

# COLLABORATIVE

Native living wall project



**URBAN LIVING WALL**  
OPEN SOURCE GREEN WALL PROJECT

# Native Plant Living Wall with 3D Printed Planter Panels

Urban green walls and roofs provide habitats for plants and animals, supporting nature in our city. They create shelter, shade and cool cityscapes for a more liveable urban environment for people. The proven positive effects on people's wellbeing mean green spaces are a must-have in urban regeneration.



On a larger scale, green roofs and walls act like a sponge, absorbing rain to help reduce floods and lessen pollutants flowing into our rivers and sea.

*The native plants are from the Rocky outcrop region from the banks peninsular; the most diverse range of plants in the banks peninsular. Their roots reach down to find water between rocks, and their foliage is fine and low to the ground in order to survive in windy regions that have fluctuating temperatures.*



*Visualisation of Living Wall*

## Panel design features:

**Front:** The curved facade shapes on the planter panels are inspired by Steve Reay's green wall up at AUT design school. Since we are using hardy native plants from the rocky outcrop region; our earlier design prototypes bio-mimic rocky surfaces. The uneven surface provides more variation for the plants to grow onto, and it also makes the planter panel more robust than if it had flat edges.

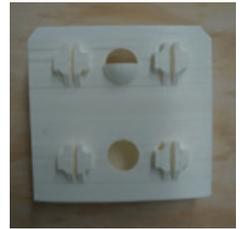
**Opening and Internal area:** The planter panels are hollow with a 2mm thick wall lining to hold soil, water and the plant's roots. The opening has to be large enough to put soil and a pre planted native plant inside.

**Back:** The back hooks and fastens onto the wire fence structure of the living wall. There is a hole for irrigation, and for water overflow. We don't want the roots to get over saturated.

**Sizes:** There are small and large panels. Small: 145mm x 145mm x 50mm dimensions. Large: 290mm x 290mm x 80mm.

**Materials:** The filament used is a PLA from bio waste corn starch. It is completely non-toxic and compostable. They should last in the outdoor conditions for 2 or 3 years.

**Other materials for planter panels:** Some of the larger ones are wooden and are shaped with CNC machines.



*The prototypes were made using a Makerbot 3D printer at the Fab Lab XCHC in Christchurch. The final designs are white and bone color, black would hold in too much heat from the sun, which is not ideal for the plants nor for the durability of the planter panels.*

# How to get involved

If you have access to a 3D printer, then you are able to contribute a planter panel to this native plant living wall to be in central Christchurch, corner of High street and Columbo street.

This planter panel 3D printing files can be downloaded free from the website [urbanlivingwall.net](http://urbanlivingwall.net) or if you are at a school, your teacher may have the files already.

This is an open source design project, so you can also use these design files and print your own for a living wall in your community or at home. just make sure to attribute the design to us, by letting people know who we are. "

When the planter panel is fully printed, please contact [carl@fabrico.org.nz](mailto:carl@fabrico.org.nz) or [astudholme@doc.govt.nz](mailto:astudholme@doc.govt.nz) so we can provide a native plant and fasten the plant to this public living wall.



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This project is a collaboration between:

