

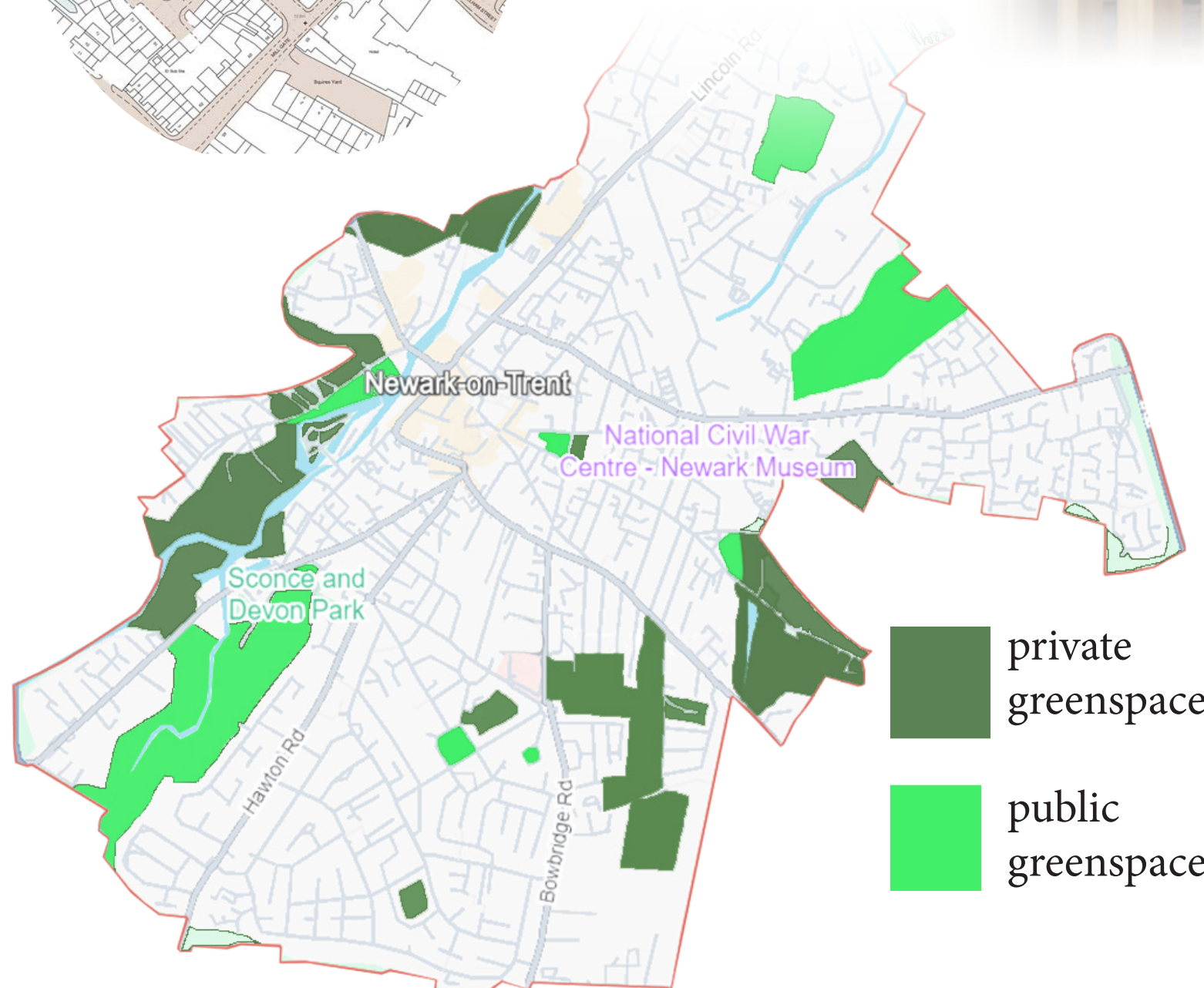
CRATE AND CULTIVATE

48 MILL GATE
NAVIGATION HOUSE
NEWARK
NG24 4TS



Newark lacks greenspace throughout the town, leaving residents of Newark little opportunities to connect with nature. Crate and Cultivate gives the people of Newark a chance to interact with nature and become inspired in unique ways featured in this library.

It has been designed with the core value of reconnecting people with nature, which has been done through learning, making and growing. Across the 3 distinct floors featured, there's a blend of modular structures, in-house food production and various shifts in the atmosphere depending on the floor. Visitors can explore different methods of growing vegetables such as hydroponics, and in soil. The space nurtures not only the growth of plants and veg but also people in their own experiences.



