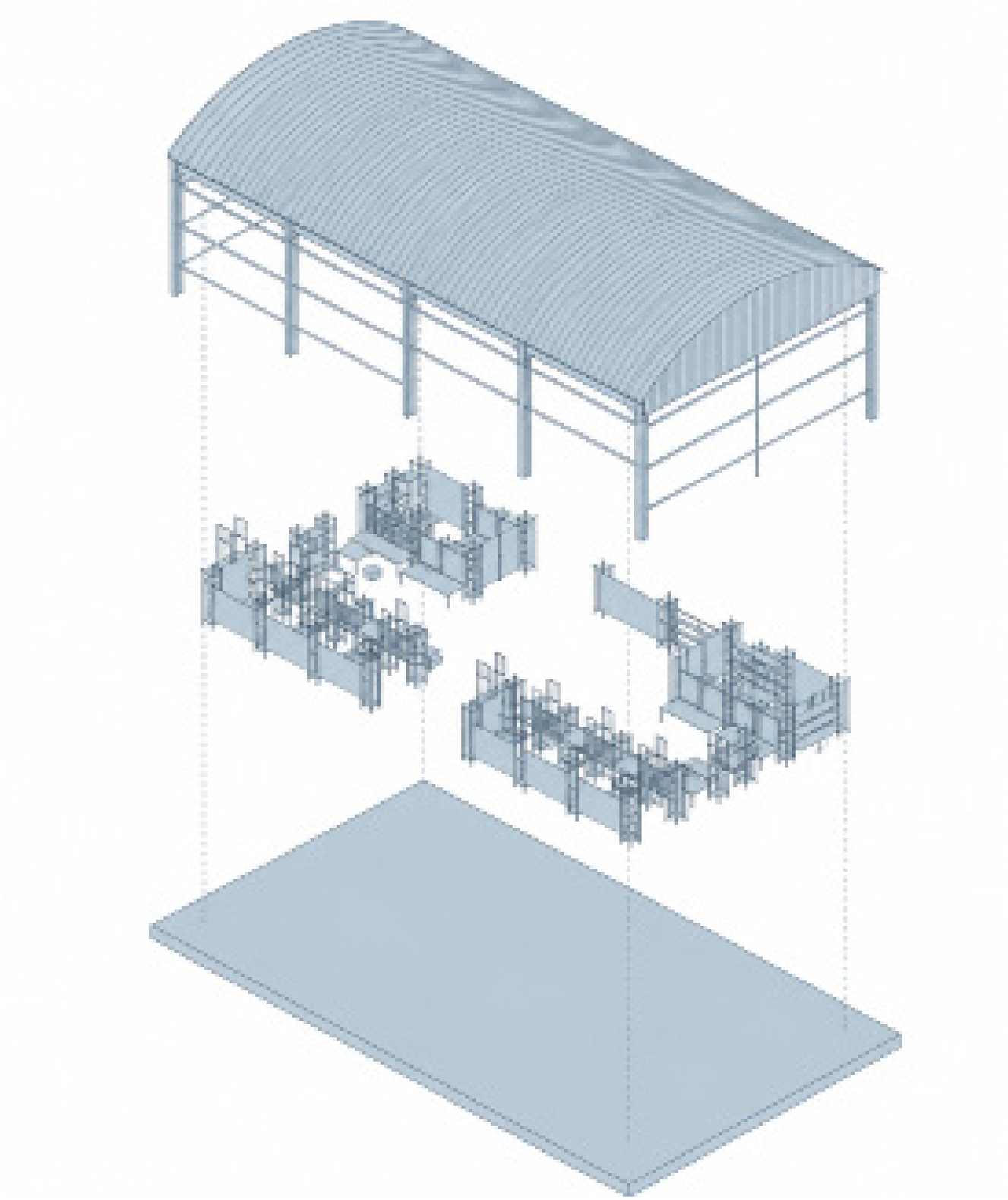


REWILDING TOLWORTH

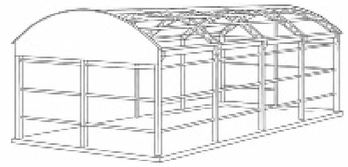
Sumaira Chopra
BA Interior Design
Kingston University
Level 5
2026



TABLE OF CONTENTS

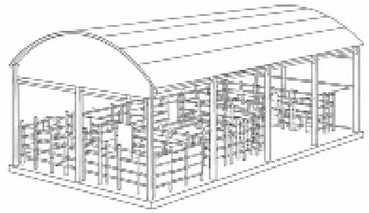
01 EXISTING SITE

- Location & Context
- Material & Colour Palette
- Detailed Brief



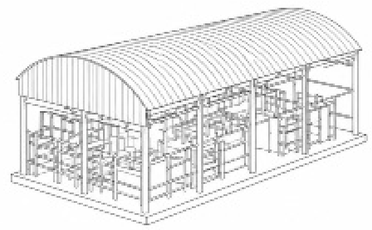
02 CONCEPTS

- Individual Brief
- Individual Concept
- Final Concept
- Joints



03 PROPOSED DESIGN

- Proposed Floor plans
- 3D Models
- 3D Visuals





Main Rewilding Site
(approx. 42–43 hectares)

Moated Manor & Barn Site
(approx. 2.7 hectares)



Tolworth Court Farm Fileds
Other Green Space
Residential
Industrial&Buisiness
Local Amenities
Roads

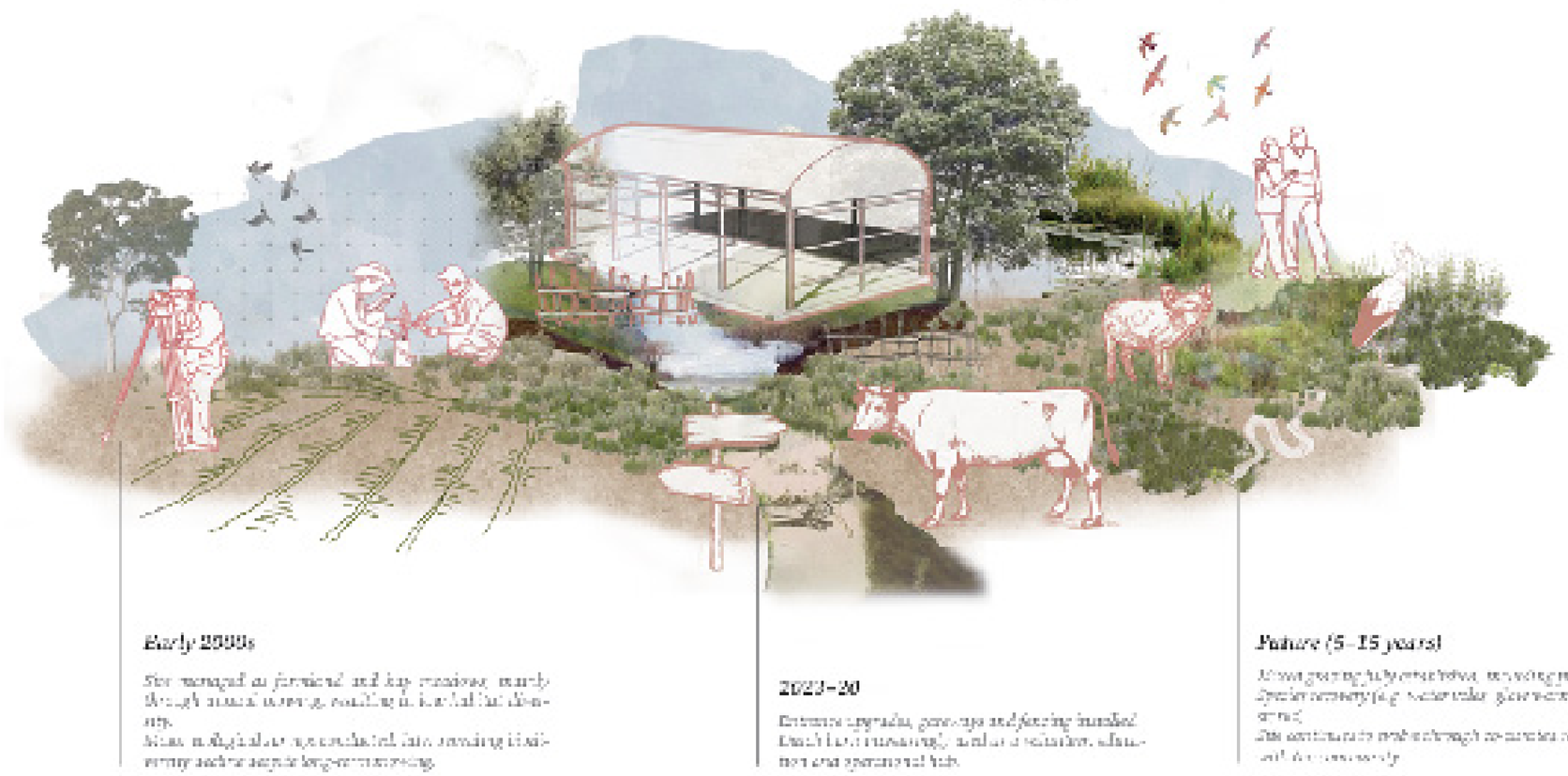


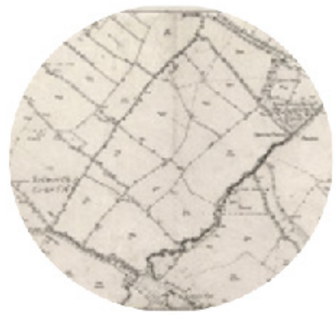


Tolworth Court Farm Fields lies on the southern edge of the Royal Borough of Kingston upon Thames in southwest London, forming a large, continuous green space within an otherwise typical suburban setting. Surrounded by residential neighbourhoods, light industrial and commercial areas, and major transport infrastructure, including busy road corridors and rail links, the site is framed by high-intensity urban development on almost all sides. This creates a pronounced edge where dense built fabric gives way abruptly to open fields, hedgerows and emerging rewilded habitats, reinforcing the sense of the landscape as a semi-rural enclave within the city. In this context, Tolworth Court Farm Fields functions as a key ecological and public green core, providing visual relief, a sense of openness, and a strong contrast to the surrounding hard, urban environment.

Top
The Site over the years

Left
The Existing Site





1860s



2003

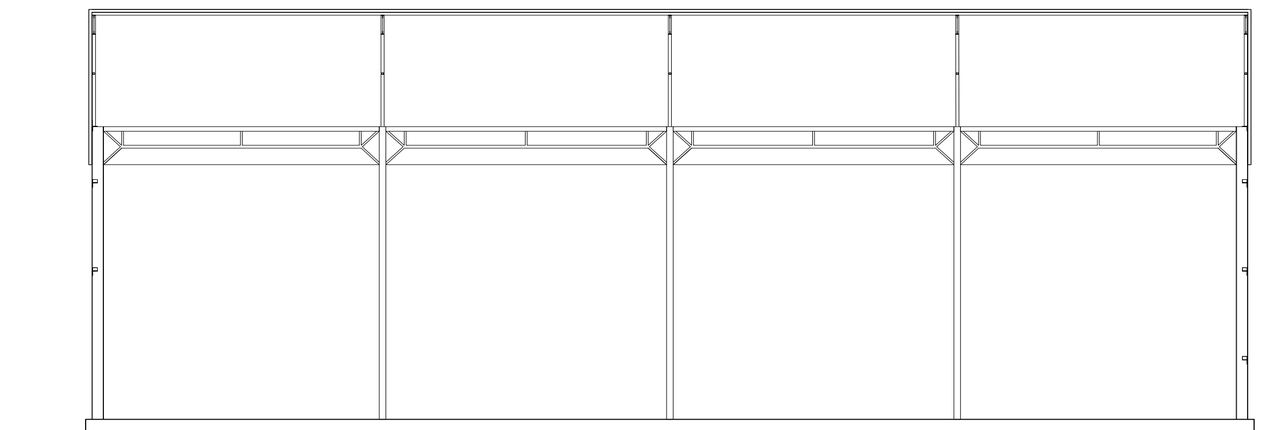


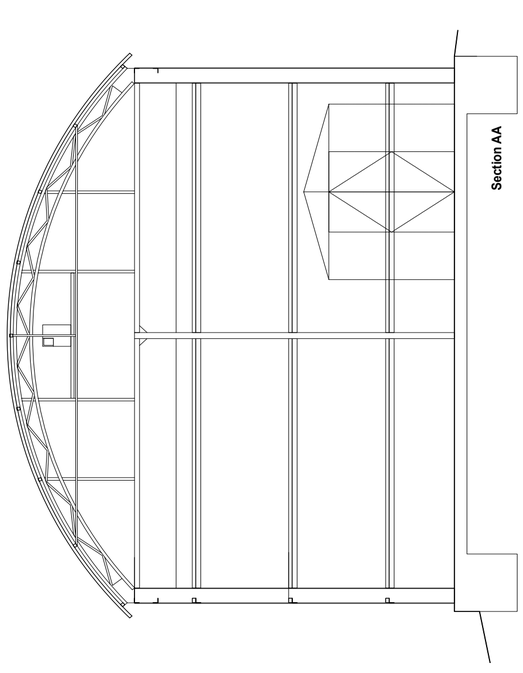
2025

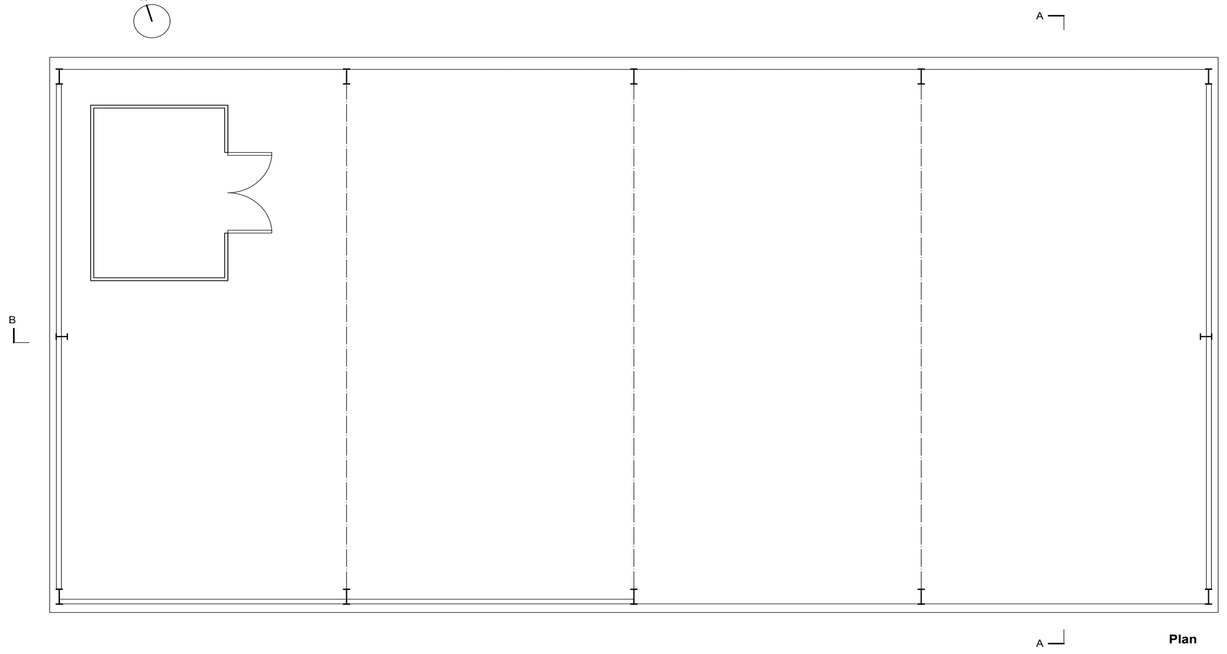
Tolworth Court Farm Fields lies on the southern edge of the Royal Borough of Kingston upon Thames in southwest London, forming a large, continuous green space within an otherwise typical suburban setting. Surrounded by residential neighbourhoods, light industrial and commercial areas, and major transport infrastructure, including busy road corridors and rail links, the site is framed by high-intensity urban development on almost all sides. This creates a pronounced edge where dense built fabric gives way abruptly to open fields, hedgerows and emerging rewilded habitats, reinforcing the sense of the landscape as a semi-rural enclave within the city. In this context, Tolworth Court Farm Fields functions as a key ecological and public green core, providing visual relief, a sense of openness, and a strong contrast to the surrounding hard, urban environment.

Top
The Site over the years

Left
Site Timeline









{1} Main Entrance of the Site.





{2} The path to the Barn.



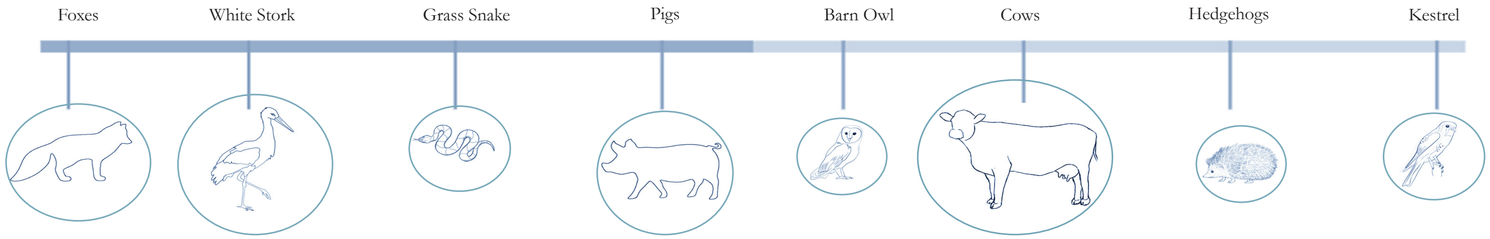


{3} The Field behind the Barn.

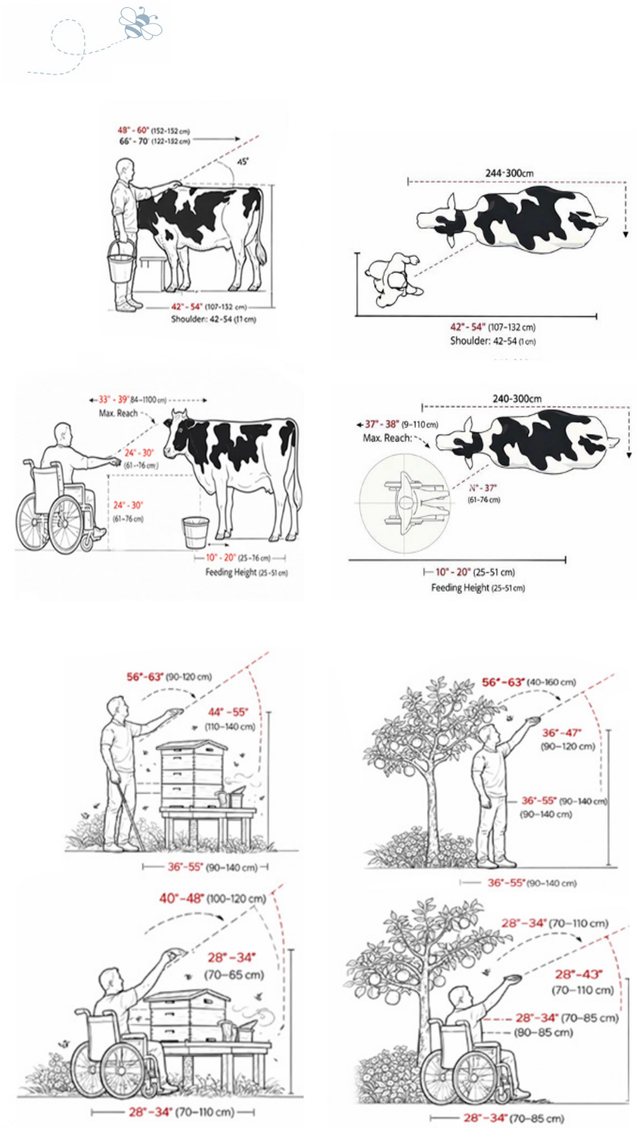


Top:
Storyboard explaining key areas and entrances in the site

Left:
Ground floor Plan of existing site at 1:100 on A2
Sections of existing site at 1:100 on A2





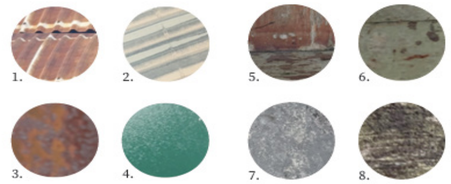


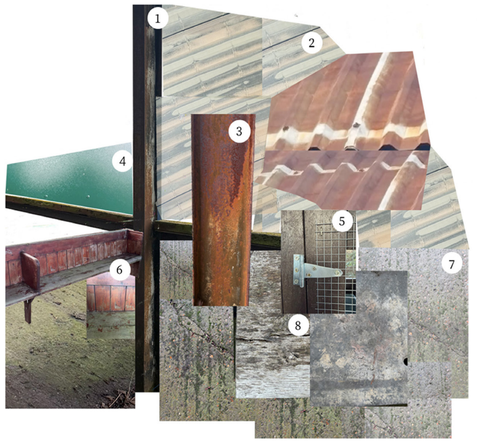
Tolworth Court Farm Fields supports a diverse array of wildlife that thrives in its semi-rural mosaic of open meadows, hedgerows, and emerging rewilded zones. Common species include small mammals like foxes, hedgehogs, and field voles that forage nocturnally across the fields, using hedgerows as migration corridors to move between urban fringes and the site's core. Birds such as kestrels, barn owls, and skylarks occupy distinct niches—raptors hunting over open grasslands, while seed-eaters and ground-nesters exploit the field edges during breeding seasons, with many migrating seasonally along the Thames corridor. Insects including butterflies and pollinators follow nectar-rich pathways through wildflower margins, establishing temporary colonies that peak in summer. Larger herbivores like muntjac deer occasionally wander in from nearby woods, grazing selectively and retreating to cover at dawn, creating dynamic patterns of occupancy that reflect the farm's role as a vital green bridge amid Kingston's suburban expansion.

Top
Ergonomic Studies

Left
Tolworth Animal Demographic









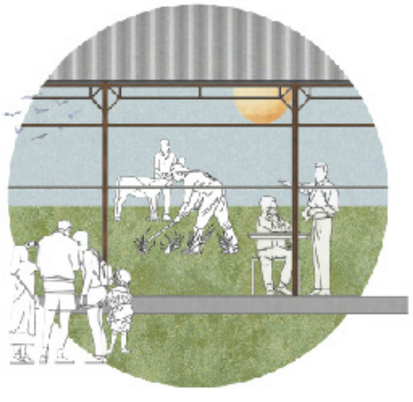
Short Perspective Section - Roof Form



Long Perspective Section - Structural Rhythm

Top:
Storyboard explaining key areas and entrances in the site
Materiality
1. Steel Framing
2. Metal roofing (exterior and interior)
3. Roosty steel
4. Green metal
5. Wood and metal
6. Painted wood
7.Concrete
8. Mossy Concrete

Left:
Ground floor Plan of existing site at 1:100 on A2
Sections of existing site at 1:100 on A2



Volunteers

- Meet
- Prepare
- Store tools
- Shelter from weathers
- Calm handling area

Staff/Educators

- Gather small groups
- Visibility
- Surface to show

Visitors/Children

- Sit and watch
- Short stay
- Safety



Pollinators (eg. bees&butterflies)

- Move freely
- Land brieffly
- Vegetation
- No disturbance
- Micro habitats
- Sunlight and air flow

Decomposer (eg. Stag beetles)

- Deadwood
- Dark and damp
- No disturbance
- Hide



Birds

- Nest/Perch (Seasonal)
- Clear flight path
- Quiet
- Height



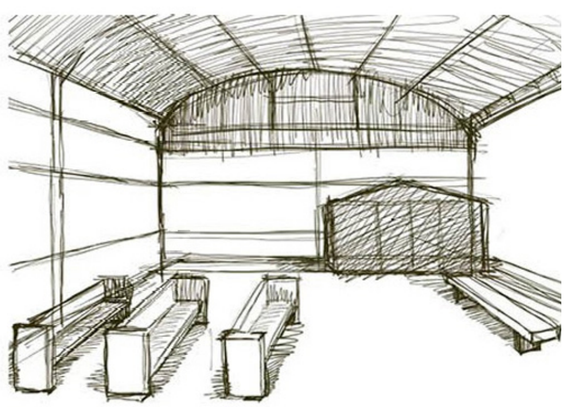
Cattles

- Shelter from weathers (Temporary)
- Easy access
- Enclosure
- Low disturbance

The WILD Tolworth Barn programme organises the open shed into distinct yet interconnected zones tailored for diverse users and wildlife, promoting harmonious coexistence at Tolworth Court Farm. Volunteers access sheltered tool storage and calm handling areas; staff and educators use presentation spaces for workshops and small-group visibility; visitors and children enjoy safe, short-stay observation points. Cattle receive temporary weatherproof shelters with easy entry, pollinators benefit from micro-habitats with sunlight and airflow, seasonal birds get clear flight paths and quiet perches, and decomposers thrive in low-disturbance deadwood zones.

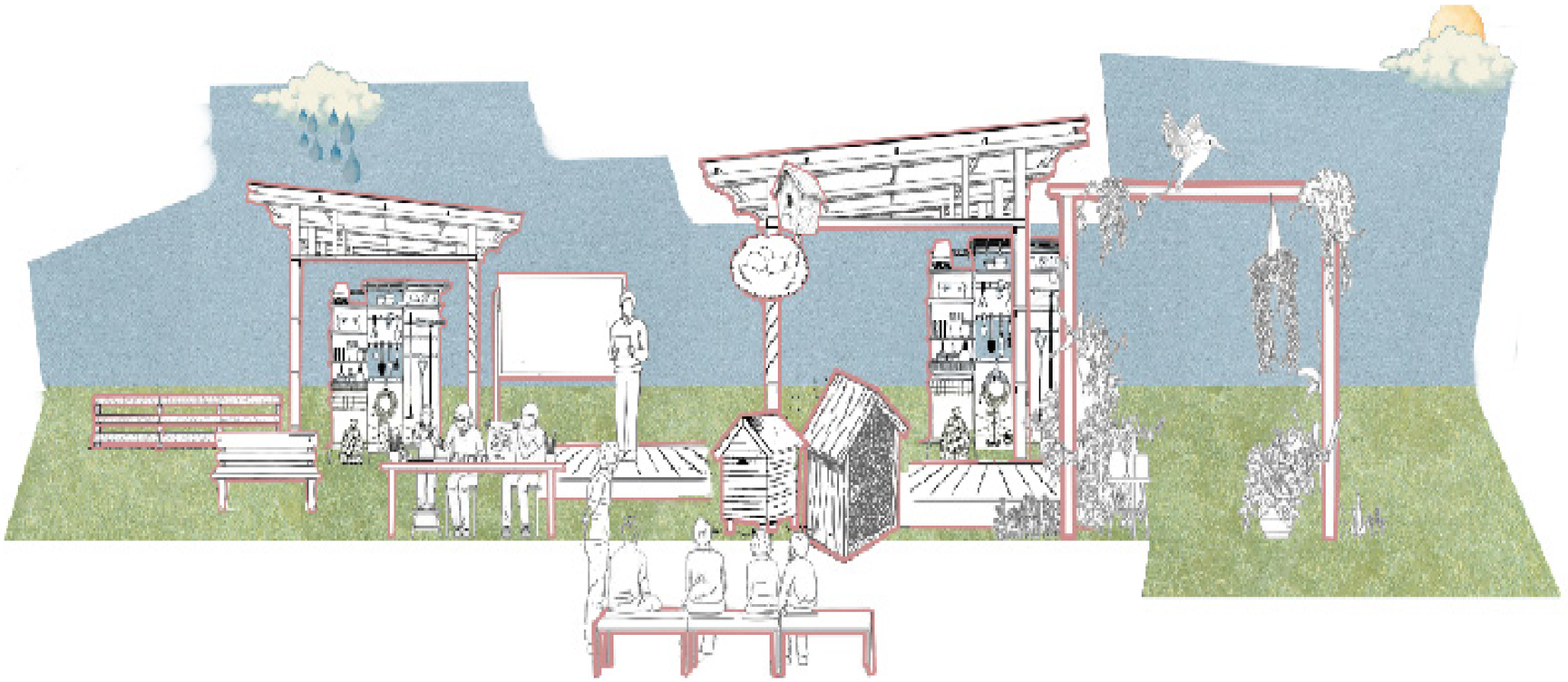






Top:
Ergonomic Studies

Left:
Tolworth Animal Demographic



Key elements & Development

The same set of key elements is introduced gradually and reused over time. Initially supporting volunteers and daily operations, these elements progressively accommodate shared activities and ecological functions, and eventually become embedded within the rewilded landscape.

Short term

- Shelter
- Fence (boundries)
- Seatings
- Storage
- Working surface
- Display board
- Standing suface

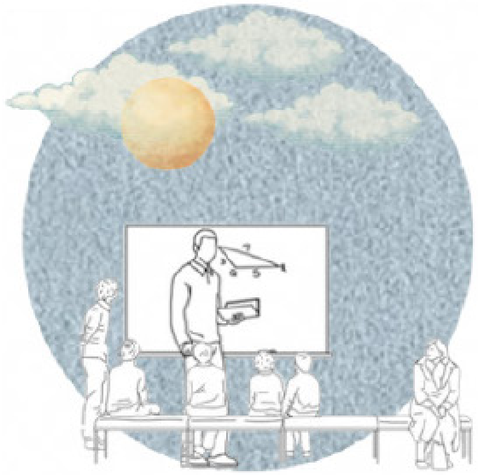
Medium term

- Shelter
- Fence (boundries)
- Seatings
- Storage
- Working surface
- Display board
- Standing suface
- Nesting
- Insect hotel

Long term

- Shelter
- Fence (boundries)
- Seatings
- Storage
- Working surface
- Display board
- Standing suface
- Nesting
- Insect hotel
- Embedded elements

Left
Brief Collage



Primary School Visit Programme

09:00am

Introduction and presentation on the WILD Tolworth Project, the site, and our community group.

10:00am

Group 1: Tile-making demonstration and workshop.

Group 2: Willow weaving demonstration and workshop.

12:00pm

Lunch.

13:00pm

Group 1: Willow weaving demonstration and workshop.

Group 2: Tile-making demonstration and workshop.

16:00pm

Closing summary presentation on the day's activities and the project.



Secondary School Visit Programme

09:00am

Introduction and presentation on the WILD Tolworth Project, the site, and our community group.

10:00am

Group 1: Scything demonstration and workshop.

Group 2: Construction project demonstration and workshop.

12:00pm

Lunch.

13:00pm

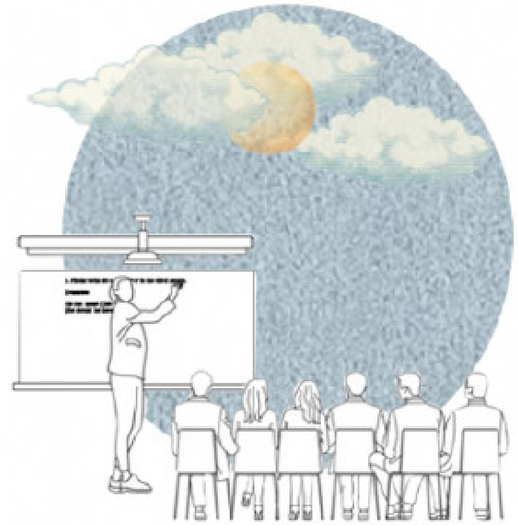
Group 1: Construction project demonstration and workshop.

Group 2: Scything demonstration and workshop.

16:00pm

Closing summary presentation on the day's activities and the project.





Weekend/Evening Programme

Amphitheatre

Introduction and presentation on the WILD Tolworth Project, the site, and our community group.

Workshop's

Tile-making workshop.

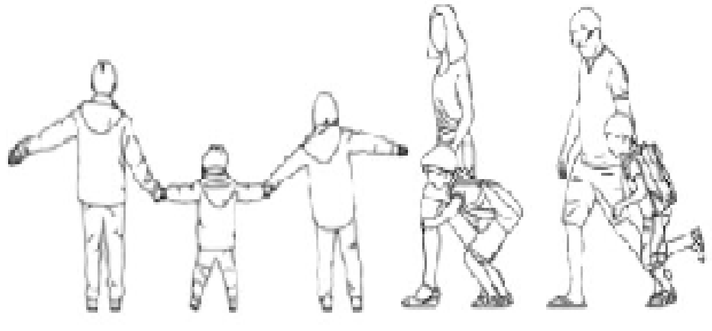
Willow weaving workshop.

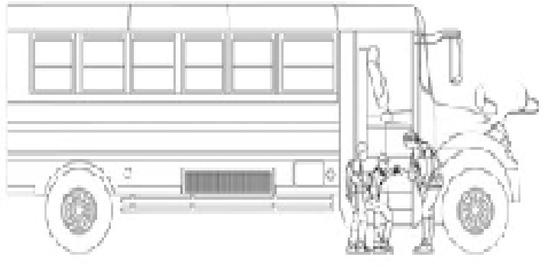
Surrounding Grounds

Guided tours of Tolworth Court Farm Nature Reserve, including the site's history and farm overview.

Volunteer Workspace

Observation of volunteer activities in the barn, with explanations of their contributions to farm animal welfare.









