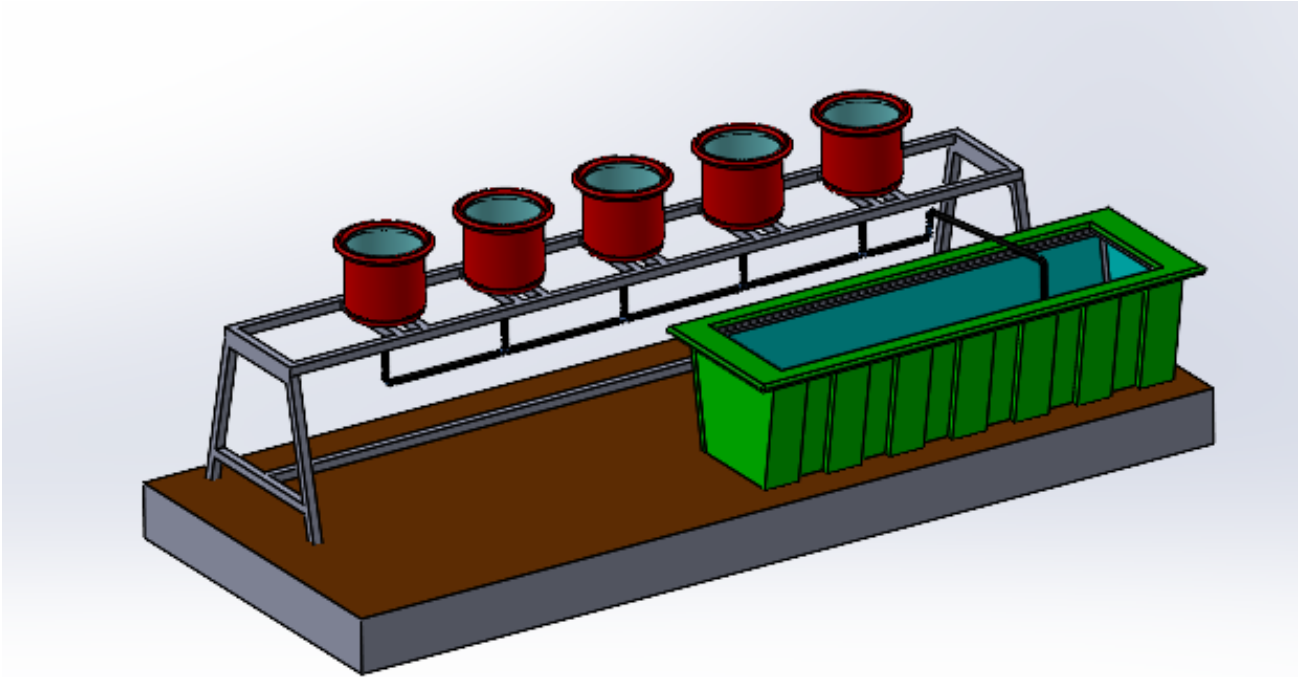
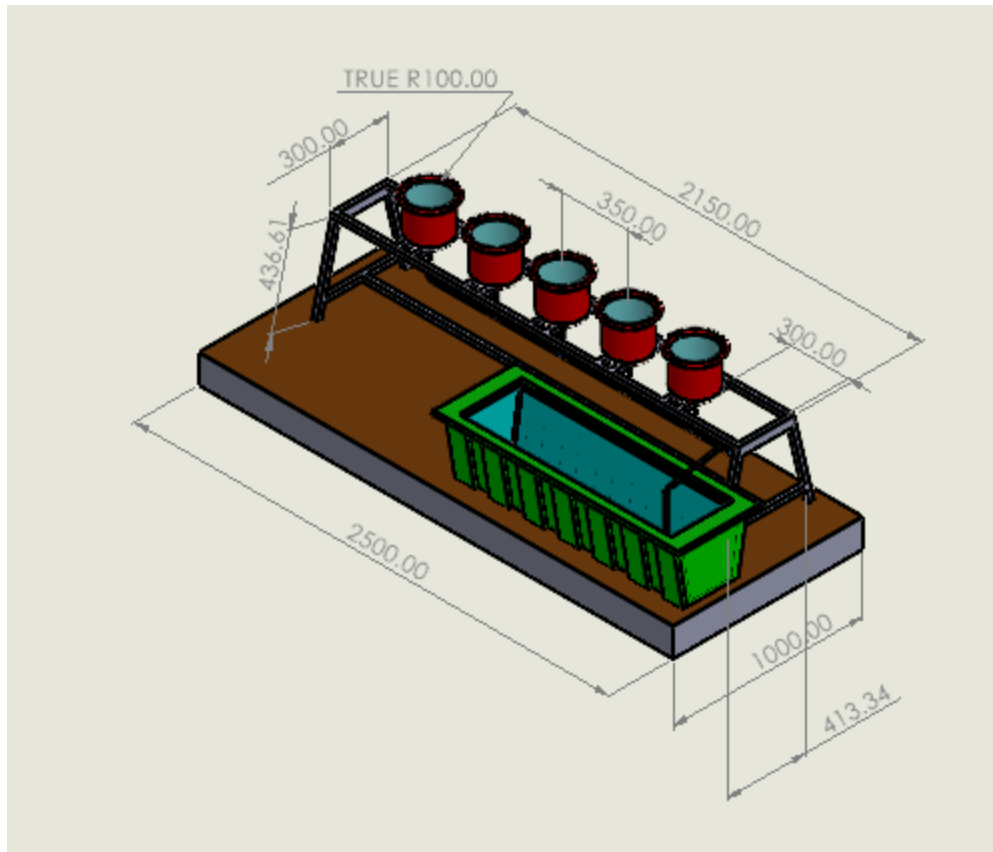


