

HND Year 2 Planter Project

By Patrick Bourne



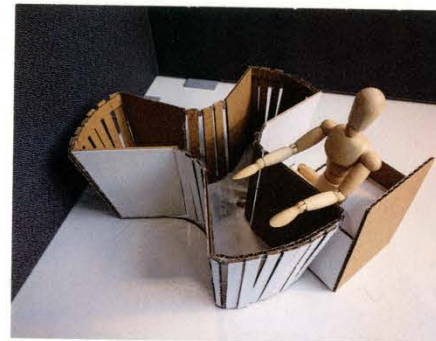
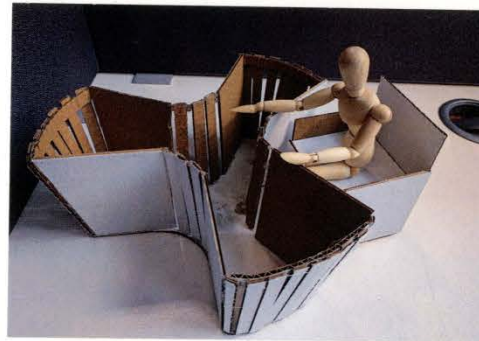
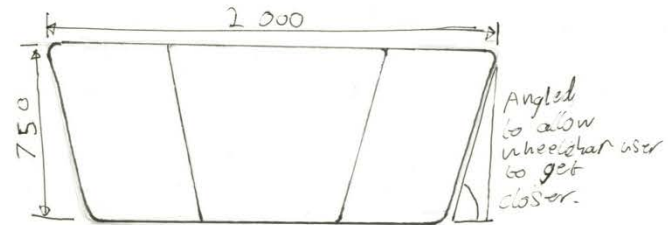
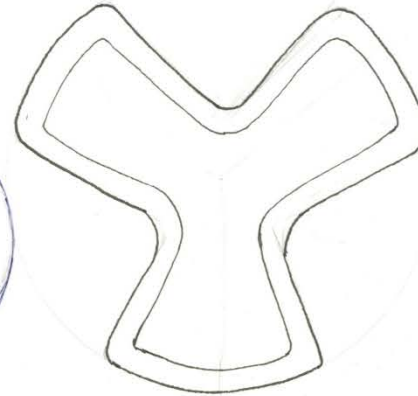
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Existing Products



6.0 Community

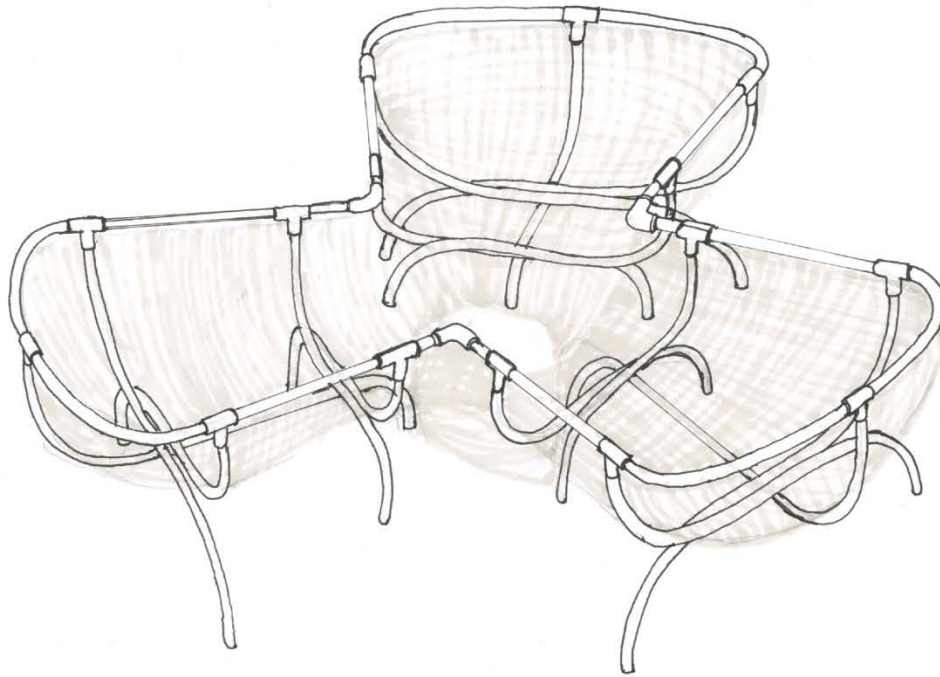
One of the main things that was put forward by Sallie at Horatio's Garden was that gardening has its most therapeutic value when people do it together. This design helps that by providing multiple spaces for people to sit at and enough room for all. The straight inside edges means that the user can get there wheelchair as close as possible to the bed and easily move in and out of position. It also has a slight taper downwards so that they can face front on to the bed a bit closer however this does not sacrifice room for the plants.



