

# CIRCULAR REUSE

## MEA House

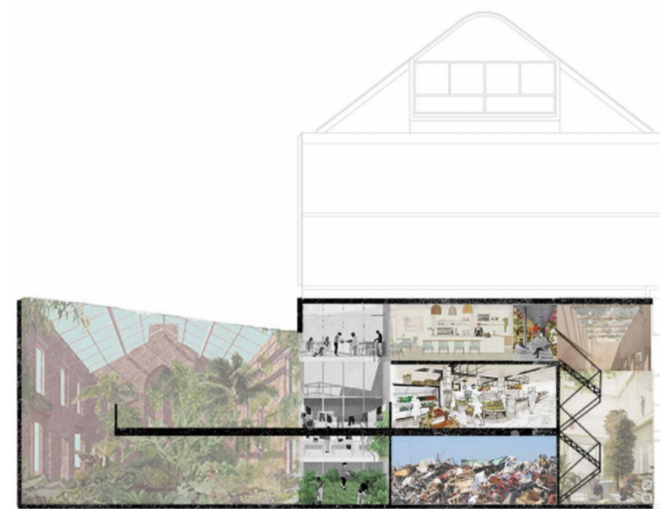


Driven by a strong interest in sustainability and material reuse, this project explores how interior architecture can contribute to environmental solutions. Focusing on waste generated by the food and hospitality industry, the design transforms discarded materials into functional and engaging interior elements. Using recycled plastics and compost-based planting systems, the project combines material experimentation with sustainable design strategies. The aim is to create an interactive and educational environment that encourages users to engage with sustainability and understand the lifecycle of materials. Ultimately, the project promotes responsible design while responding to current environmental challenges through innovative and practical interior solutions.



### SITE ADAPTIVE POTENTIAL

Areas of interest that are of interest on MEA site.



1 Collection of rubbish from near by restaurants.



2 Food waste from collected rubbish is gathered and turned into compost.

3 Food compost is then taken and reused to plant new plants.

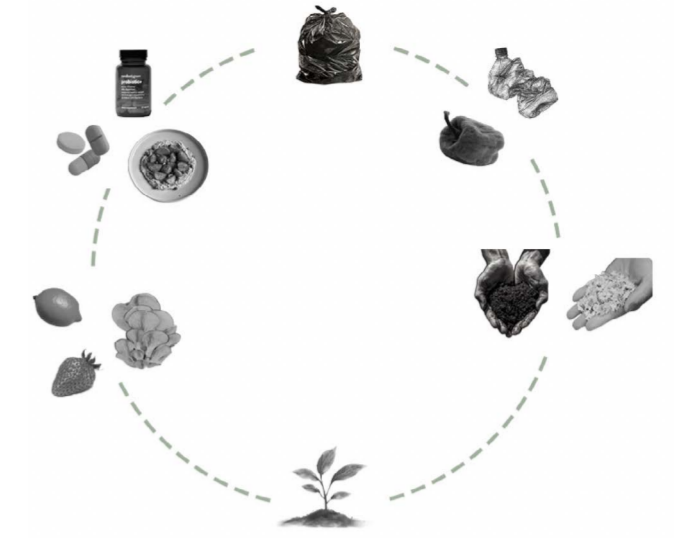


4 Once plants have grown they are harvested and taken to either the kitchen or labs for health research.

5 Harvested food goes to the restaurant to then teach how the whole of the plant can be used in a household for minimal waste



6 From the left over restaurant waste the whole process is then repeated to create a circular economy



### Function Analysis Of Reuse Process

Collage to analyse the stages of the recycling and reuse process of restaurant waste, discovering each floor is to become a different stage in the recycling process.



### MEA House Block Plan

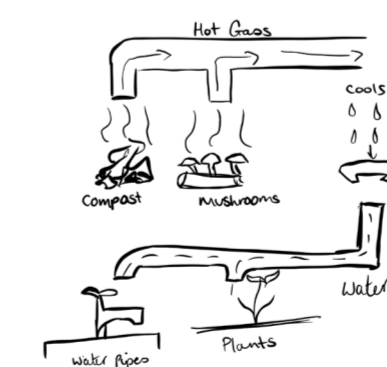
Materiality block plan diagram to show how the site is split into the different stages of the recycling process.



### Stair Axonometric

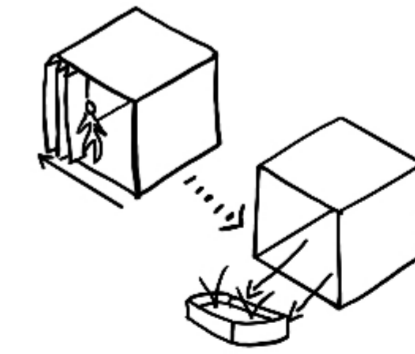
The feature of the Grade-listed stairs symbolises the growth of plants emerging from darkness into light.