Flood and Drain Hydroponics.

Drawing/Sketch:-





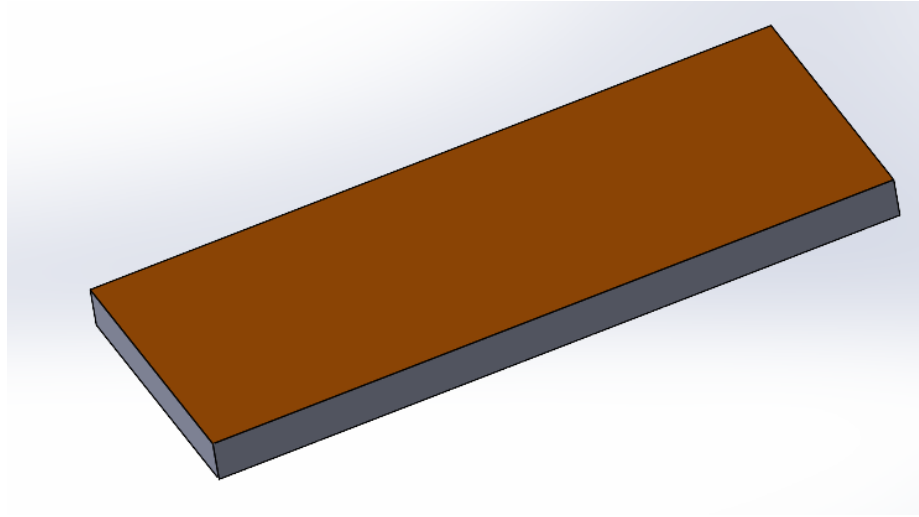
Bill of Materials:-

SR. NO	Materials	Unit	Qty	Cost
1	Square Tube (40x40x3 mm)	NOS	2	1,200
2	Plastic Bucket (5 litter)	NOS	5	500
3	Submersible Tillu Pump (55 Watt)	NOS	1	750
4	Dripper Pipe (12 ft.)	Meter	1	150
5	Plastic elbow (16 mm diameter)	NOS	3	75
6	Plastic T (16 mm diameter)	NOS	4	120
7	Water tant (50 letters)	NOS	1	1,000
8	On off timer (230 volts and 30 amp)	NOS	1	850
9	Black drip rubber (16mm diameter)	NOS	5	50
10	Black oil paint	liter	1	350