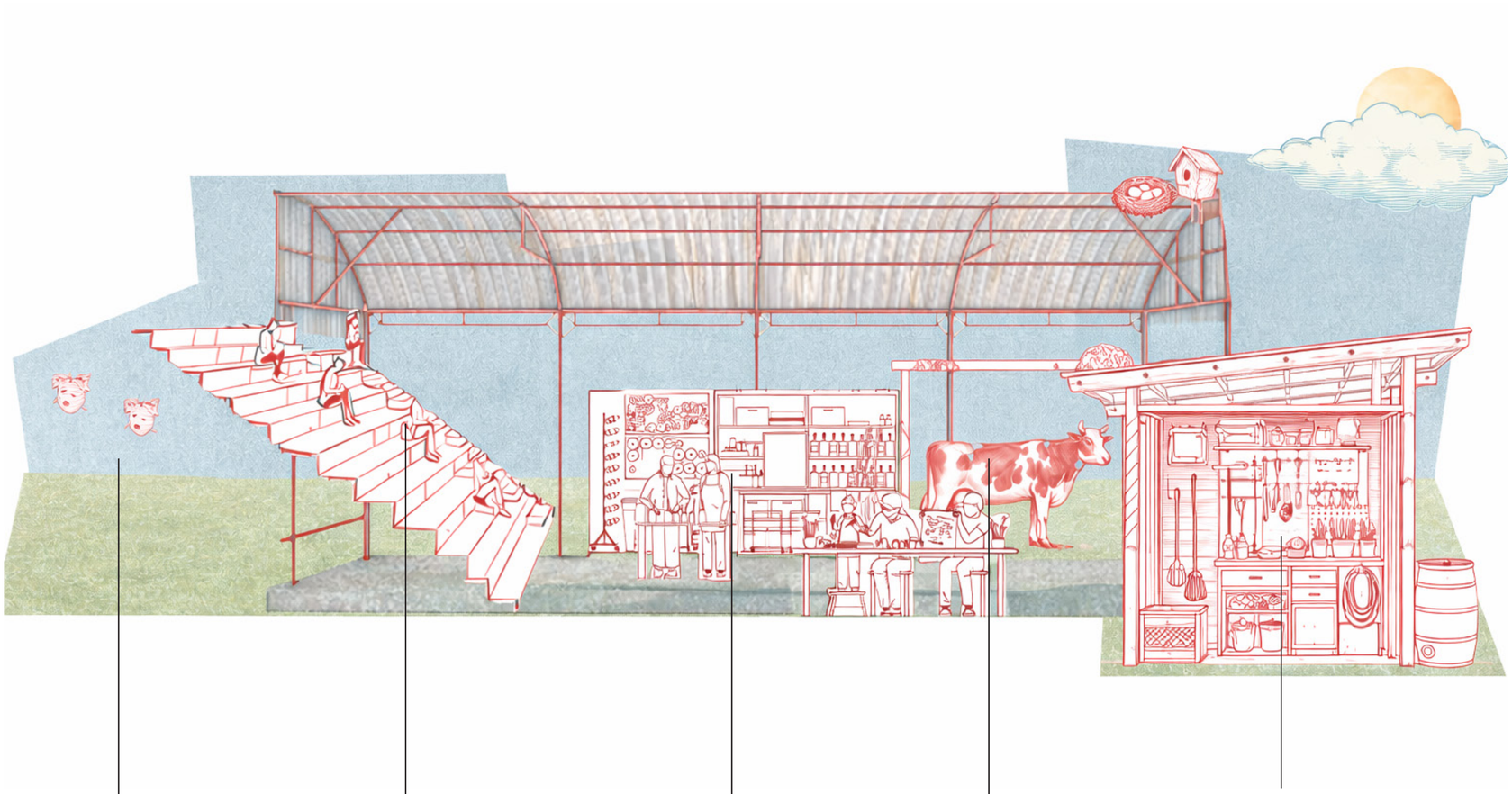






Interactive Envelope Brochure

A die-cut envelope brochure designed for the Tolworth Farm conservation initiative. The format invites discovery — the envelope unfolds to reveal hand-painted wildlife illustrations of species native to the farm, including fox, roe deer, lapwing, buzzard, hedgehog, bee, and egret, alongside an original concept story, The Bees of Tolworth. The narrative follows a child who notices the disappearance of bees from the land, communicating the project's ecological mission in an accessible and emotionally resonant way. Soft watercolour textures and a muted natural palette reflect the project's themes of care and reconnection with nature.



Bee-Hive
-Shelter
- Fence
- Seclusion

Event Space
- Shelter
-Seating
-Fence (Boundries)
- Podium
-Semi Private

Workshop
- Shelter
- Isolation
- Seating
- Storage

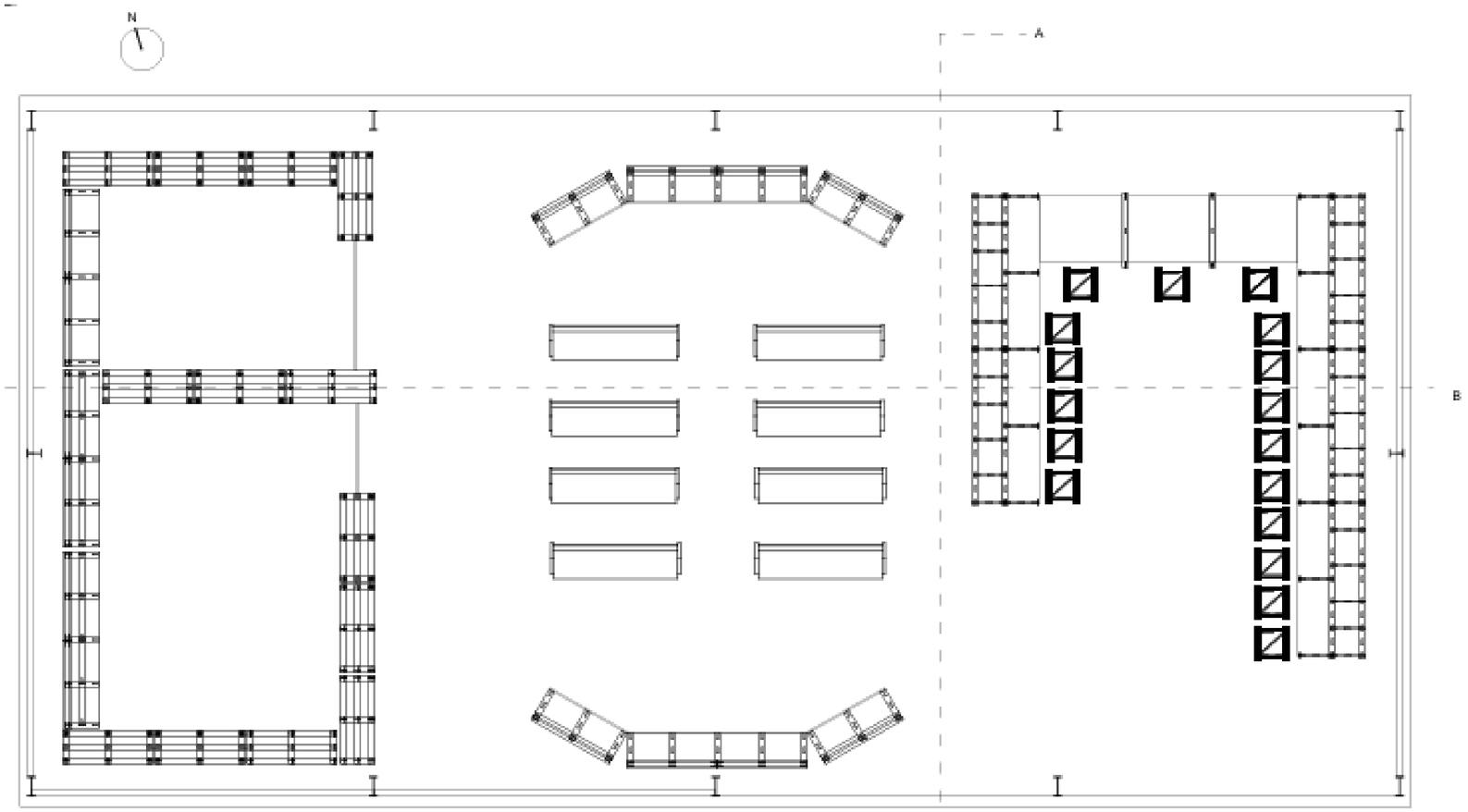
Cattle Pen
- Shelter
- Isolation
-Fence (Boundries
-Grass

Workshop Space
- Shelter
- Work Tables
-Fence (Boundries
-Flexible
-Seating

A limited set of elements is introduced incrementally and reused over time. Initially supporting volunteers and daily operations, these elements gradually expand to accommodate shared activities and ecological functions, ultimately becoming embedded within the rewilded landscape.

The concept draws from the organizational logic of bees: modular, adaptive, and community-driven. Like a hive, the system evolves through repetition and collective use, where simple structures accumulate meaning and function as part of a larger ecological and social network.



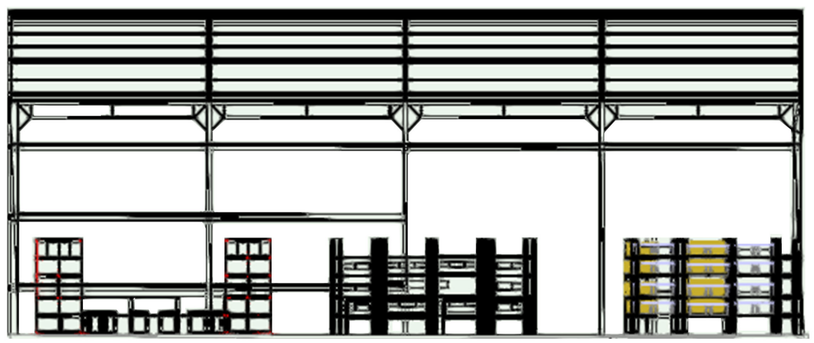


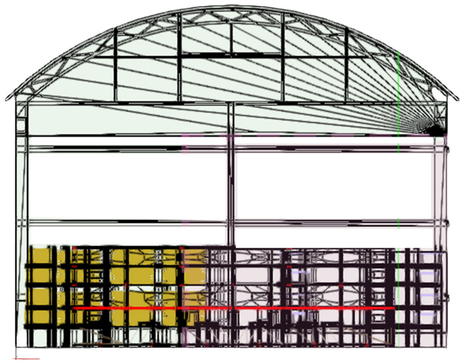




Sou Fujimoto's Grand Ring for Expo 2025 Osaka was conceived as a monumental "architectural forest" that encircles and unifies the expansive fairgrounds, dissolving boundaries between structure, landscape, and human gathering. Rather than imposing a solid enclosure, the pavilion employs a vast gridded wooden framework—crafted from repeating timber elements joined through traditional Japanese carpentry techniques—spanning a 2km-diameter ring across the site. The resulting form appears light and permeable, with its open lattice allowing panoramic views, breezes, and seasonal light to permeate the elevated walkway.

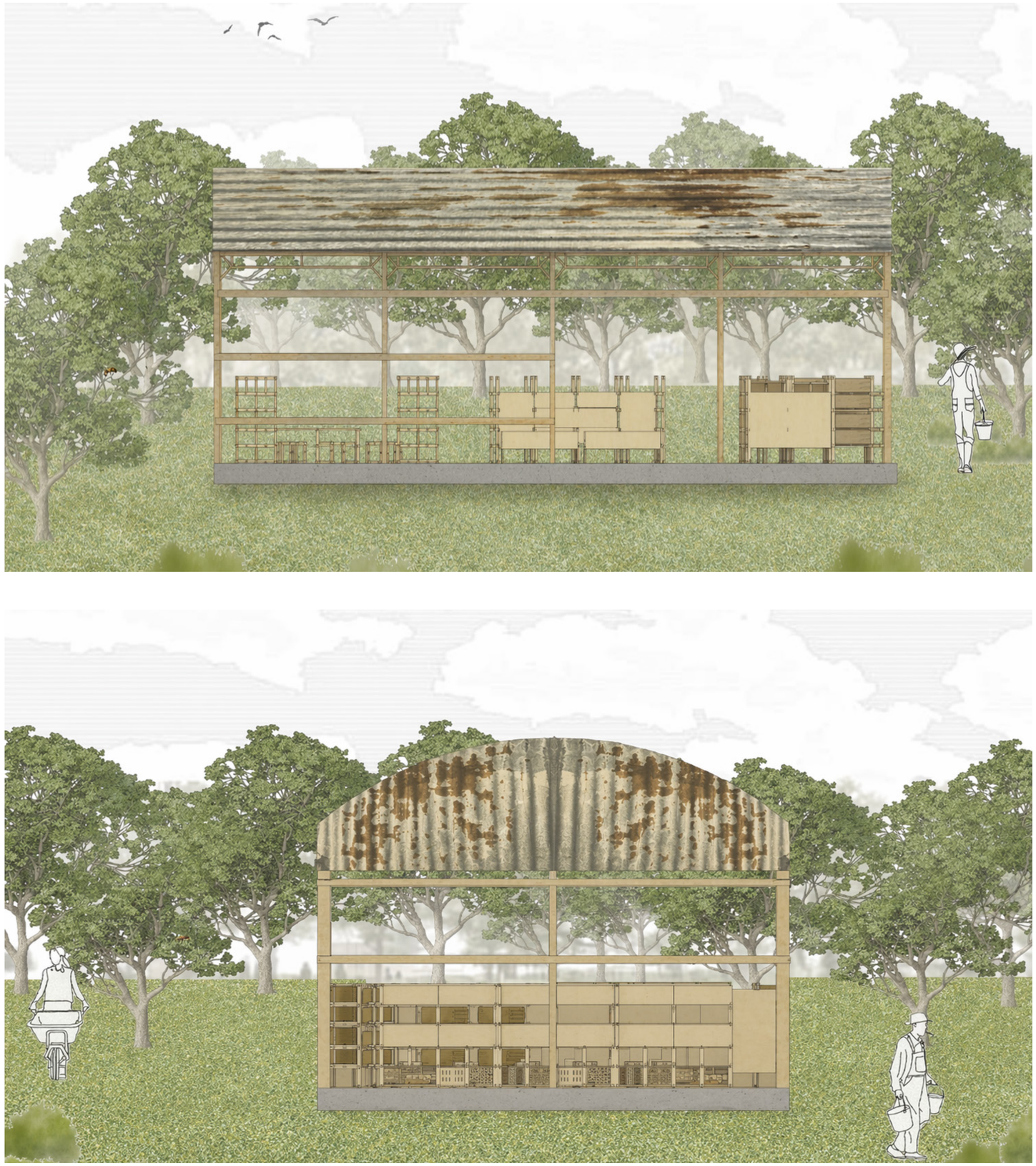
Spatial continuity emerges through rhythmic modularity rather than rigid division, creating fluid transitions between sheltered paths and expansive vistas over Osaka Bay. The gridded structure simultaneously serves as load-bearing frame, circulation route, and communal surface, with wide timber platforms inviting visitors to walk, pause, and interact at multiple elevations. This approach reimagines the pavilion as an inhabitable infrastructure, challenging conventional monumentality by proposing a continuous, collective landscape that accommodates movement, events, and nature within its interlocking wooden skeleton.



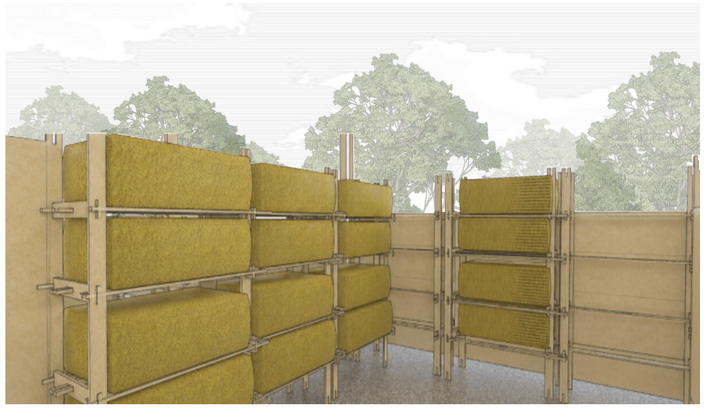


Top:
Precedent Study

Left :
Plan @ 1:100
Front Elevation @ 1:100
Side Section @ 1:1000





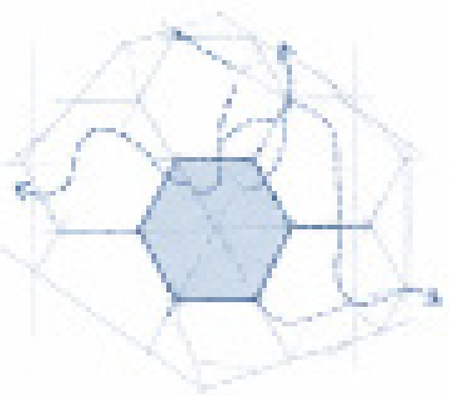


The barn is conceived as a sequence of inhabited thresholds rather than a single enclosed volume. Layered walls, porous screens, and curved timber forms shape moments of pause, movement, and gathering, allowing activities to unfold gradually across the structure. From open workspaces to sheltered seating and storage, the architecture supports informal use and changing patterns of occupation while remaining closely connected to the surrounding landscapes.