### SPACIAL AMBITIONS



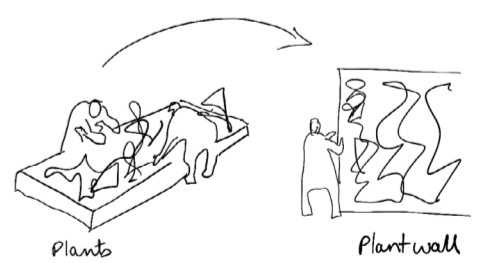
### Gas Harvesting

Diagrams showing how gas can be extracted from compost and mushroom growth, and turned into water that can be used around the site and watering the plants.



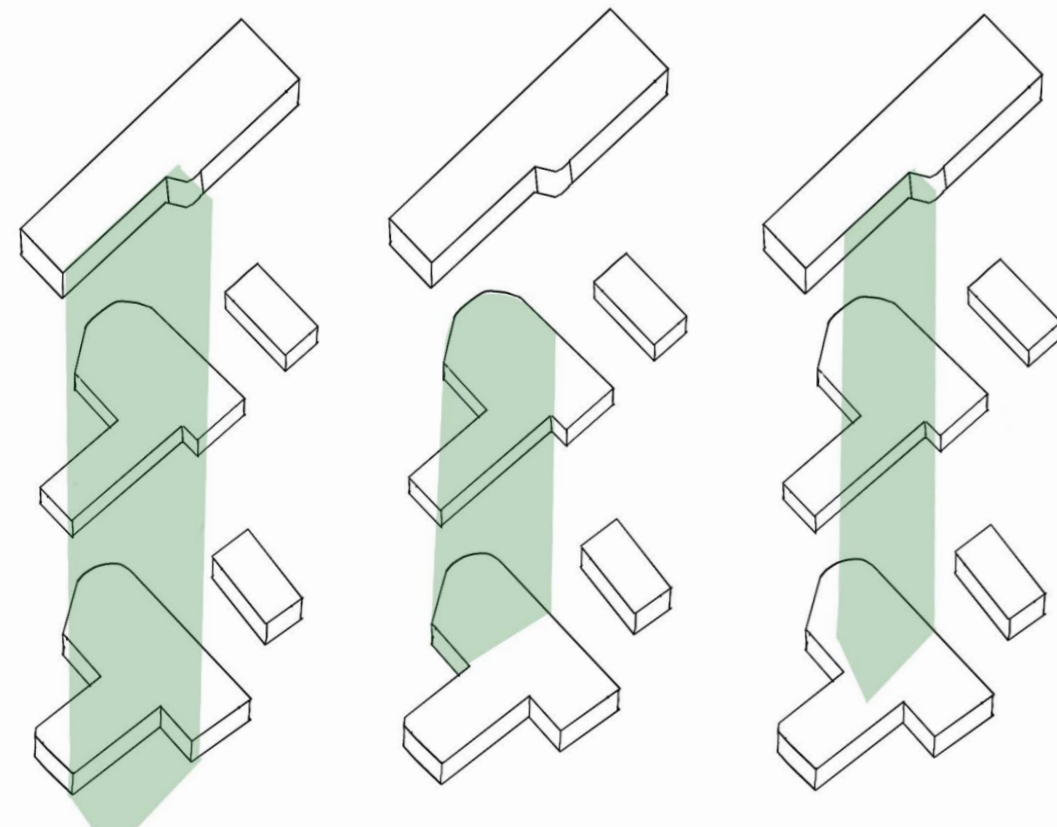
### Sunlight Optimisation

Diagrams showing how shutters can be drawn back to allow for planters to be moved outside depending on the weather.