private
greenspace

public
greenspace



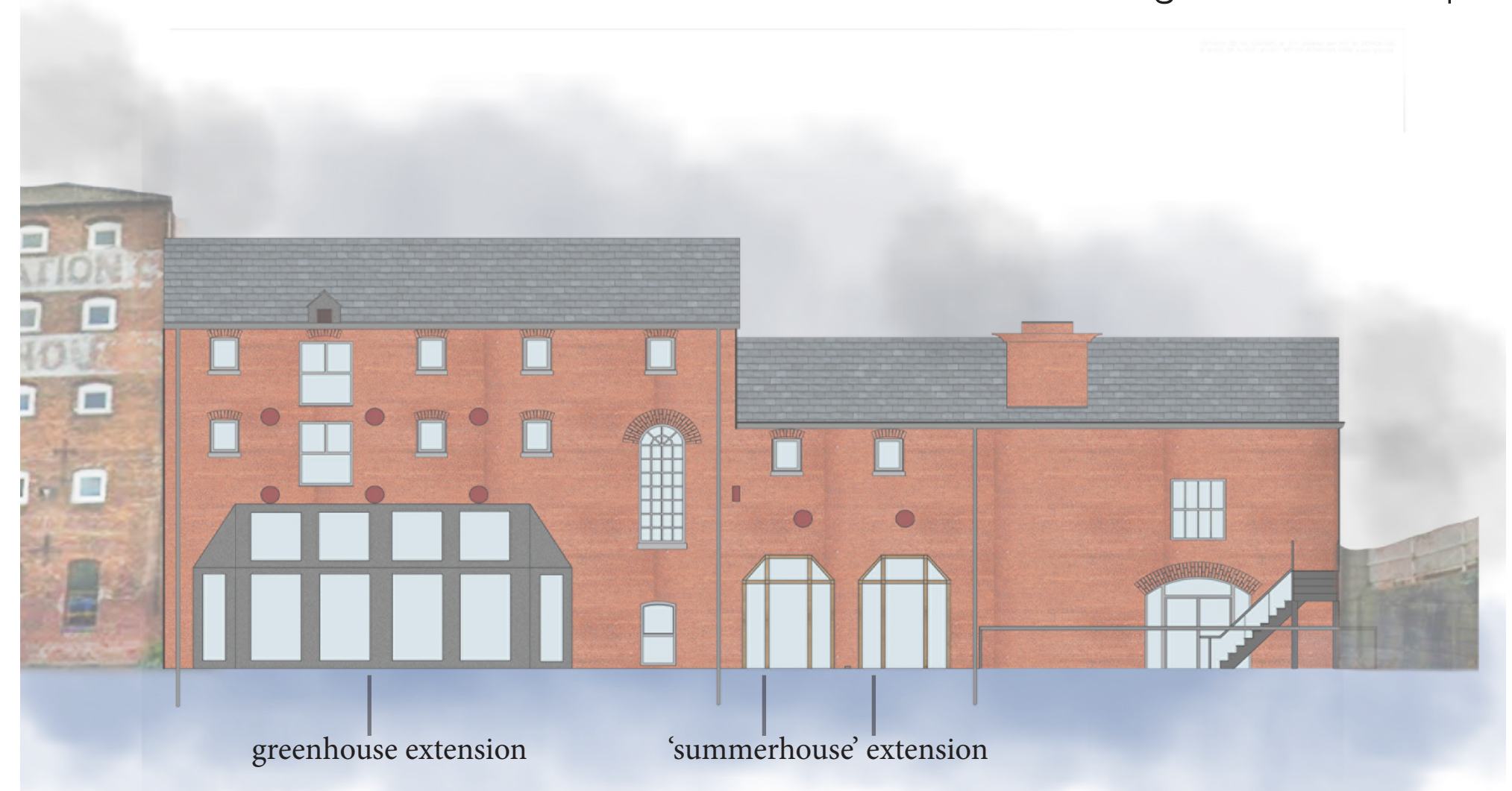
main image (workshop)

The problem.

Newark has a worrying lack in greenspace within the town and outskirts. Any greenspace that is available is mostly private, bringing down the opportunities for local residents to have any sort of integration with nature. Through this problem, it leaves residents less aware of the importance of nature to their everyday life which is something I aim to tackle throughout my project in a multitude of ways.

More specific problems with a lack of greenspace in a town and why I chose this problem would be a lack in biodiversity. This means there is less chance for smaller ecosystems to thrive and contribute on a wider scale. Air quality within the town will be lowered as trees and plants use CO₂ (A harmful pollutant) and produce O₂ as a result. Less permeable space within the town can lead to higher flood risk, whereas greenspaces absorb rainwater which would drastically reduce any flood risk. An increased Urban Heat Island effect could take place. Greenspaces allow for towns to cool through shade and evapotranspiration. With the lack of greenspace, towns can retain heat leading to higher temperatures. This is dangerous to human health, and ecosystems.

Through focusing in on offering an opportunity for local residents to connect and interact with nature on a more sustainable and beneficial scale, I hope to show and promote the importance in hope that they take something home and can play their part in protecting the environment around them and preserving it for future generations.



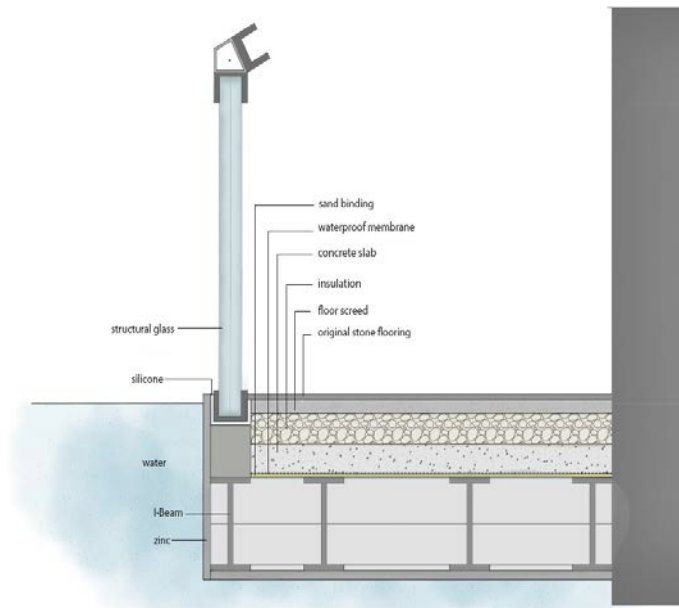
long external elevation - riverside view

'Summerhouse' Extension

The cafe featuring a central walkway, has all its food grown in house, providing a fresh and healthy menu everyday. The 2 'summerhouse' extensions offer a more secluded seating option with a view of the River Trent.