*can be used in
whatever position
is the most comfortable.*

Comunity 6.1 Development

This version of the community aims to bring down the solution to an affordable price. It's design is completely modular. The Steel frame is made from only 4 different parts the repeat all around the planter. This means that it can be a curvaceous shape without overly complex and expensive parts.



PP fabric

Researching online I found a fabric that was breathable and allowed the water to drain from the planter and gave the plants ventilation meaning that the roots would be air-pruned making them have stronger fibres and have better mineral absorption. After inquiring what this material was made of I heard from the manufacturer saying that it was "UV Stabilized geo-textile polypropylene fibre that is heat bonded on one side. It is BPA free and safe for organic gardening".

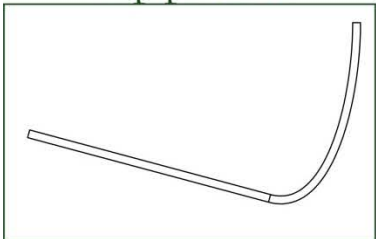


Galvanised Steel

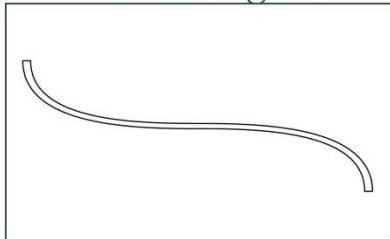
For the poles I decided that galvanised steel would be suitable. It is commonly used to make trampoline frames and offers, durability, good weather resistance and is not overly heavy making it easily assembled.



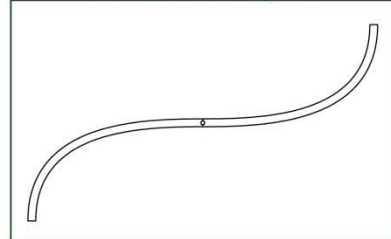
Top pole x6



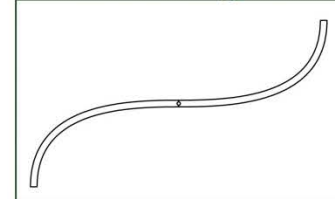
Bottom leg x3



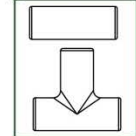
Outside leg x6

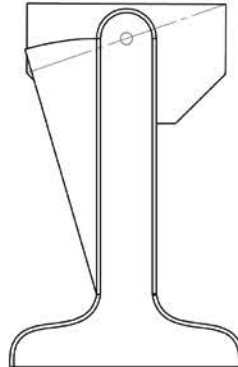
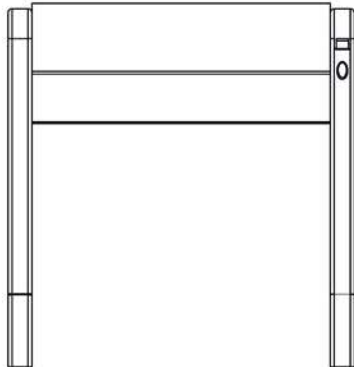
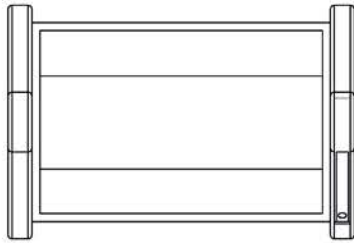