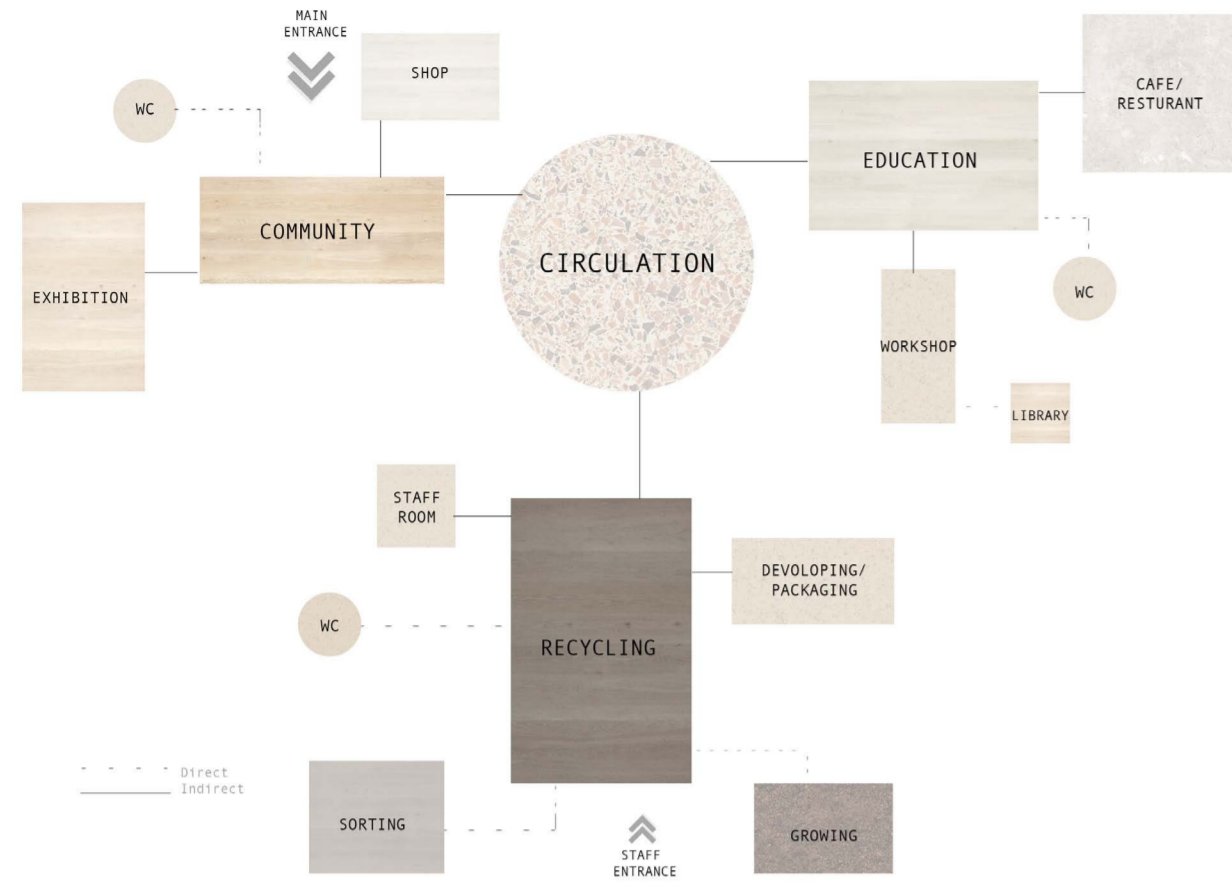


### Green Space

Diagrams showing how after plants are grown they can be taken and placed onto the green wall, to allow them to continue to grow.



**ADJACENCY DIAGRAM**



**GROUND FLOOR**

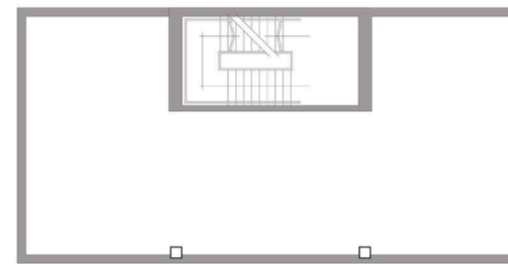
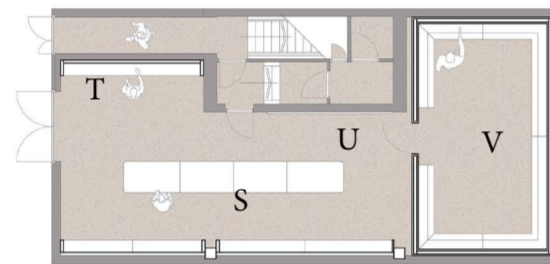
- A. GROWING GARDEN
- B. PLASTIC MOULDING
- C. PLASTIC SHREDDING AND SORTING
- D. INDOOR MOVABLE GROWING SPACE
- E. COMPOSTING ROOM
- F. MUSHROOM CULTIVATION ROOM
- G. MUSHROOM MOVING FRUITING ROOM
- H. STAFF ENTRANCE
- I. PRODUCT LABS
- J. STAFF COMMUNITY SPACE
- K. FRUITING TREES
- L. GROWING PLANTERS
- M. STAFF OFFICE SPACE
- N. CONTROL ROOM
- O. RECYCLING BINS
- P. RECYCLING DROP OFF
- Q. BIN STORAGE
- R. TRANSPORT RECYCLING DROP OFF
- S. PREPARING STATION
- T. STORAGE SHELVES
- U. WHITE BOARD FOR STOCK TAKE
- V. DRY STORE