Top:
3D Viusals of Workshop space
3D Visual od Cow pen

Left :
Front Elevation Render
Side Elevation Render



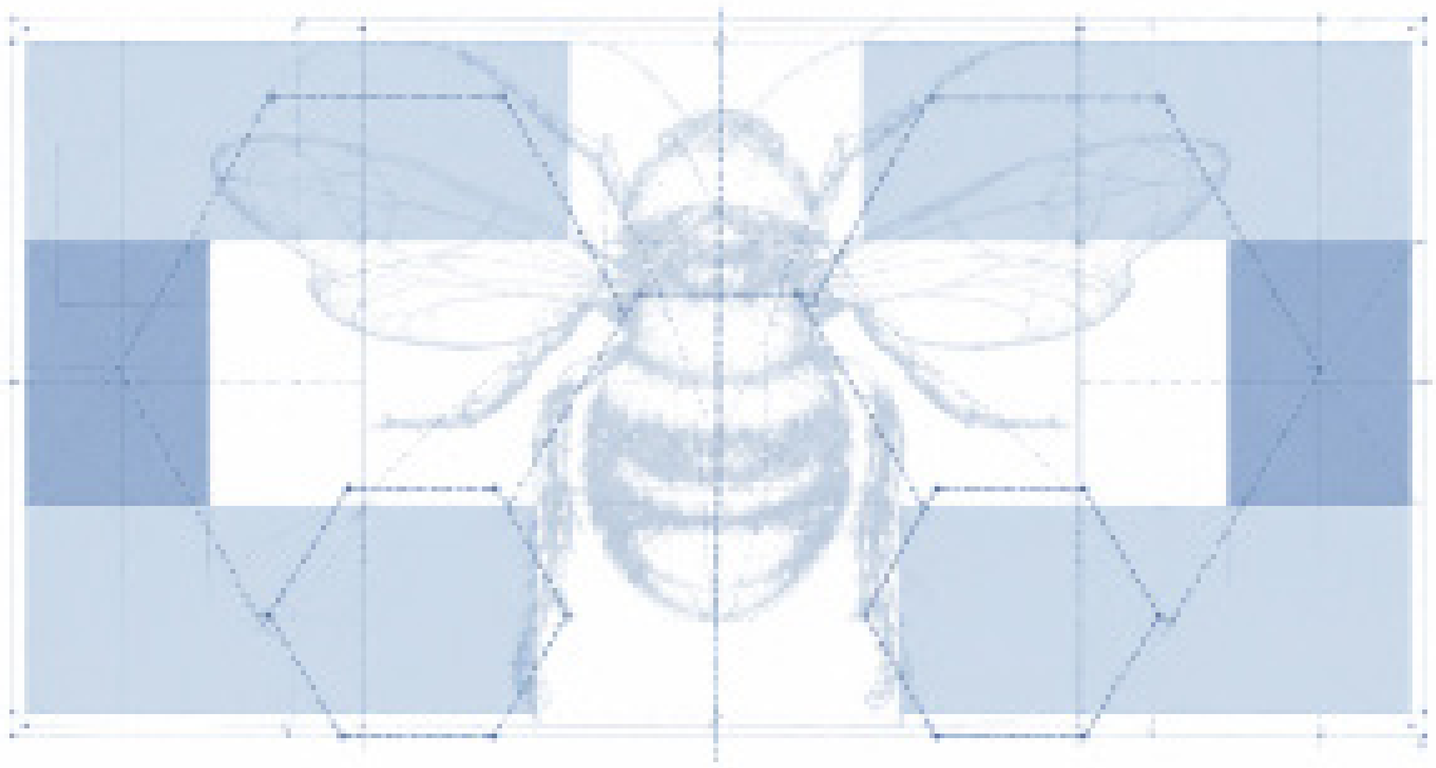


The 3 principles —

Accumulation

Orientation through movement

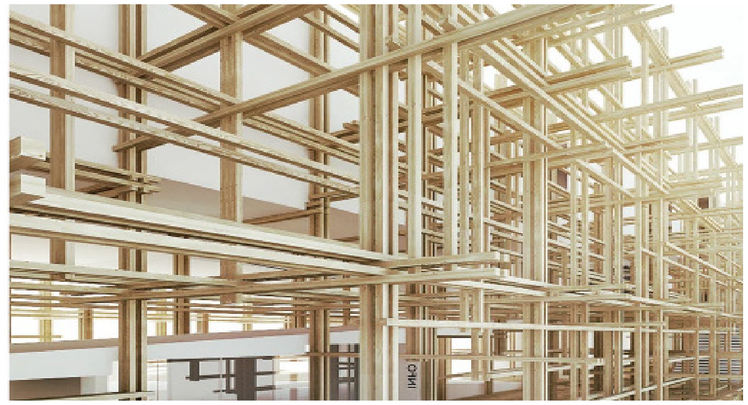
Thermal responsiveness



Workshop Storage

Workshop

Staff Storage & Cowpen



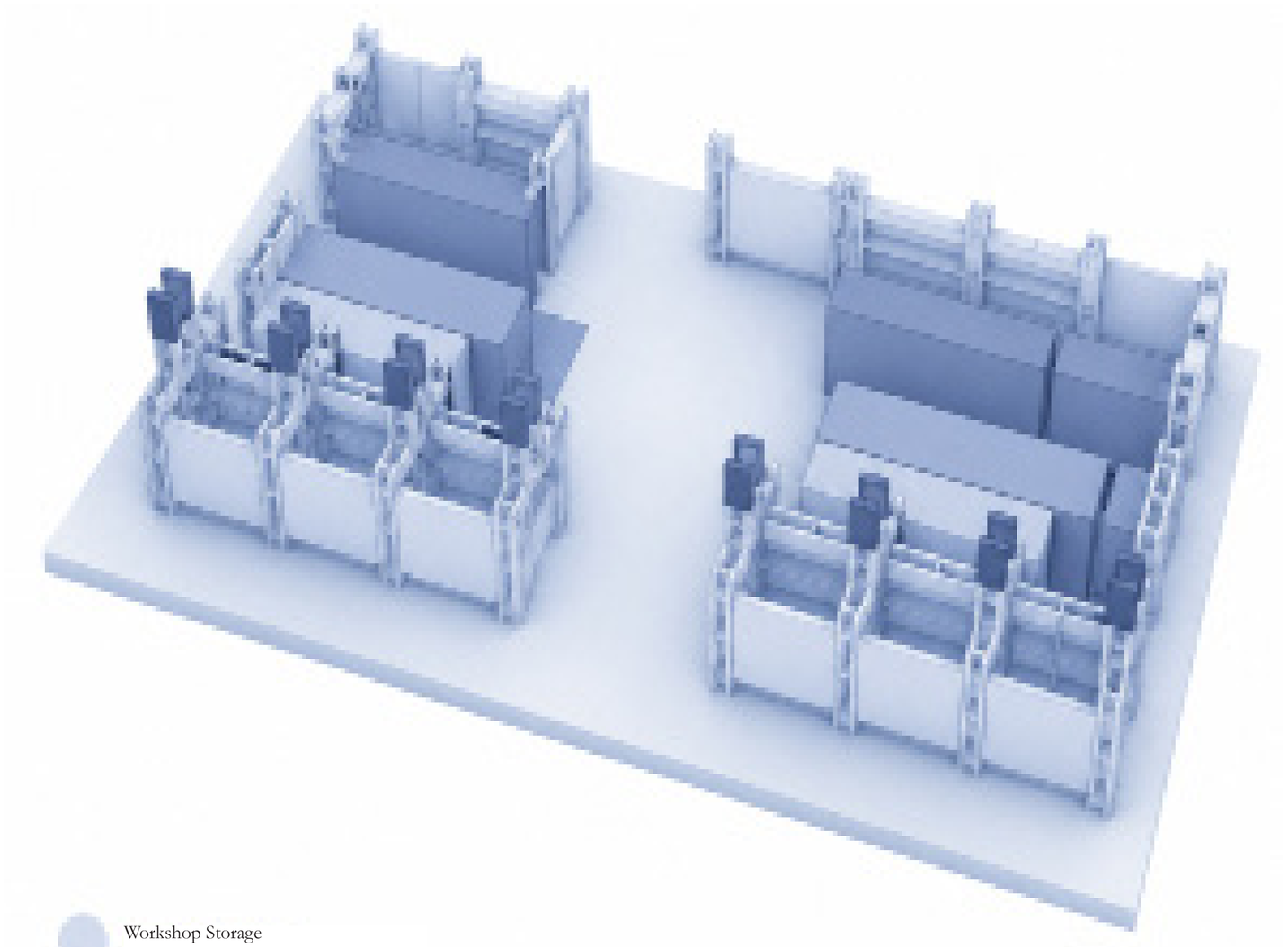


The Austrian Pavilion at Expo 2015, presented under the theme “Feeding the Planet, Energy for Life,” expressed Austria’s interest in sustainability, food production, and active public engagement. The original concept by Penda and Alexander Daxböck proposed a modular timber framework that visitors could help plant with seeds, gradually transforming the pavilion into a living landscape. This idea connected architecture with growth, participation, and food culture,WW while also linking the pavilion’s restaurant directly to the produce grown on site.

The final realised pavilion, Breathe Austria Pavilion by Klaus K. Loenhart, developed this ecological ambition into a fully immersive environmental experience. Instead of functioning only as a built object, it became a living system, integrating an Austrian forest within the structure and using twelve forest ecotypes to create a rich natural atmosphere. Supported by photovoltaic panels and passive environmental systems, the pavilion generated oxygen, moderated the microclimate, and demonstrated how architecture can actively work with natural processes rather than simply contain them. It stood as a powerful example of experiential design, where sustainability was not only represented visually but physically felt through air quality, shade, humidity, and biodiversity.

Top:
Precedent Study

Left :
Bee Concept Drawings
Bee Concept Collage



Workshop Storage

Bird Boxes

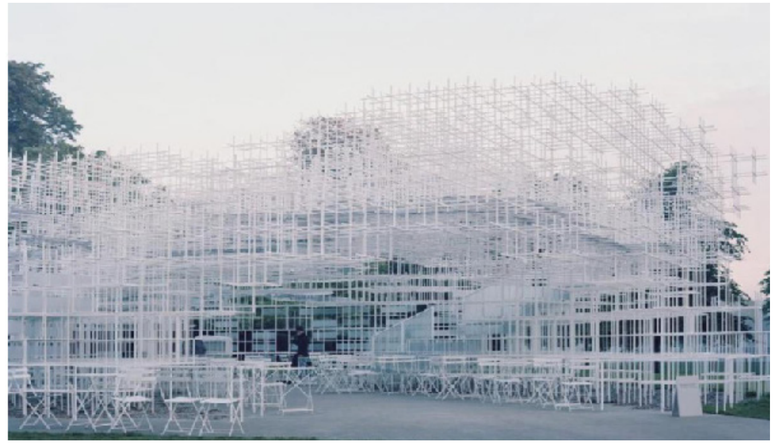
Workshop Area

Cow Pen

Presentation Area

Lockable Storage Area



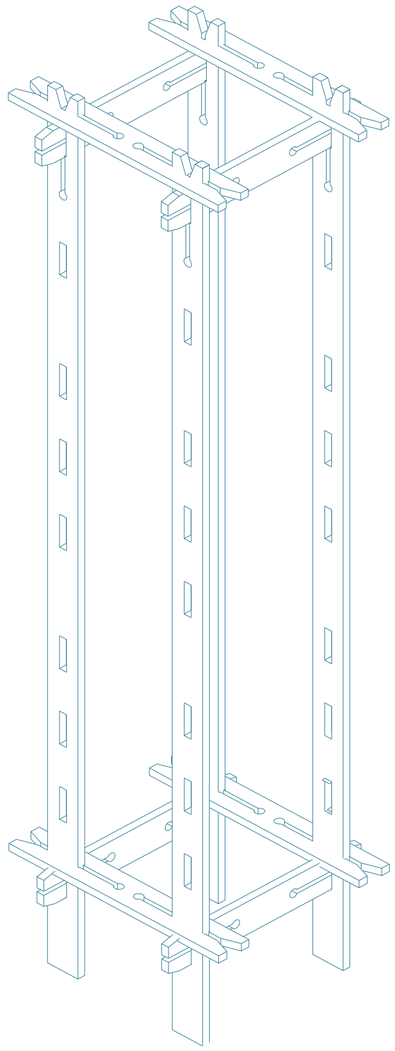


Sou Fujimoto's 2013 Serpentine Gallery Pavilion in London presents a refined integration of concept, space, and structure. Composed of a delicate lattice of thin white steel poles, it creates a semi-transparent, cloud-like volume that blurs the boundary between interior and exterior and gives the pavilion a light, almost floating presence within Kensington Gardens. The modular grid encourages visitors to climb, sit, pause, and move through the structure, transforming it into a spatial landscape that feels both architectural and informal, with changing viewpoints at every level.