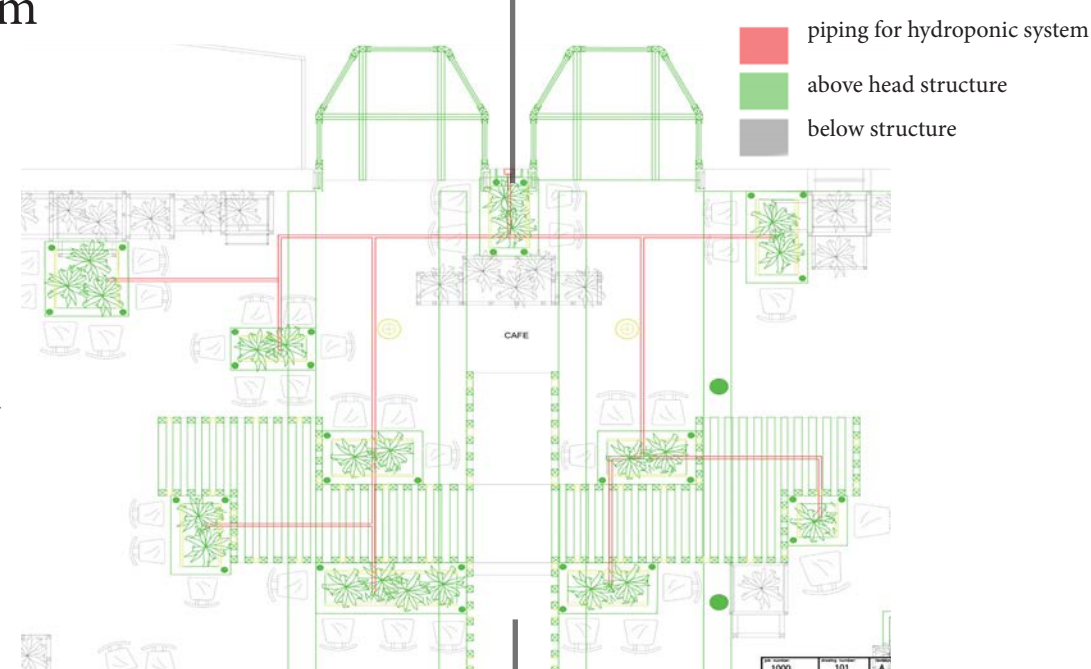


'Summerhouse' Extension detailed section



Above head hydroponic system

One of the ways to inspire a sustainable home growing method is the hydroponics featured in the cafe. This diagram shows where the pipe work for the system would, through use of the water in the river trent, this alleviates pressure from municipal water systems. using a closed-loop system means no water is wasted and only a small amount is being taken from the river trent to begin with.

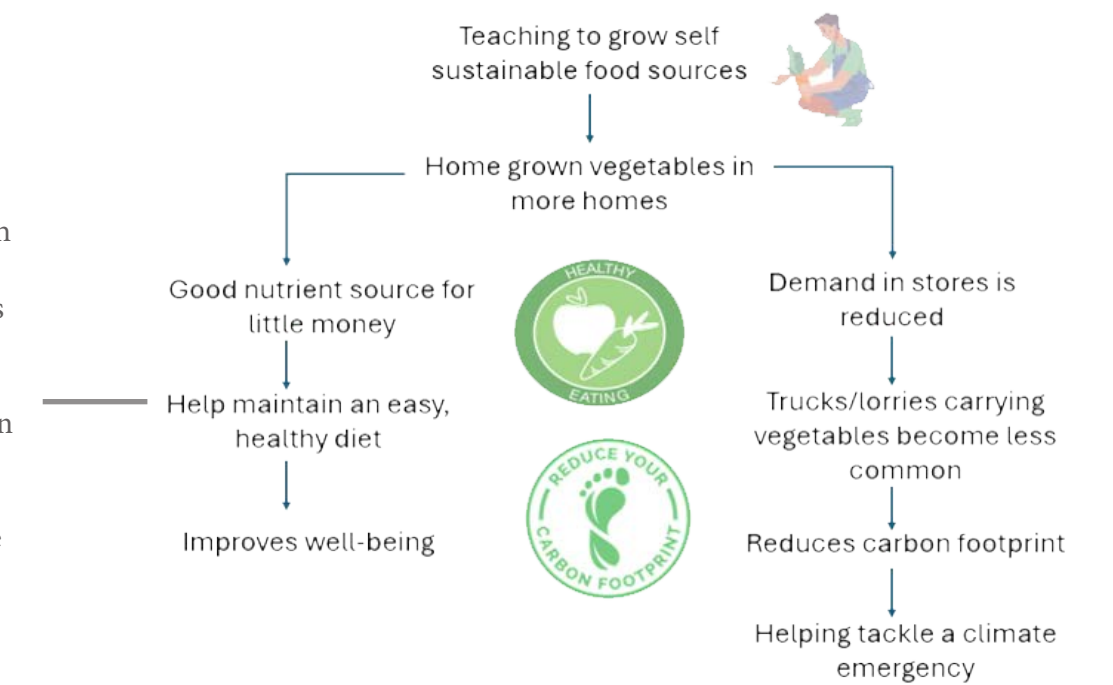


Self-Sustainable Cafe

the cafe featured on the ground floor of my library grows the majority of food served in-house through a mix of systems such as hydroponics and crate-based soil systems. visitors can rent individual crate allotment spaces in dedicated spaces throughout the building. these are located within the larger crate structures designed to be bookshelves, integrating these spaces within the overall design. visitors then get the chance to return over days, weeks or even months to watch the progress and develop a personal connection to food cultivation and nature on a deeper level. This creates a hands on approach to a self sustaining food sources again relating to climate emergencies.