**FIRST FLOOR**

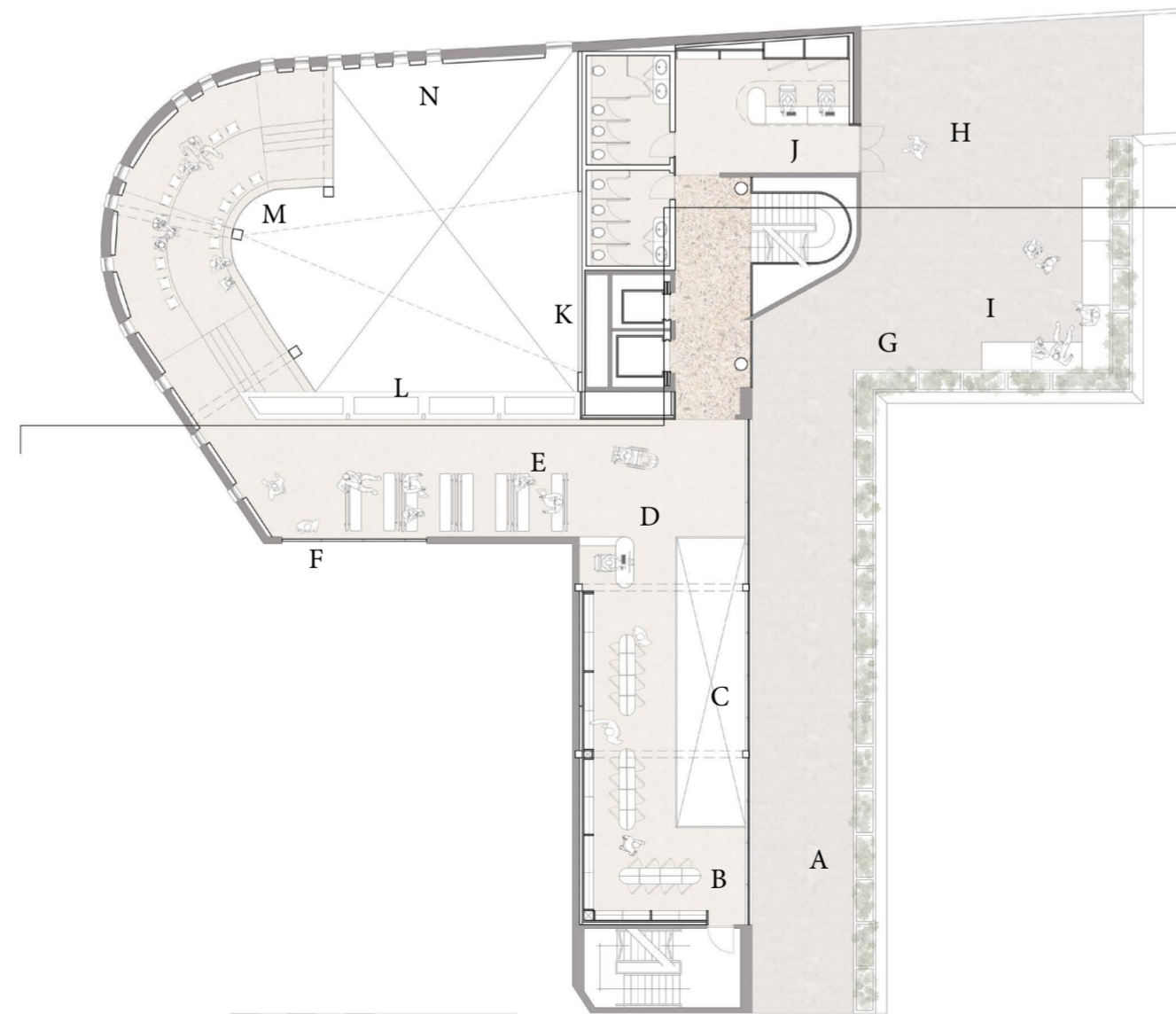
- A. EXISTING RAMP
- B. SHOP SHELVING
- C. DOUBLE HEIGHT SPACE
- D. SHOP COUNTER
- E. COMMUNAL SEATING
- F. VIEW POINT
- G. RAMP PLANTERS
- H. MAIN ENTRANCE
- I. OUTDOOR SEATING
- J. RECEPTION
- K. PROJECTION SCREEN
- L. GROWING PLANTERS
- M. BLEACHER SEATING
- N. GREEN WALL