Description of Materials:-

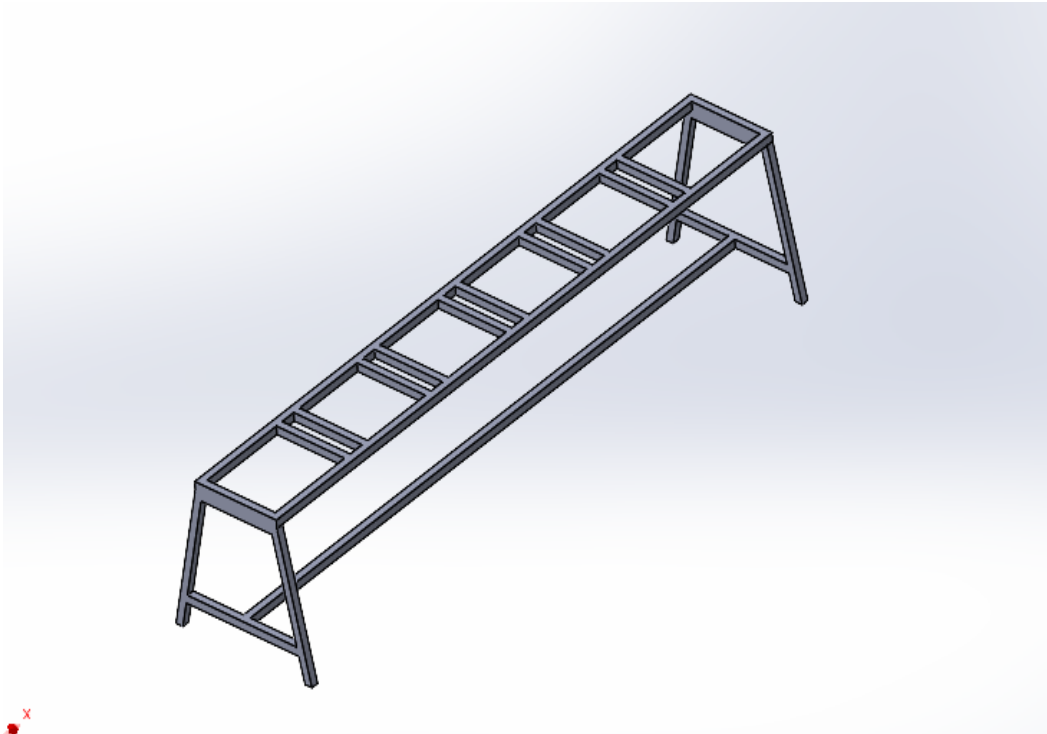
- Ground Base:-
 - Assembly: Clear the surface below and make it flat. The water level at the ends on the boundary should be 0.

- Dimensions: W=



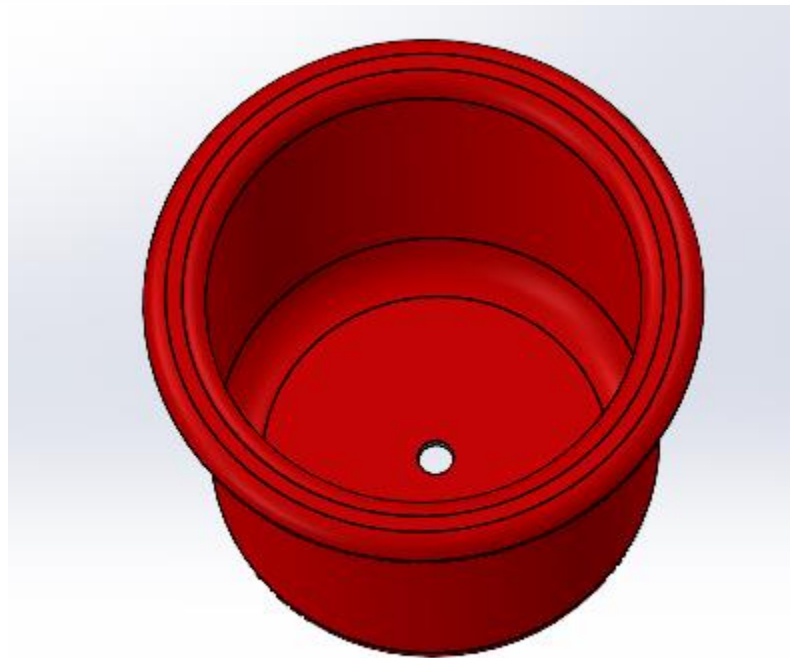
- Hydroponic Stand:-

- Make a rectangular frame of dimensions = 2286 mm x 300 mm
- Connect four legs of 450mm at the bottom, at an angle (pointing outside)
- Add supporting structure for the buckets, at a distance of 380 mm from each other.
- Lastly, weld an "I" shaped structure at the bottom with dimensions = 413.34 mm x 2100 mm
- Paint the structure