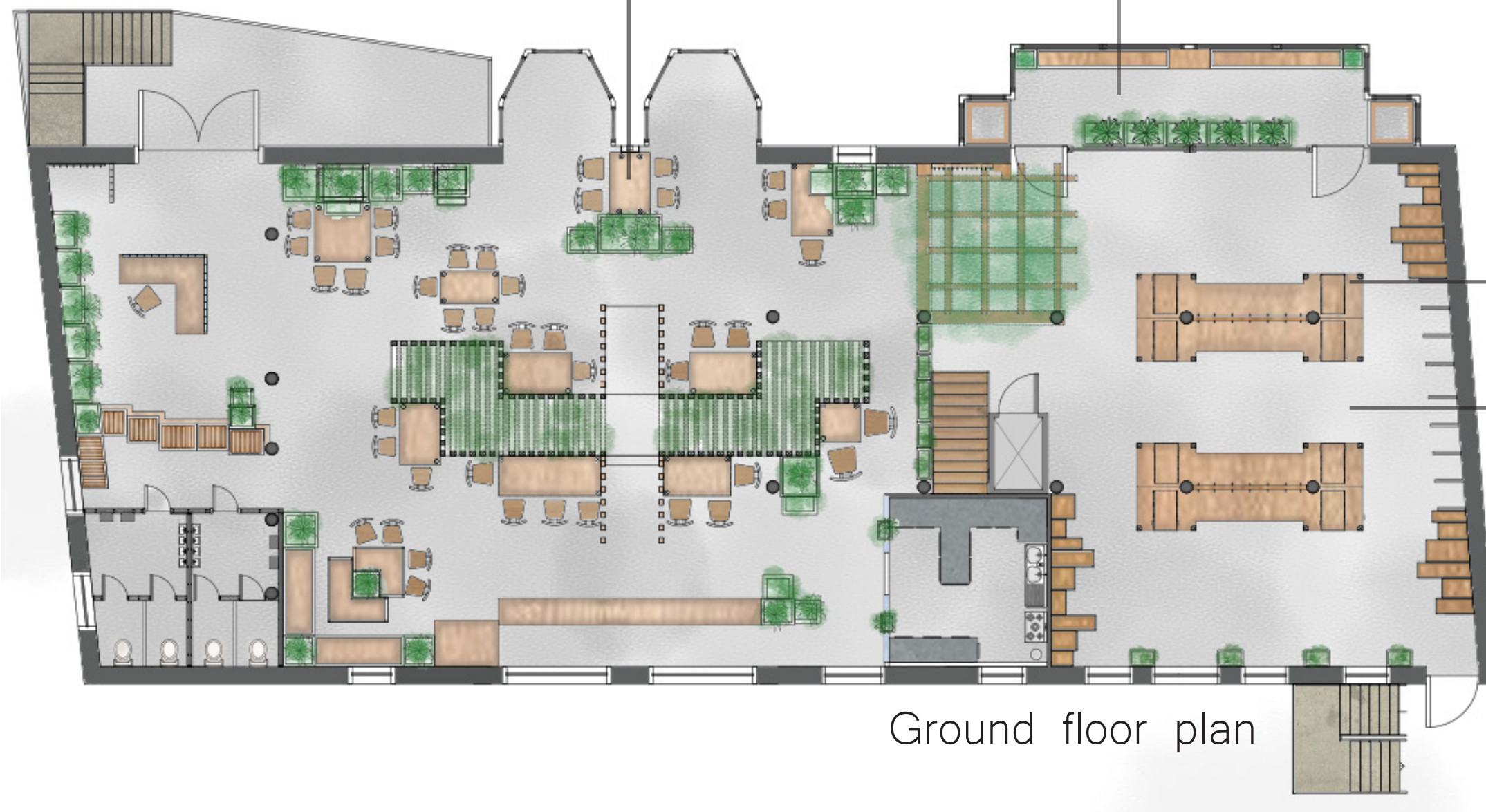


The 'greenhouse' extension presents the opportunity to get involved in growing. Through this, it aims to push people to grow their own self sustainable food sources tackling smaller issues such as maintaining a healthy diet, but on a larger scale can help to reduce food miles and carbon footprint. Demand for vegetables in store decreases and carbon emissions from farm to shop are reduced.

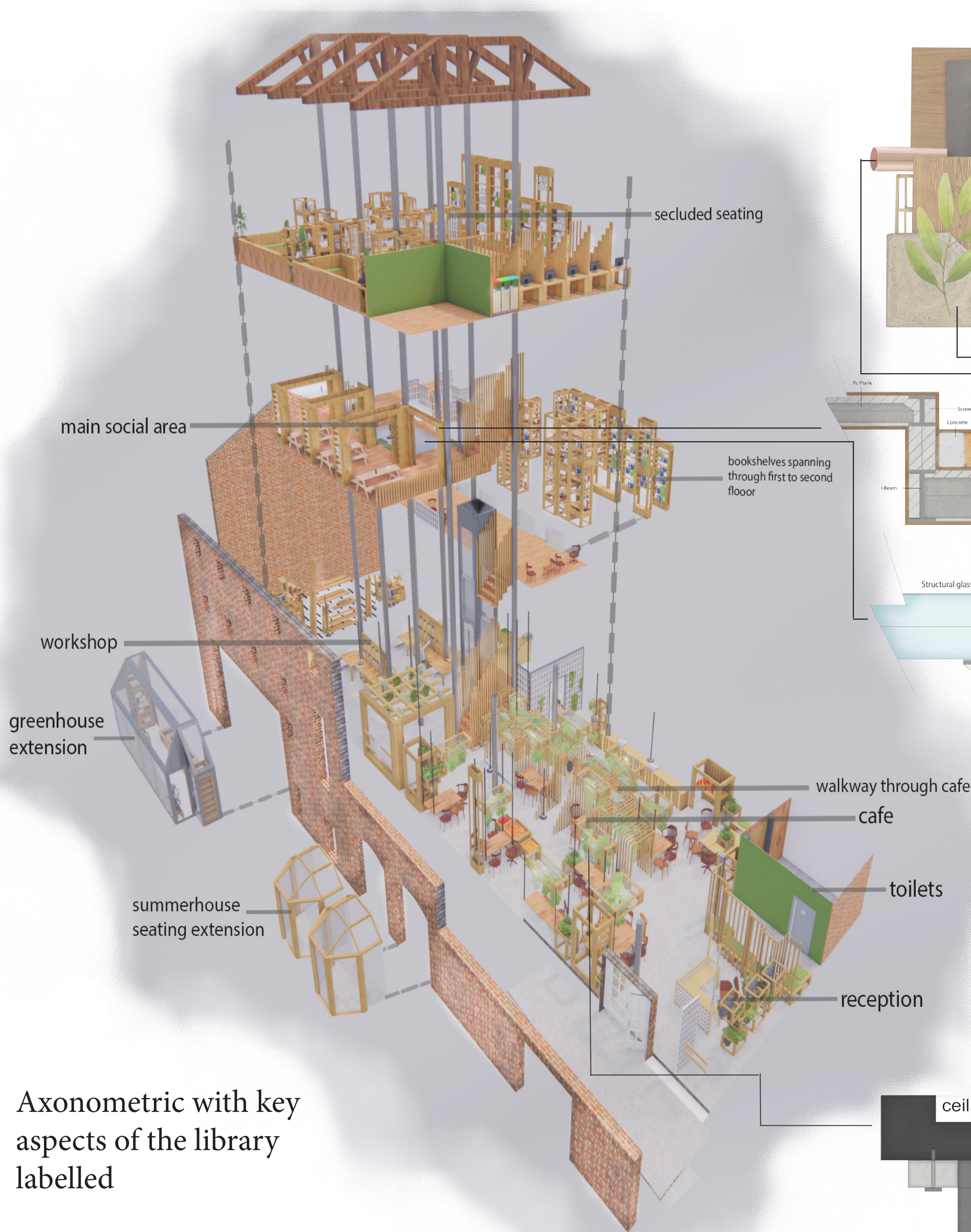


Repair/re-use Wood Workshop

Through the wood workshop i aim to promote reuse and repair methods, directly reducing landfill waste and carbon footprint of producing new items. In general it will allow the local community to become more self sufficient. education in reclaimed wood and sustainable materials are another benefit of the workshop. the space also features 2 main work spaces with extendable benches, with 2 different table heights for an all accessible workshop space. Storage spaces also range in height. Located below the workbench are crates which can be pulled out freely and used as seating if needed.