Inside leg x6

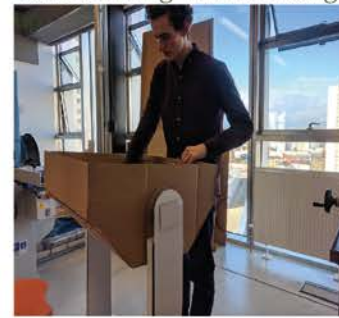


Joints x18





Good for using while standing



Alternative Development

This version of tilting planter aims to bring in more features for both wheelchair user and fully able user. Now there is a compost bin on the sides and a locking mechanism to reduce the amount of effort needed to tilt.

Leg level with planter



Compost bin on sides



Ball Bearing lock

This would be a viable locking mechanism as it can lock in 2 different positions. In this case the upright position and the tilted position.

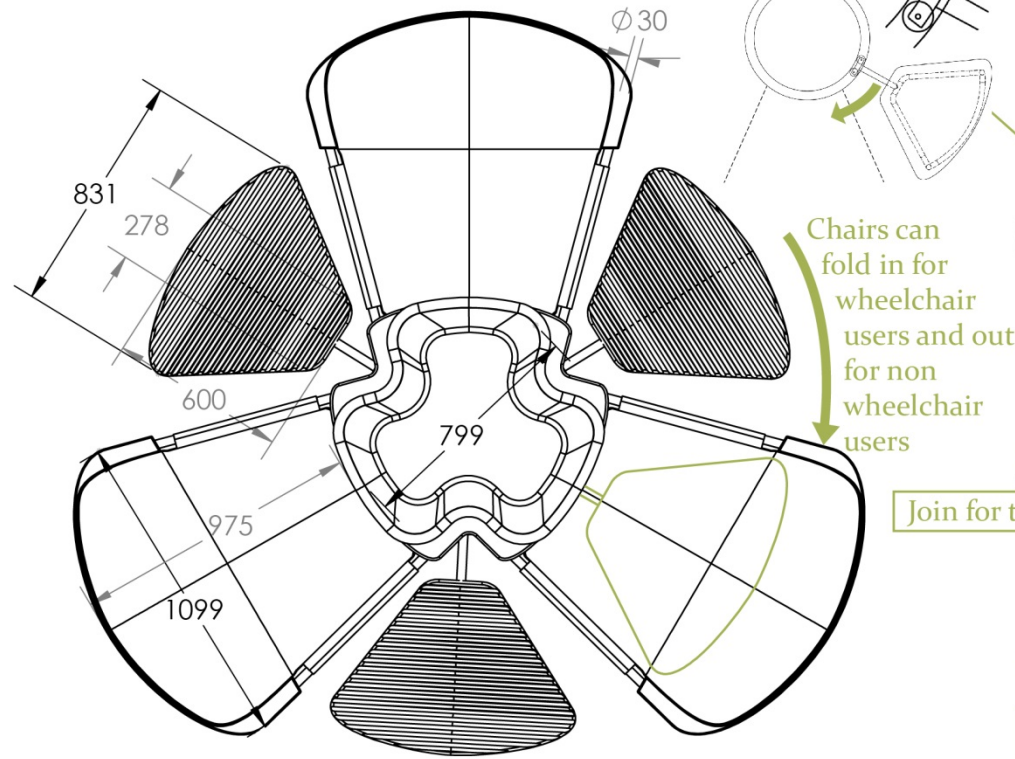


Clover



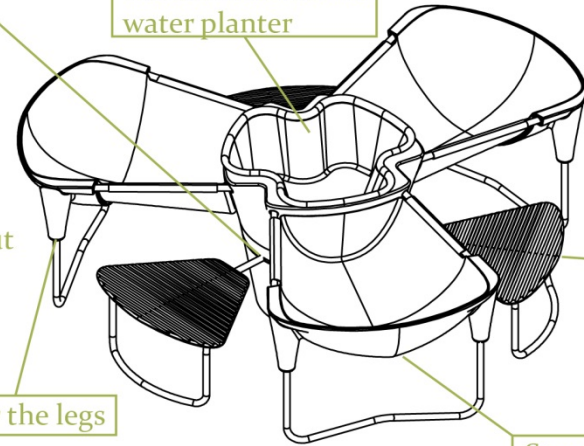
Orthographic drawings

Runs along track
around the centre



Chairs can
fold in for
wheelchair
users and out
for non
wheelchair
users

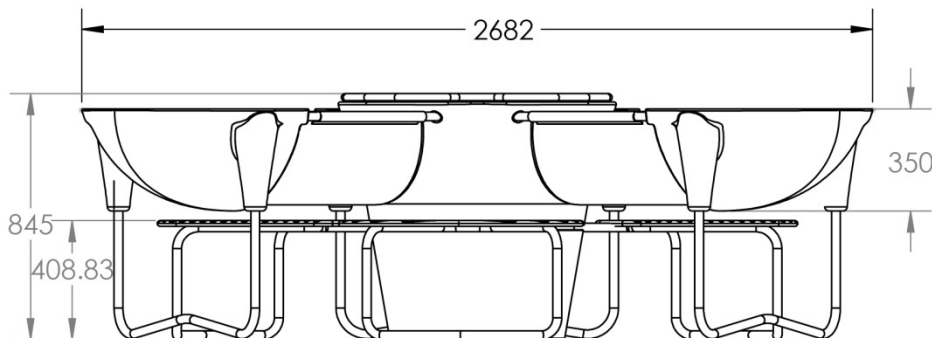
Bucket in center for
water planter



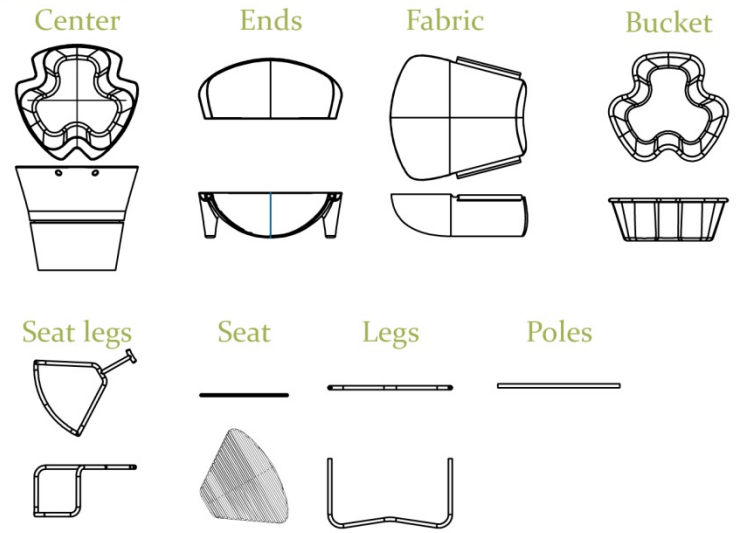
Seats for non
wheelchair
users

Join for the legs