**SECOND FLOOR**

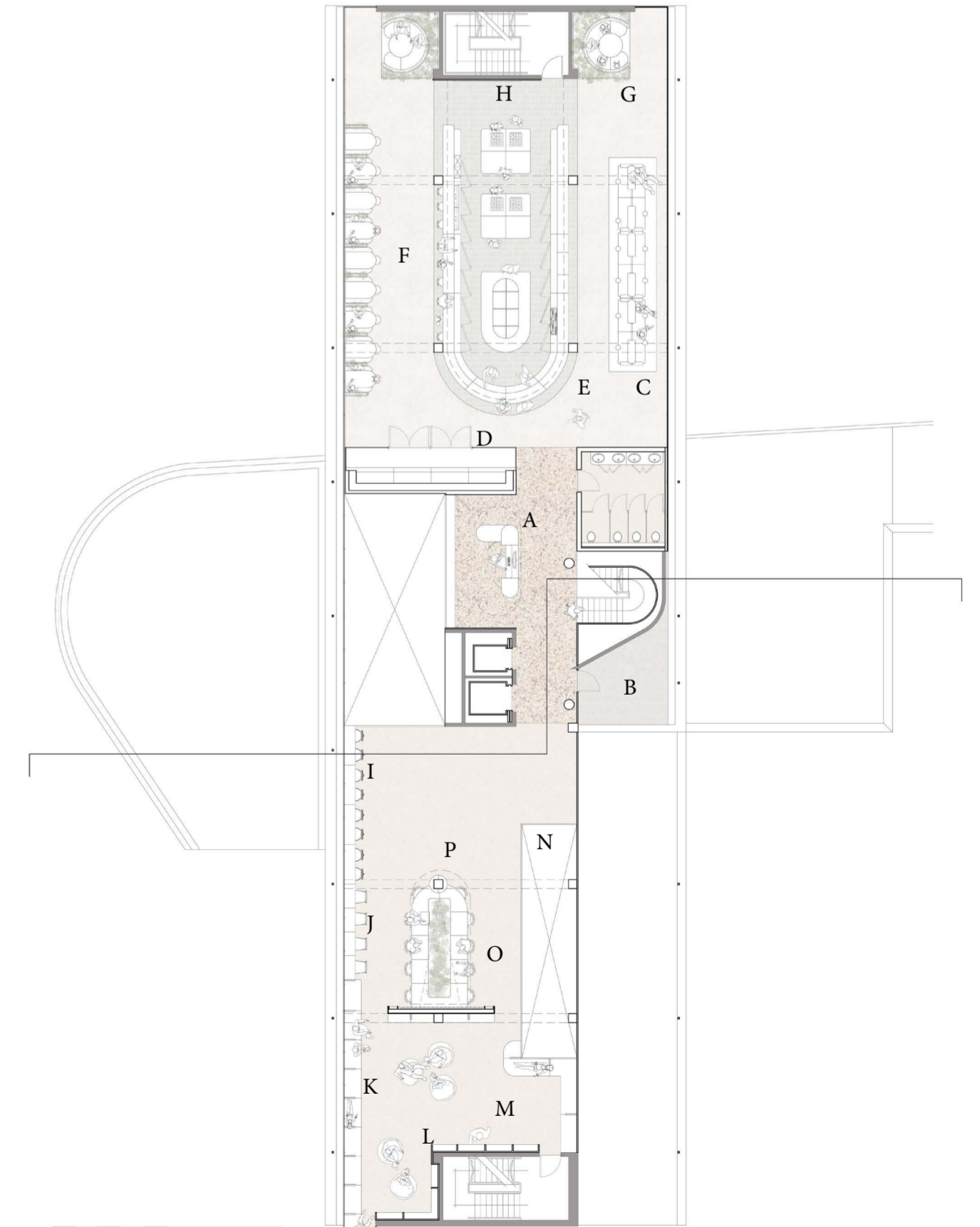
- A. RECEPTION
- B. OUTDOOR BALCONY
- C. SOFA SEATING
- D. GLASS FRUIT/VEGETABLE FRIDGE
- E. CAFE/RESTAURANT
- F. BOOTH SEATING
- G. LARGE BOOTH SEATING
- H. PROJECTION WALL AND WHITE BOARD
- I. BAR STOOL SEATING
- J. WINDOW TABLES
- K. WINDOW RELAXED SEATING
- L. COMMUNAL BEAN BAG SEATING
- M. BOOK SHELVES
- N. TRIPLE HEIGHT SPACE
- O. WORKSHOP SPACES
- P. BEAM SHELVING