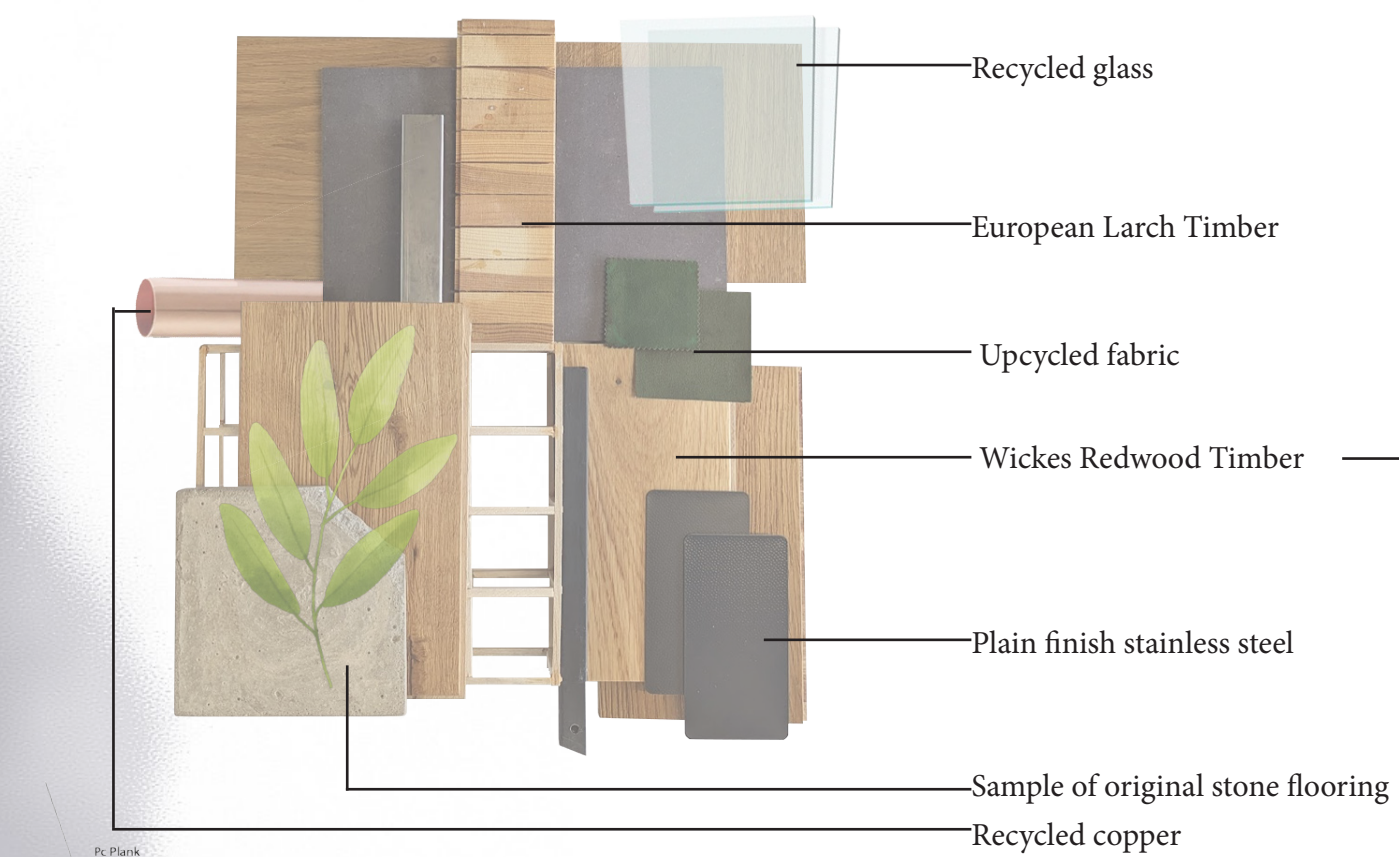


Ground floor plan



Axonometric with key aspects of the library labelled

Material Board



Material language

Material language is especially important when it comes to the atmosphere of the Crate and Cultivate. Modular structures and wooden beams create a warm tactile environment reflecting both function and growth as they run from beginning to end of your journey through the space. Along with this, the use of the materials directly reinforces its environmental values. Recyclable, renewable and low carbon materials are prioritized throughout the design, responding to climate emergency. The use of natural materials also offers another opportunity in the general environment to connect visitors with nature, which is one of my overall goals with the design.

Crate Planters

For the crates integrated throughout the modular structures in the building, the design allows watering a lot less often and observation of the soil through the glass. With the drip tray sat in the bottom it allows free draining of the vegetable after watering. There is then a wick, connecting the drip tray to the soil. The soil wicks up more from the drip tray constantly keeping the plant watered and recycling the water to reduce waste.

These materials have been selected carefully in mind of sustainability.

Recycled glass

- reduces landfill and demand for raw materials
- use 40% less energy than making new glass.

Upcycled fabric

- reduces landfill
- less demand for new fabric (often water/carbon intensive.)

European Larch Timber

- durable, sourced in Europe (reduce carbon footprint)