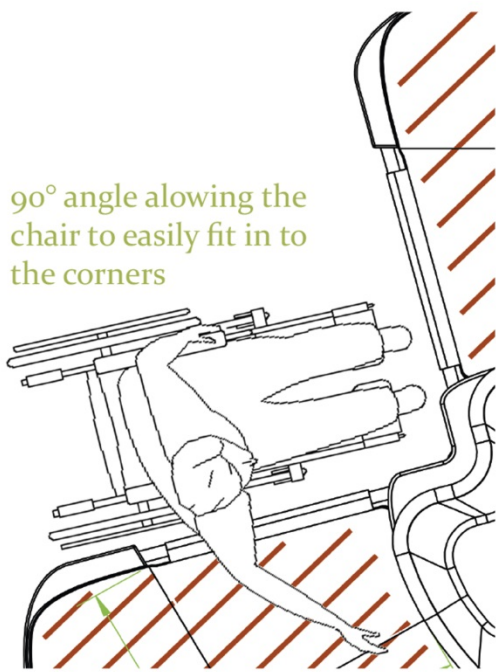
Storage for chairs
under planter



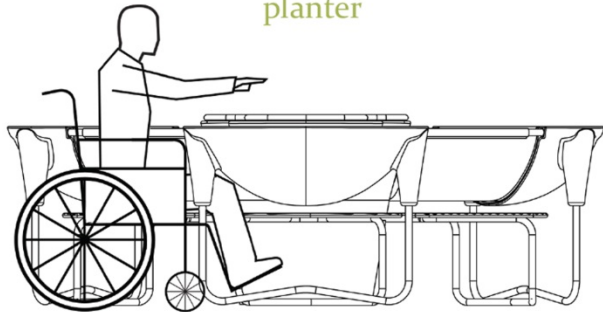
Parts



90° angle allowing the chair to easily fit in to the corners



Room for wheelchair users legs under planter

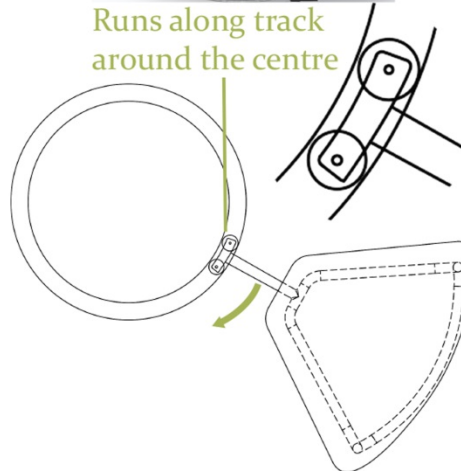


To help diversify the range of users it has 3 separate chairs that can be pulled out from below the planters in to a comfortable position. This opens the product up to non -wheelchair users who either have trouble standing or would prefer to sit.

The height that they are at makes it easy for wheelchair users to reach it and pull it in or out. It also means that all users will be sitting at the same height giving a sense of ease and equality.



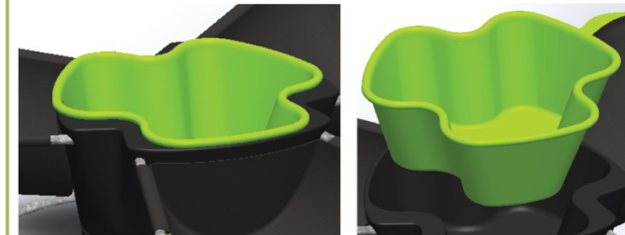
Runs along track around the centre



Final Features



One of the things that was very apparent from the community gardens was that they all loved variety. Often in a 1 square meter planter there would be 7 different plants. This cultivates that interest by including a water garden planter in the middle. It can be removed for cleaning and the plants that grow in the water need very little attention.



① Landscaping fabric

UV Stabilized geo-textile polypropylene fibre that is heat bonded on one side. It is BPA free and safe for organic gardening.



④ Polyethylene

Thermoformed, polyethylene.



② Polyethylene

Rotation molded polyethylene.



③ Galvanised Steel

Extrusion moulded, cold bent, galvanised Steel

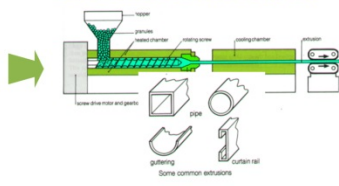


Manufacturing Process

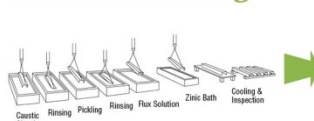
Steel



Extrusion Molded



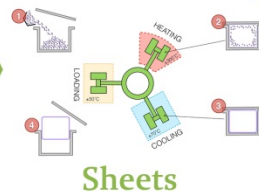
Zinc Galvanising



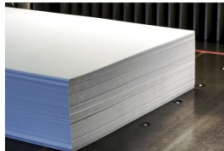
Cold Bending



Rotation Molding



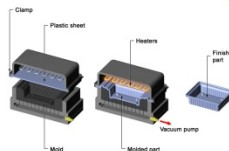
Sheets



Finishing



Thermoforming



Packaging



Shipping



Polyethylene



Polypropylene Fibers



weaving



Heat/UV Treatment



Cutting and Stitching