**GROUND FLOOR**



**FIRST FLOOR**

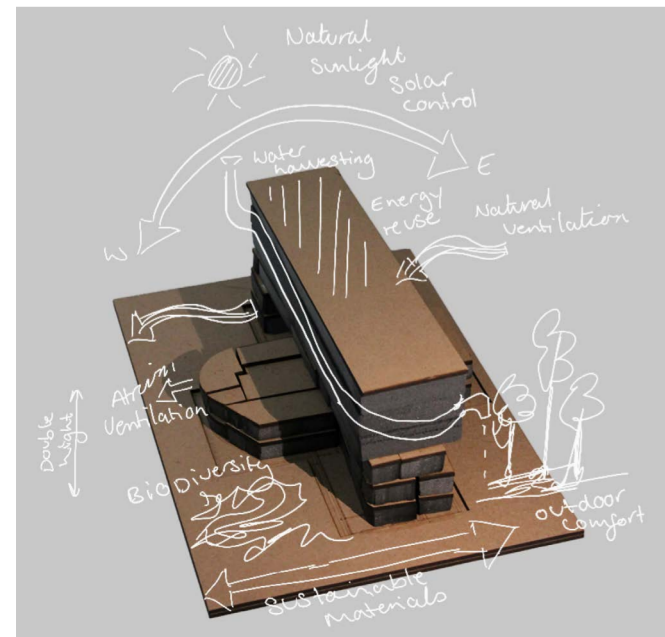


**SECOND FLOOR**

SECTION



ENVIRONMENTAL STRATEGY



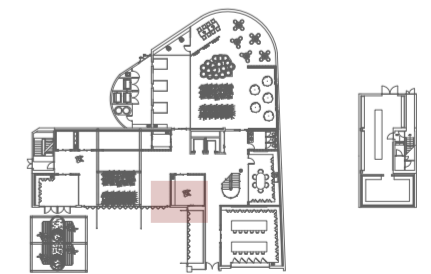
The environmental strategy focuses on reducing waste, conserving resources, and supporting sustainable food production. Recycled materials are used throughout the interior, rainwater harvesting system supplies the green wall and growing areas. Crop cultivation and compost-based planting systems create a circular growing process that reduces waste. The green wall improves indoor air quality, helping to create a healthier and more sustainable environment.

Green wall



The green wall supports sustainability by using harvested rainwater for irrigation and incorporating crops grown on-site into its planting system. As well as reducing water consumption, the wall helps improve indoor air quality, creating a healthier environment while strengthening the connection between food production and the building's design.

Mushroom Cultivation

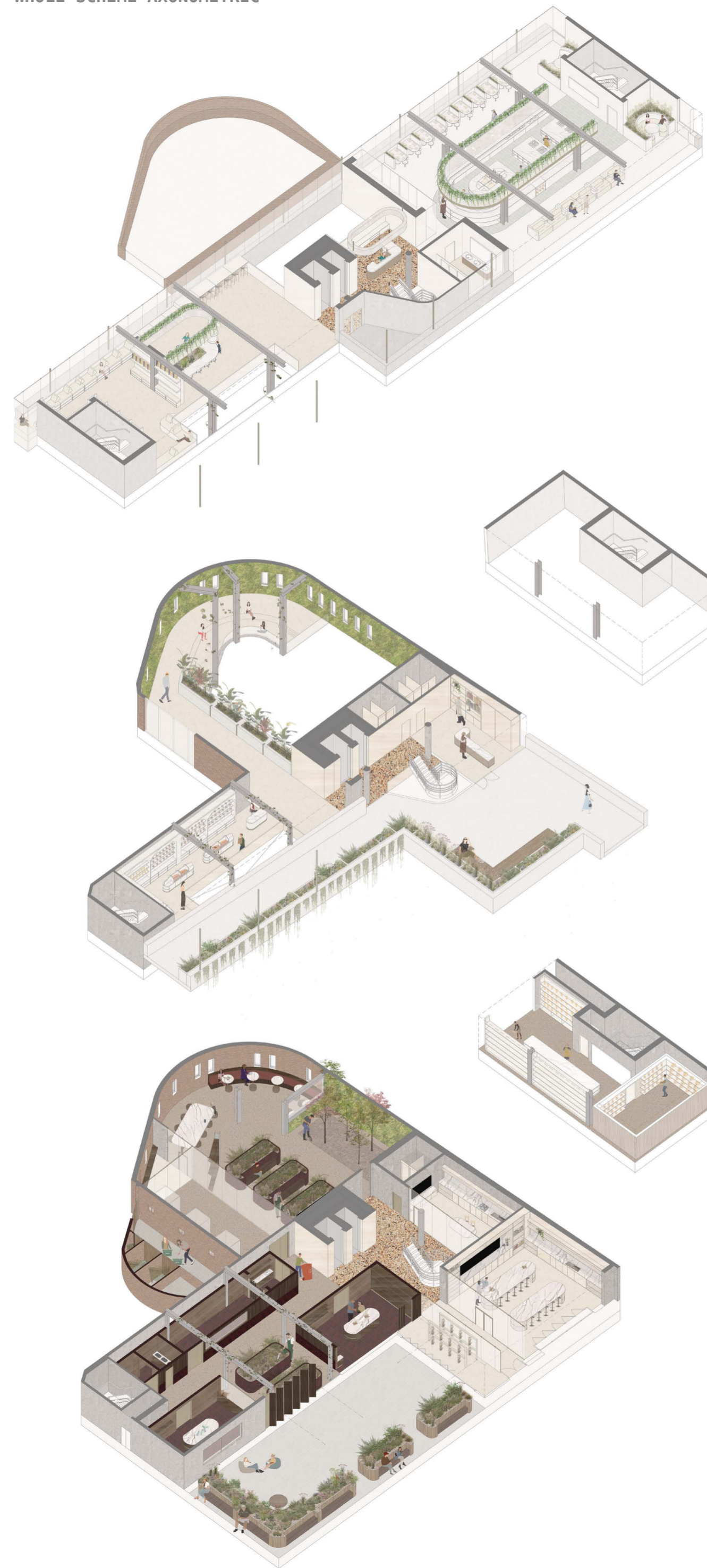


Sustainability is supported through the harvesting of gas produced by the mushroom growth and composting, and is reused around the site for heating. Tiled walls provide a hard wearing, easy to clean surface for the mushroom cultivation room, while dark growing rooms create controlled conditions that support efficient cultivation and resource use.

## MATERIALITY

Material selection is central to the project's sustainability strategy. Interior features are created from reused materials and waste products collected from restaurants, giving discarded resources a second life. This reduces landfill waste, lowers environmental impact, and promotes a circular approach to design.

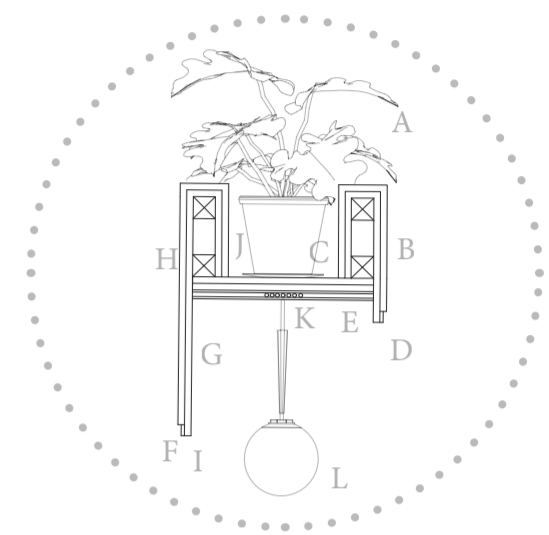
## WHOLE SCHEME AXONOMETRIC



## SECTION AXONOMETRIC

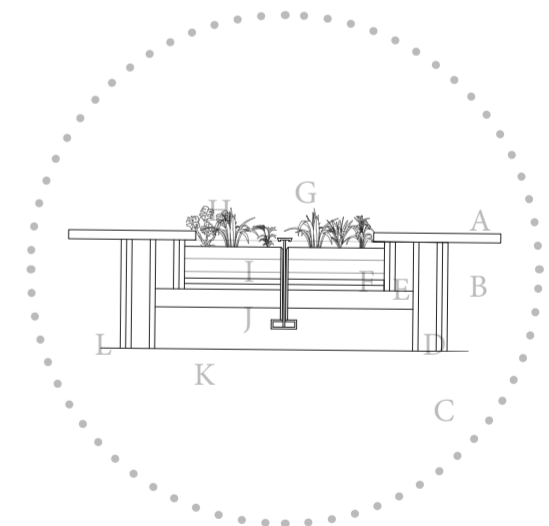


### OVER HEAD PLANTER DETAIL

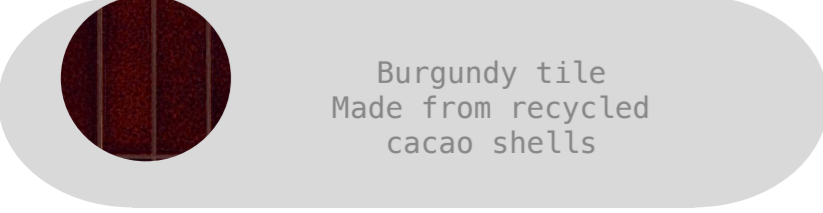
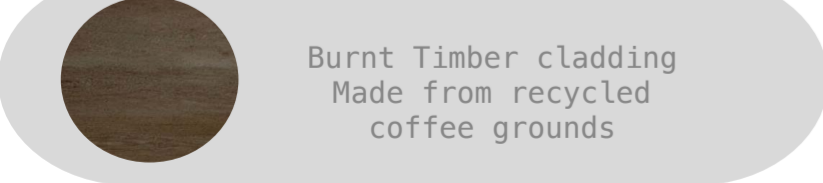
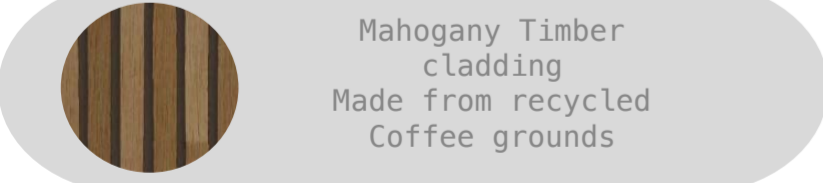
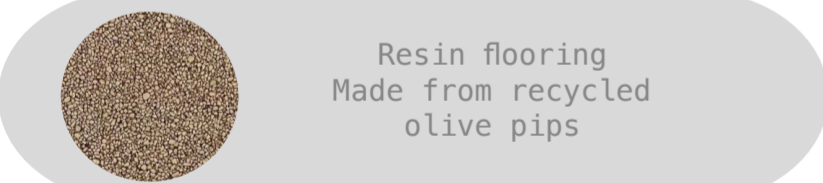
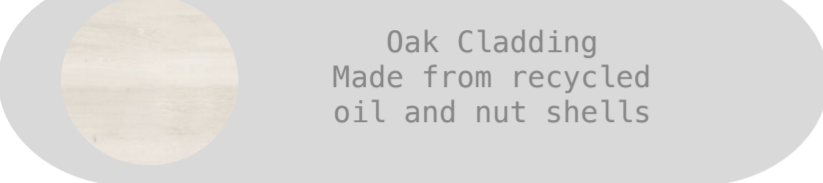