Wickes Redwood Timber

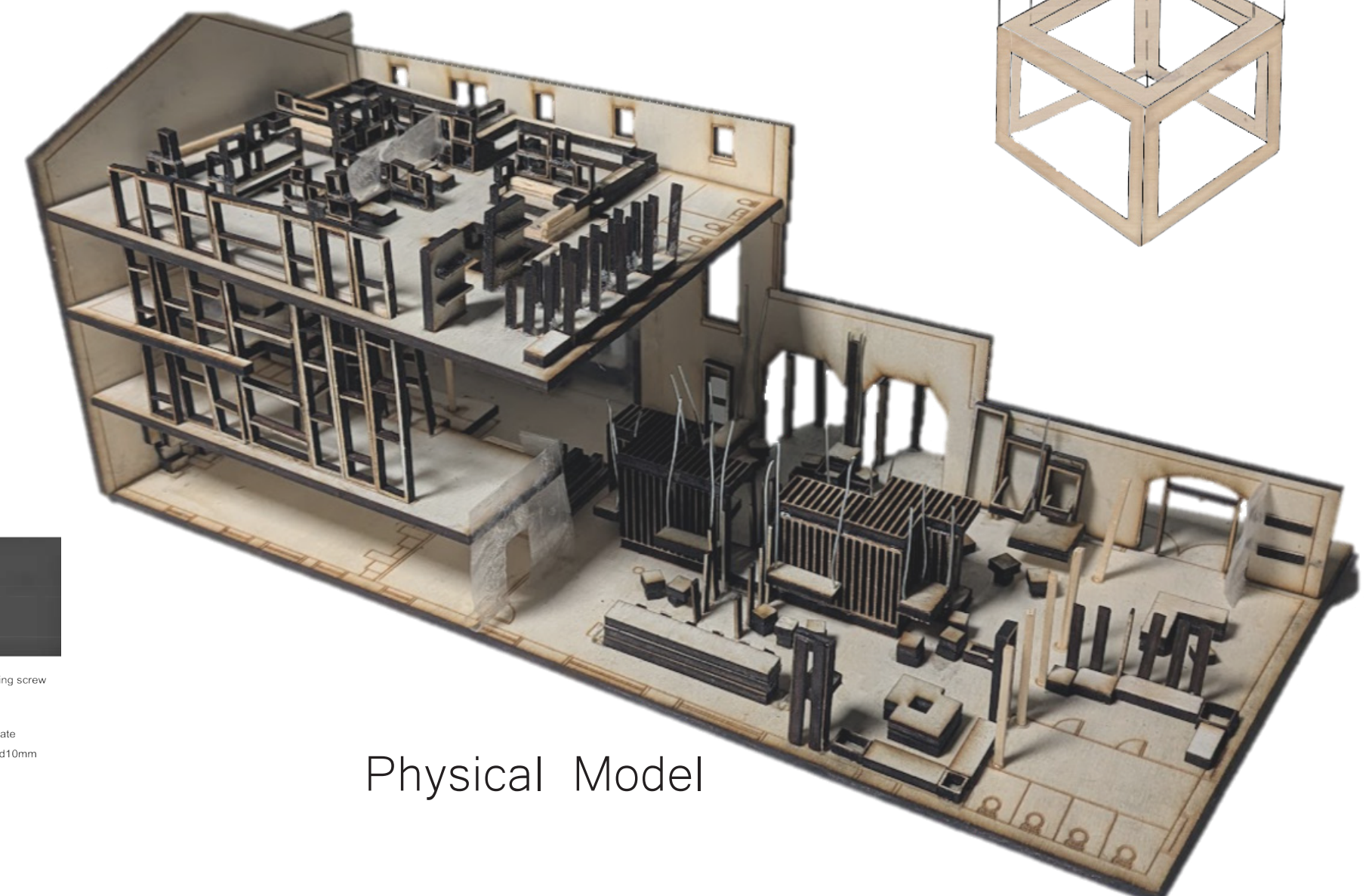
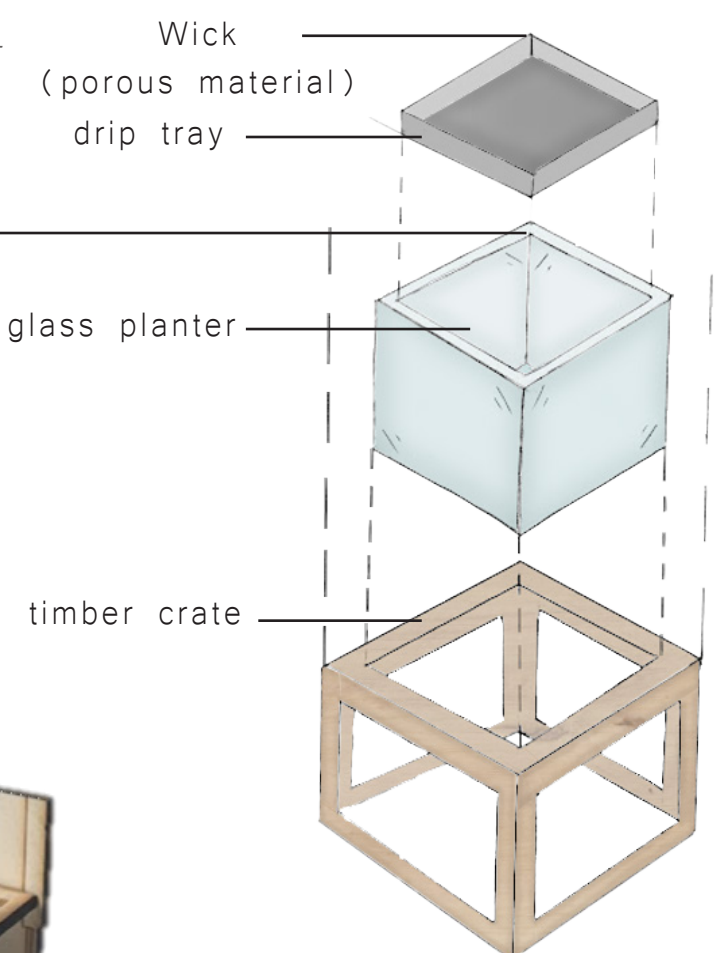
- slow-growing, managed forests.
- durable