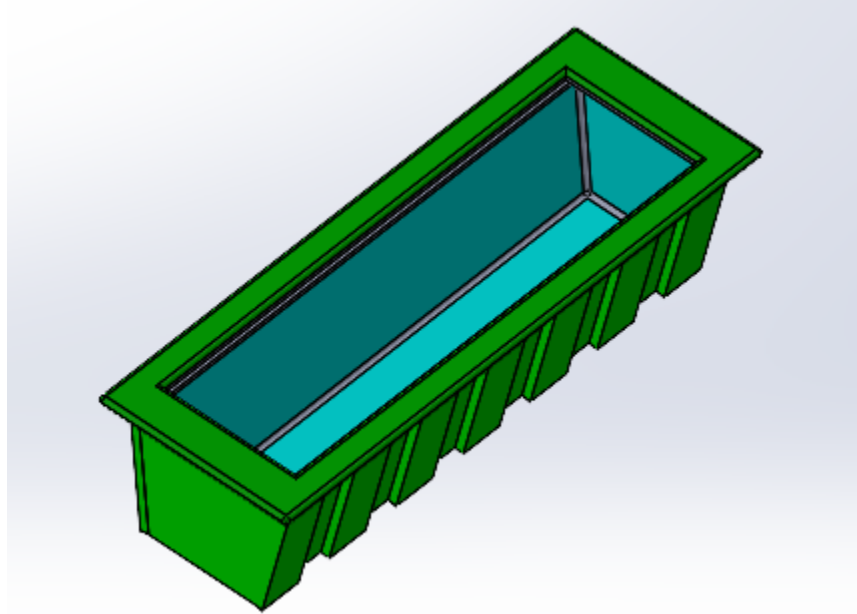
-  Plastic Bucket:-

- Purchase five market available buckets of height = 200 mm and diameter = 200mm
- Make a 16 mm hole at the bottom of each bucket
- Add small pieces of bricks and coarse sand before planting the sapling inside the bucket