- A. AIR PLANTS
- B. 48 X 450mm WHITE PORCELAIN TILE
- C. PORCELAIN PLANT POTS
- D. 18mm OAK TIMBER
- E. 50 X 50mm TIMBER BEAMS
- F. 10mm TIMBER CLADDING
- G. 48 x 450mm WHITE PORCELAIN TILE
- H. 18mm SILVER OAK CLADDING
- I. AGED BRASS DETAILING
- J. 18mm TIMBER CLADDING
- K. HIDDEN WIRERING SYSTEM
- L. MYCELIUM LIGHT FIXTURE

### PLANTER DETAIL



- A. 30mm MARBLE COUNTER TOP
- B. 18mm LIGHT OAK TIMBER CLADDING
- C. 18mm PLASTER BOARD
- D. 18mm PLASTER BOARD
- E. 50 X 50mm TIMBER BEAM
- F. 10mm MARBLE SLAB
- G. ARRAY OF PLANTS
- H. WATER COLLECTION
- I. WATER DRAINAGE
- J. PLASTIC DRAINAGE
- K. WATER DRAINAGE SUPPLY TO WHOLE SITE
- L. 50 X 50mm TIMBER BEAM



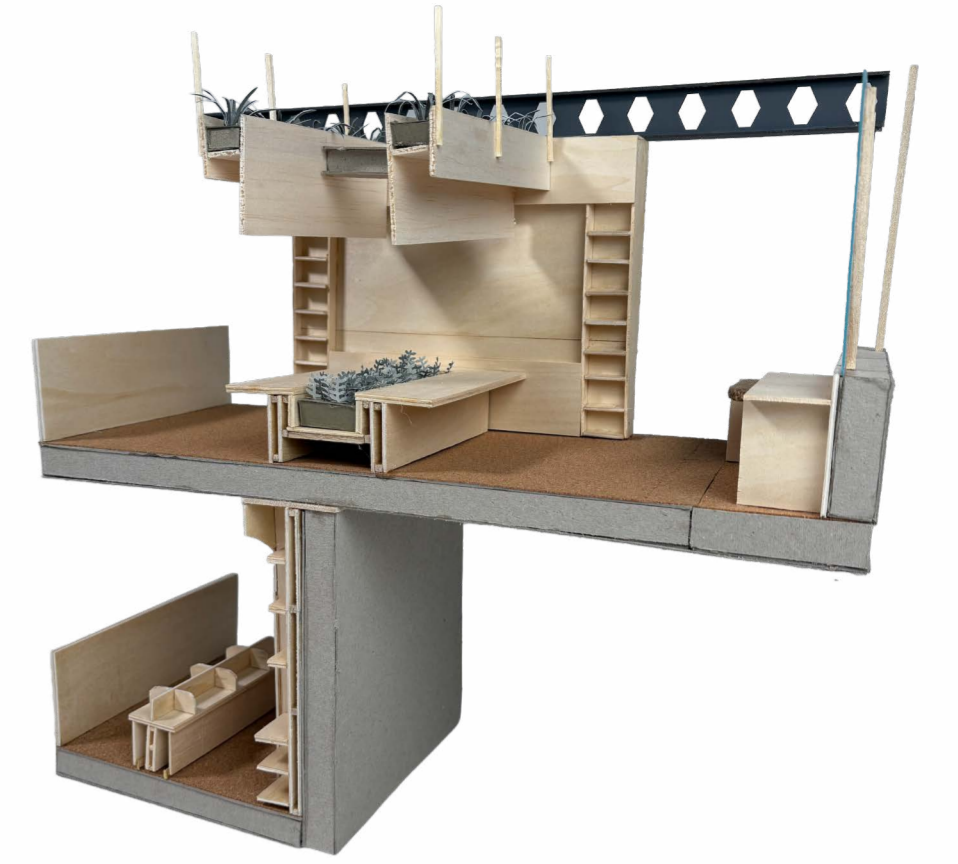


SHOP PERSPECTIVE



RECEPTION PERSPECTIVE

MODEL



GARDENING PERSPECTIVE



MODEL PERSPECTIVE



MODEL PERSPECTIVE