Plain finish stainless steel

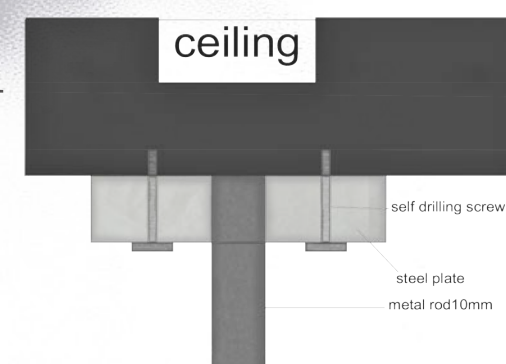
- high durability
- fully recyclable

Recycled copper piping

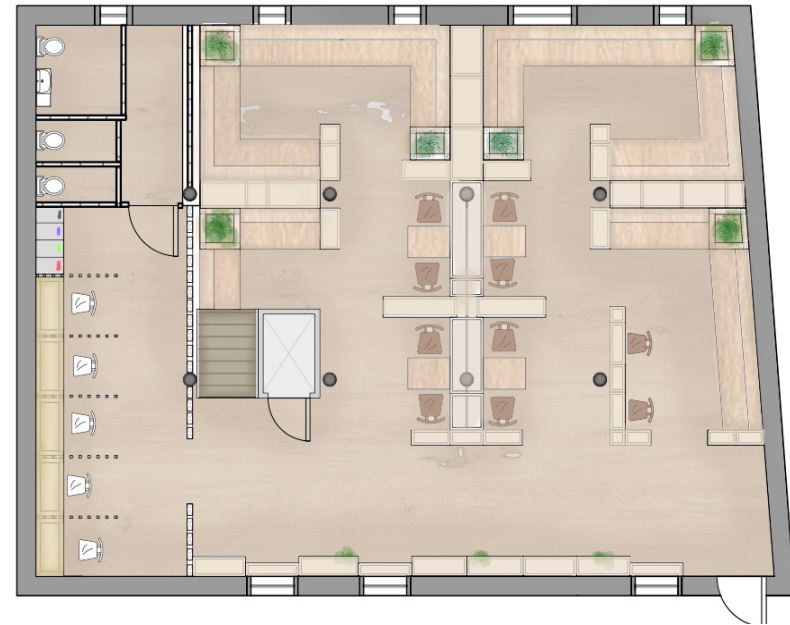
- uses 85% less energy than new copper
- fully recyclable



Physical Model



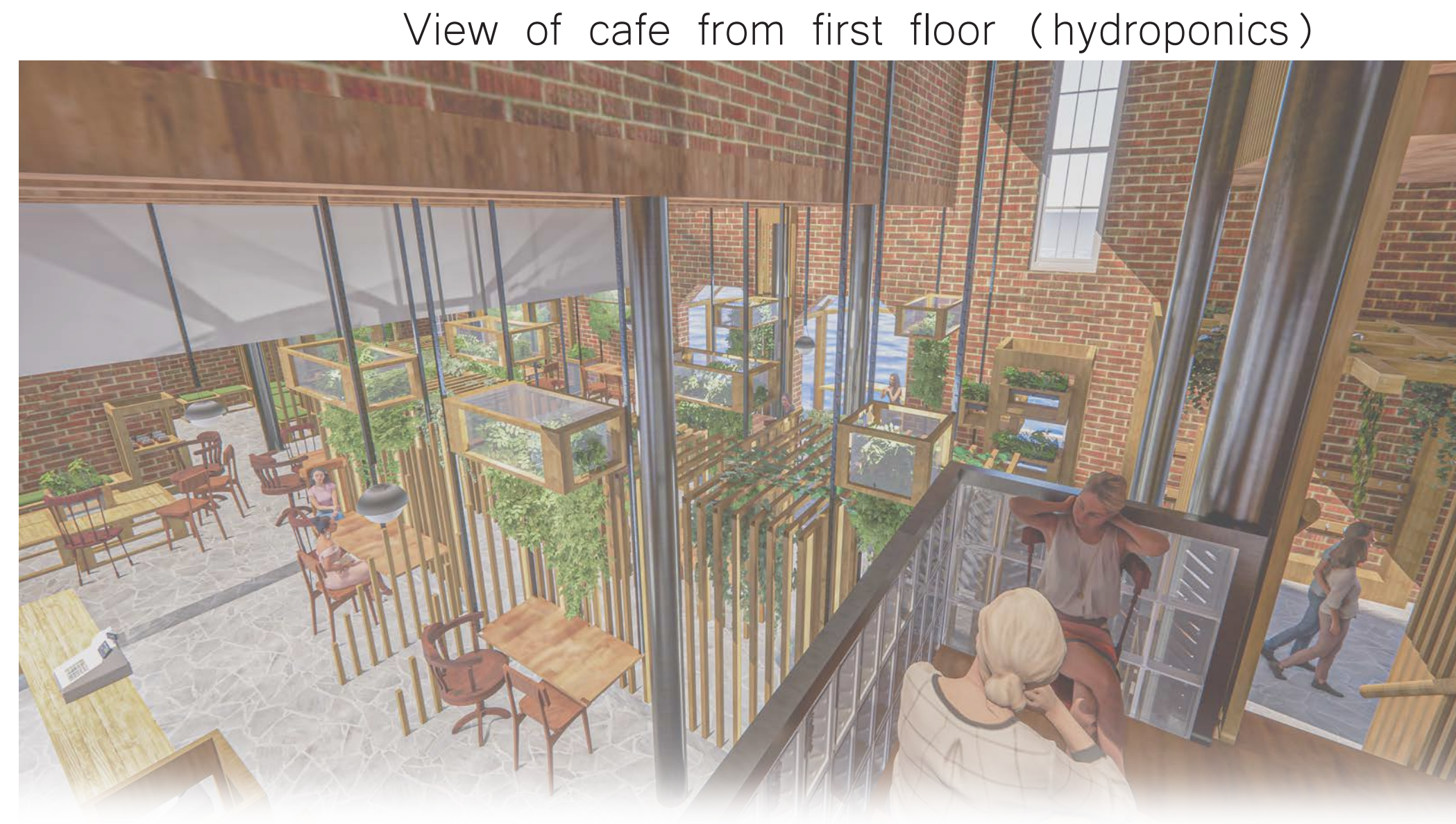
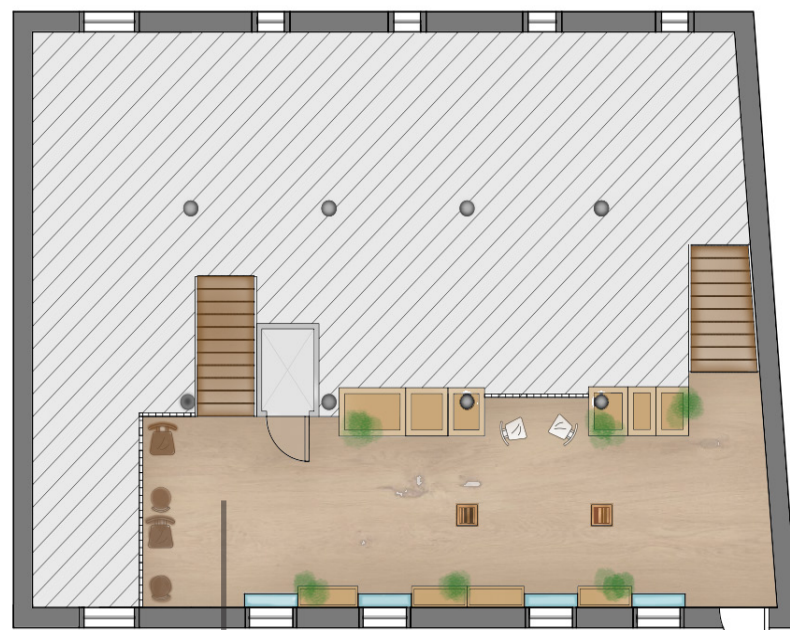
third floor



