Standing Gardener

Work Completed

This week we were assigned to work on the standing gardener. Specifically we were to drill all of the holes in the pipes and tubes. These holes are designed to allow the frame of the device to be telescopic. This makes it possible for a growing subject to use the device. To complete the task we used a miller as a drill press. The reason we used the miller is because it was CNC capable. CNC allowed us to put our tube into the vice, find the center of the tube, and set that as zero. Next we were able to set one end of the length of the tube as zero and have the machine move the piece 2 inches at a time so we can drill a hole. This process made it much easier for us to drill our holes because not only did we have to drill the holes but before we did that we had to predrill them.

We also decided to make plates to go on the ends of our pipes and tubes. We made these plates 5 inches by 5 inches. The tubes and pipes will be welded to the plates then the plates will be bolted to the top and bottom sheets of metal. The bolts used for these plates and for the tubes and pipes will be 5/16 inches. These plates are 3/8" stainless steel sheets. For our project we had to make 16 plates. Since the device is heavy we decided to make it be disassembled into more pieces, for transport purposes. The plate and tubes are shown in figure 1 below.
Future Work

This upcoming week we will be laying out the template for our workspace to be plasma cut by Surge in the machine shop. Once the layout is finished, the plasma cut should only take a couple hours. Since we will be having our piece plasma cut it will leave a rough edge which won't look very nice. We will have to fix this edge up using a file.

Once the workspace is cut we will next have to drill holes in it where the plates will be put. We will also have to buy bolts to go in the workspace as well as the tubes and pipes. These bolts are all going to be 5/16 inches.

Also we will begin to make pads for our device. We will start out by making a practice one to test the firmness and shape of the materials.

Multi-Terrain Wheelchair

Work Completed
This week our large caster wheels came in for our wheelchair. Also we bought a wheelchair with our own money. We took all of the wheels off the wheelchair and tested the new casters on the wheelchair. The new casters were much too large to spin properly on the wheelchair. We have designed a new setup for our new wheels. This involves us widening the base of our wheelchair. This will be good because it will increase the stability of Sean's wheelchair. The only problem we might find with this design is a decrease in the integrity of the wheelchair. The wheelchair along with its problematic wheels are shown in figure 2 below.

![Figure 2: Multi-Terrain Wheelchair.](image)

**Future Work:**

For the wheelchair our future work is only to implement out design of the new mounting frame for the caster wheels.

**Hours Worked:** 8