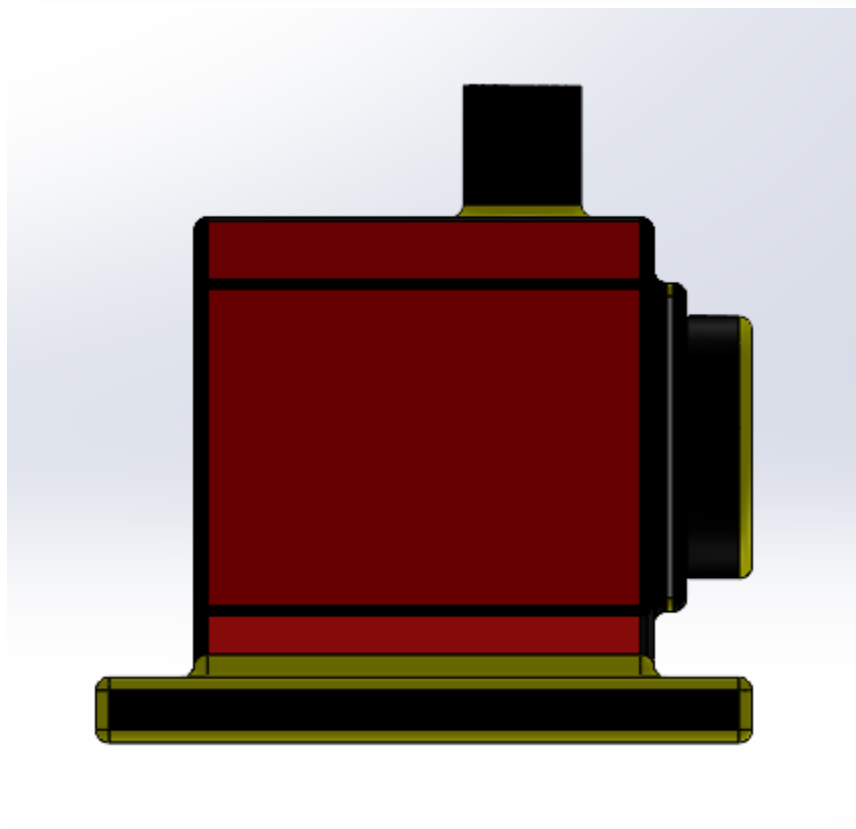
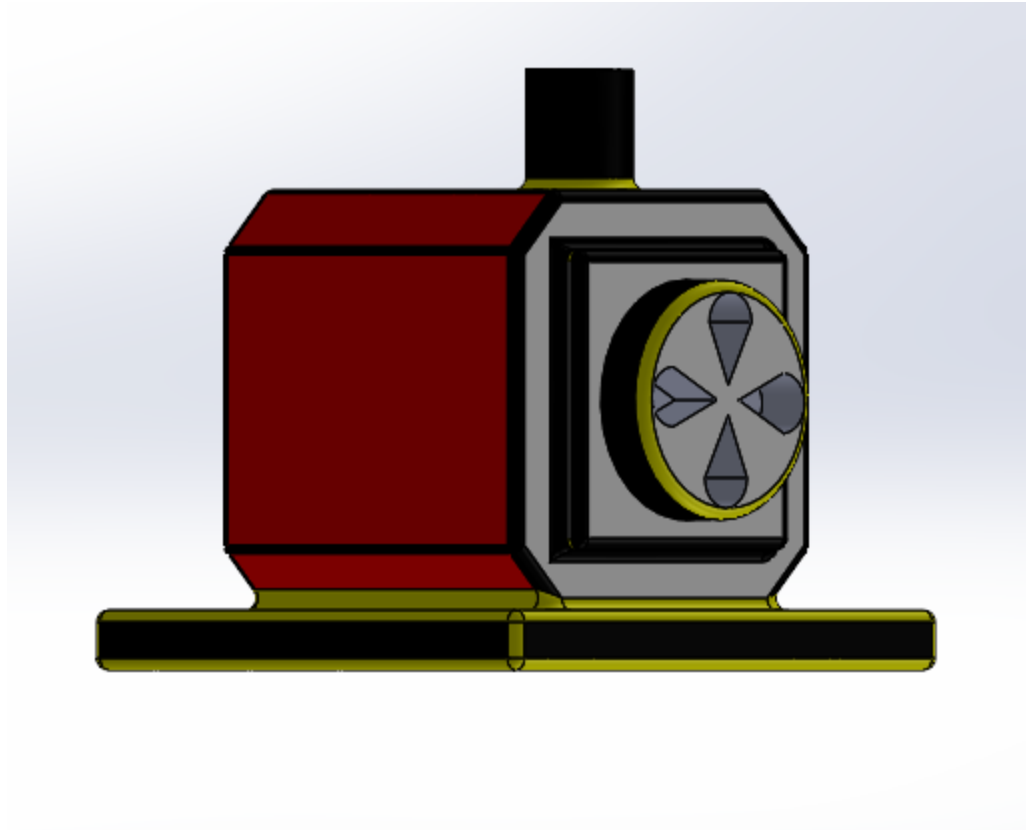


- Water Tank:-

- To store water for the system, a 50 L tank must be kept on the ground, below the bucket levels.