second floor



first floor



picnic bench styled seating for a more social study space

fire exit located on all floors

modular crate structured bookshelves



Overview of second/third floor

Crate and Cultivate spans three distinct floors, each shaped around sustainability, community, and continuous learning.

The ground floor features modular bookshelves crafted from reclaimed timber, extending upward through a double-height void to the second floor. This vertical connection not only links the levels visually but reinforces the idea of growth—both intellectual and ecological.

The second floor, the social heart of the building, includes a glazed floor section that looks down into the wood workshop. This transparency fosters a visible exchange between making and learning, highlighting sustainable craft and hands-on creation with natural materials.

The top floor offers a calm, low-energy space designed for focus and reflection, with varied seating zones and passive lighting strategies that reduce energy use. Across all levels, the architecture uses breathable materials, natural ventilation, and abundant daylight to minimize its carbon footprint—making the building itself part of the climate conversation.

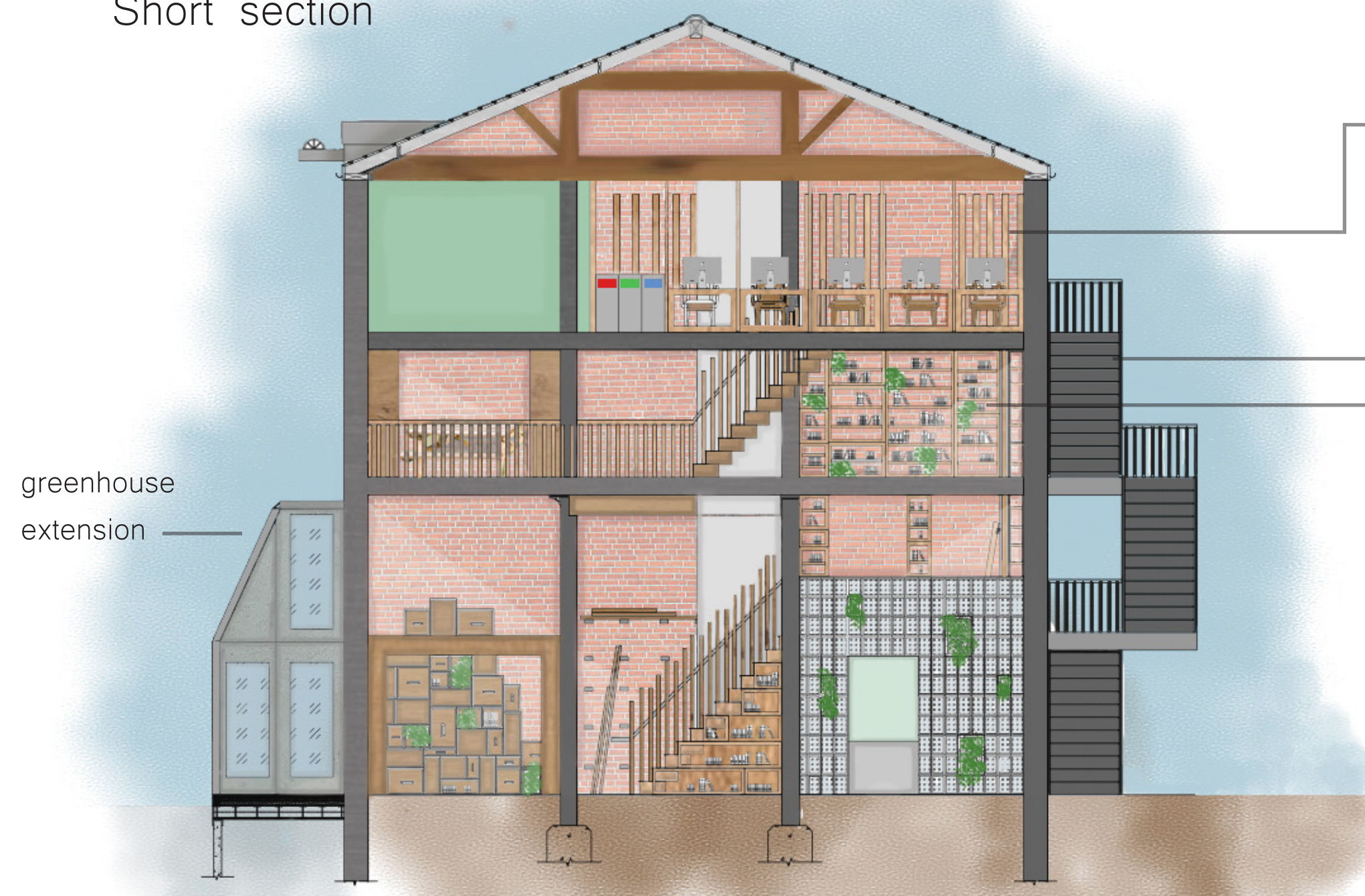
View of cafe from first floor (hydroponics)

first floor



long section

Short section



timber beams to zone and add privacy to spaces while leaving light to shine through

external fire exit
modular bookshelving

On the right, two seating areas are shown on the top floor. The first is a study desk with an integrated pull-down blind, allowing users to control light naturally and reduce reliance on artificial lighting. Below, a more secluded zone uses recycled glass blocks to create a sense of privacy without disconnecting from the building's open, light-filled atmosphere.

Crate and Cultivate reimagines the library as more than just a place for books—it fosters sustainable habits, shared knowledge, and deeper connections to the environment. Through adaptable spaces, natural materials, and green design strategies, it addresses the climate emergency by encouraging mindful living and community resilience—reflecting the core challenge this project set out to explore.

Third floor



Second floor