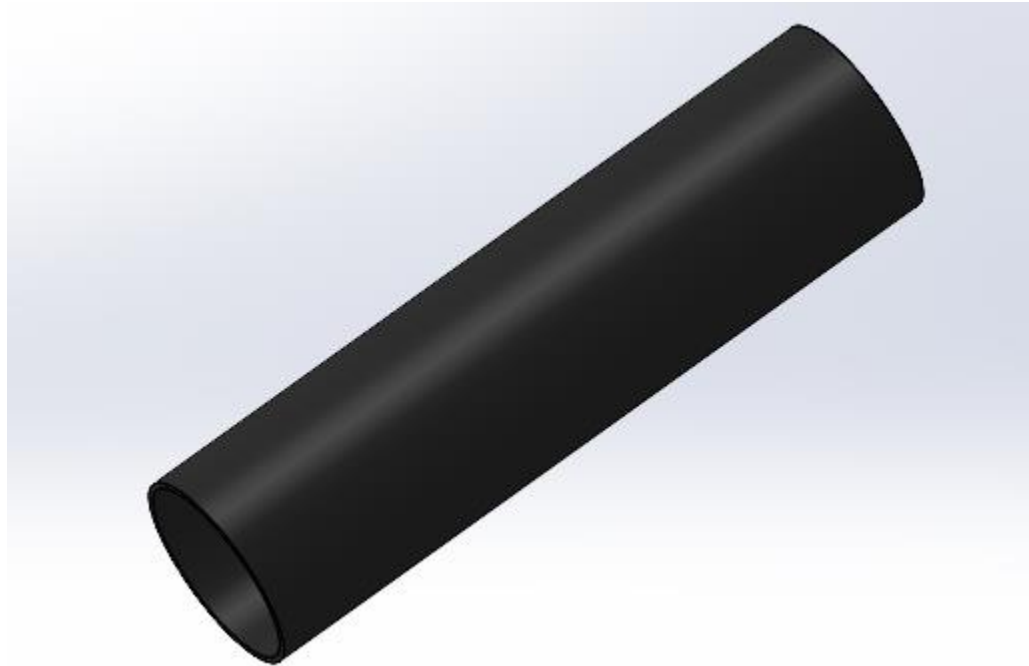


-
- Submersible Pump (Tillu):-
 - Insert a submersible pump at the bottom.
 - Specification: 220V, 55 watt
 - This will allow easy flooding as well as draining of the system.



- Dripper Pipe:-

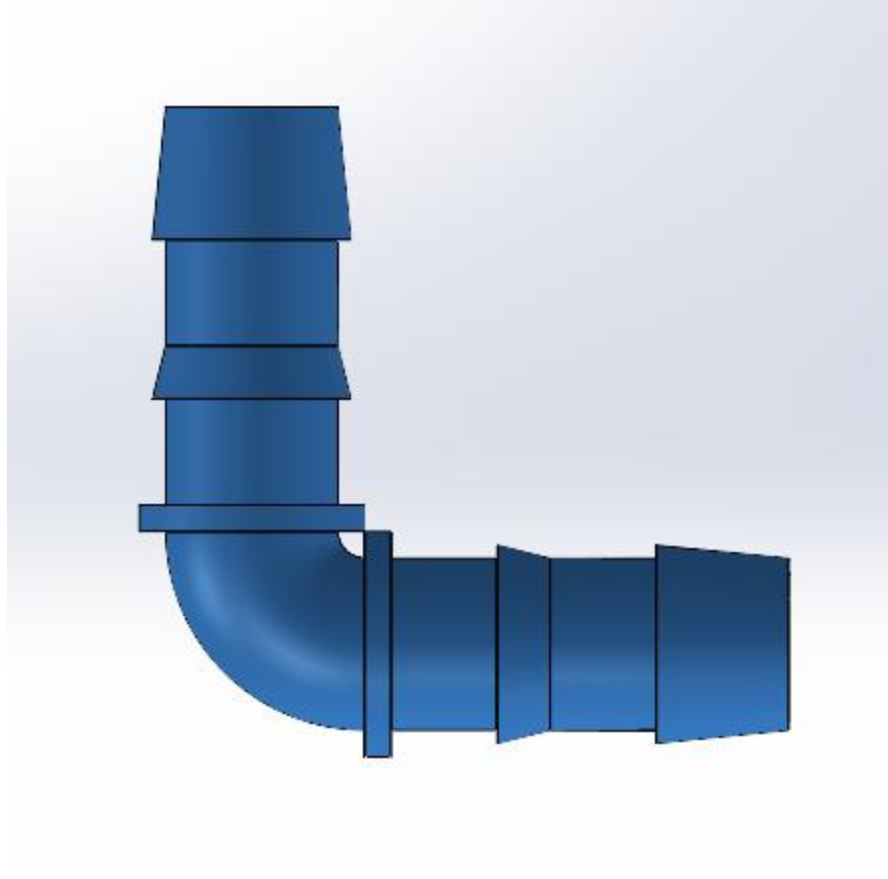
- Connect 16mm x 12ft dripper pipes to the pump and the bucket to flood and drain the system.



- Plastic T:-
 - To multiplex the single channel coming from the pump into 5 channels, attach 4 T connectors in the center



- Plastic Elbow:-
 - To connect the ends of the dripper pipe use elbow connections.



- Black Drip Rubber:-
 - To prevent leakage of water from the bucket, attach black drip rubber to the hole in the bottom and insert the pipe into it.



- On off timer:-
 - The system runs in a cycle of flood and drain, so the pump should be switched on and off.



Fabrication:-

- Material processing
- Welding fabrication
- Painting
- Plumbing
- Electrical supply



Installation:-