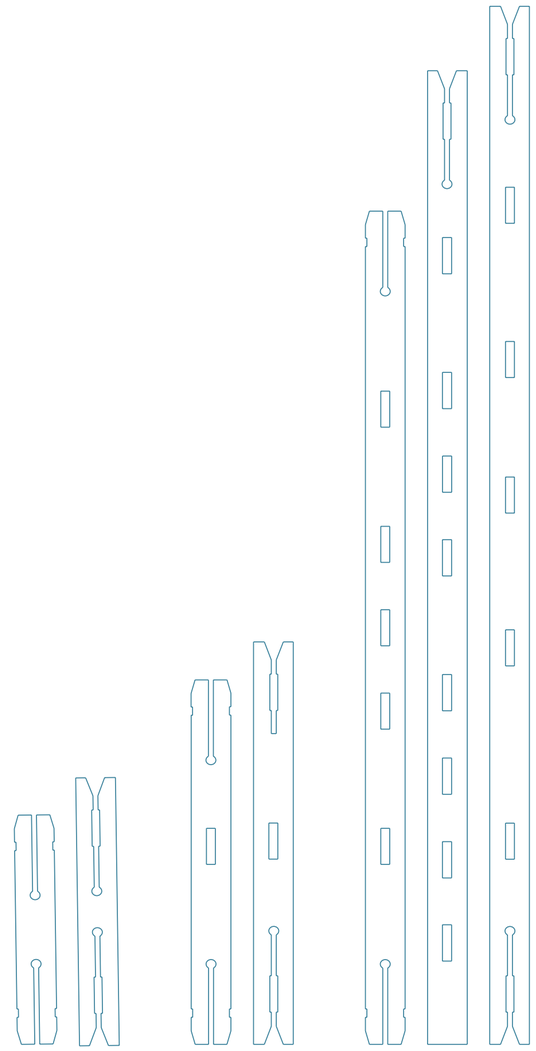
Built from prefabricated elements joined at precise connection points and anchored to concrete footings, the pavilion achieves stability without relying on conventional walls or floors. Its repetition and modularity create both structural efficiency and visual lightness, while the sequential assembly reflects the close relationship between design and construction. Conceived as an "interiorized exterior," the pavilion brings geometry and nature into active dialogue, producing an environment where the artificial framework and the surrounding landscape merge into a single experience.

Top:
Precedent Study

Left :
Isometric Zoning Diagram



{1}



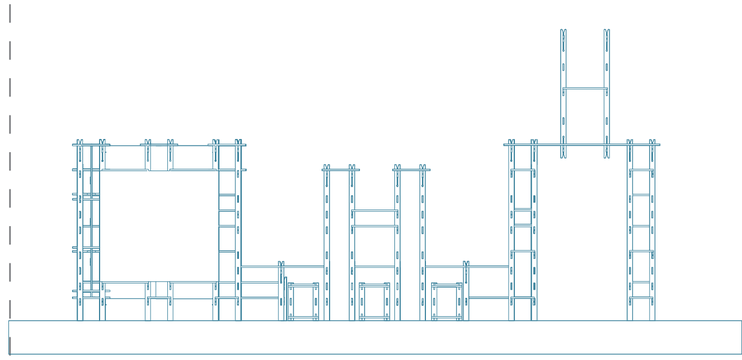
{2}

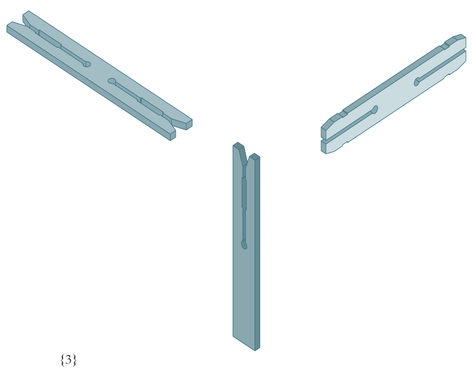
Snap-fit Keyed Cross-lap Joint

Seven precisely scaled components enable both horizontal expansion and vertical progression, creating a modular and transformable system that can respond to a range of uses within the barn. The arrangement allows the structure to shift from low-level ergonomic worktables, to workshop shelving for tools and materials, and finally to elevated bird nesting spaces positioned above the main activity zones. This layered organisation increases efficiency while also reinforcing the idea of a flexible, multi-functional framework that can evolve over time.

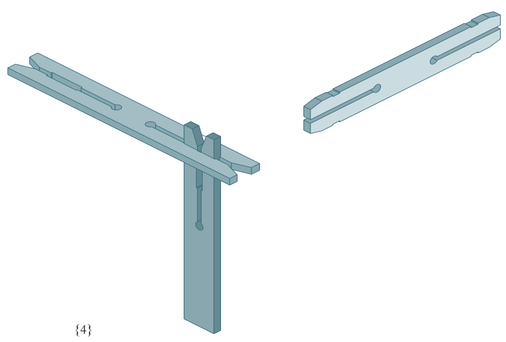
At the centre of the system is the **snap-fit keyed cross-lap joint**, which combines precision milled timber profiles with protruding keys that lock securely into matching slots without the need for additional fasteners. This creates a clean, tool-free assembly process while maintaining structural stability and allowing the modules to be easily reconfigured as requirements change. The joint also accommodates natural timber movement, making it well suited to the farm environment where durability, adaptability, and ease of maintenance are essential.



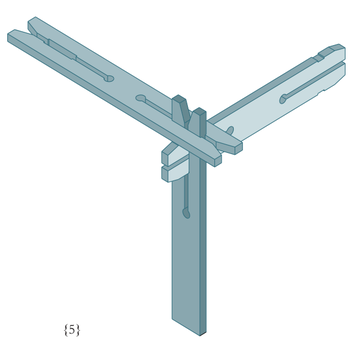




{3}



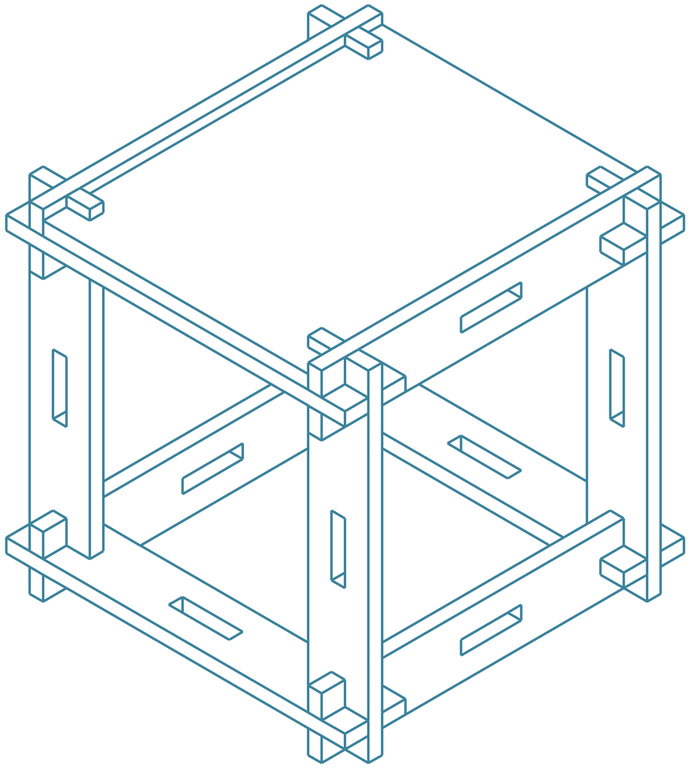
{4}



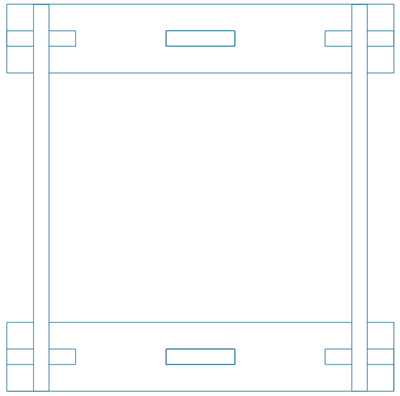
{5}

Top:
Joint Description
Design with Joint

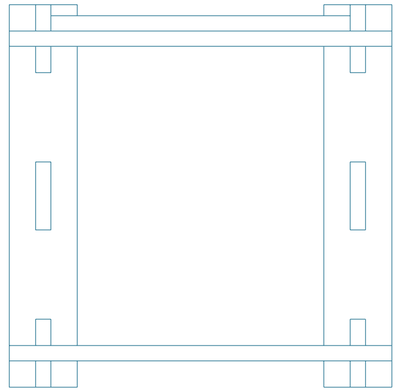
Left :
{1}Isometric view of a strucutre
{2} Dimensions and Modularity
{3},{4}, {5} Axonometric Exploded View



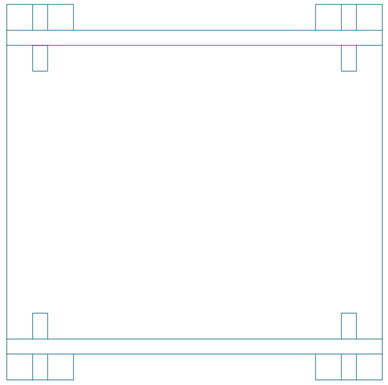
{1}



{2}



{3}



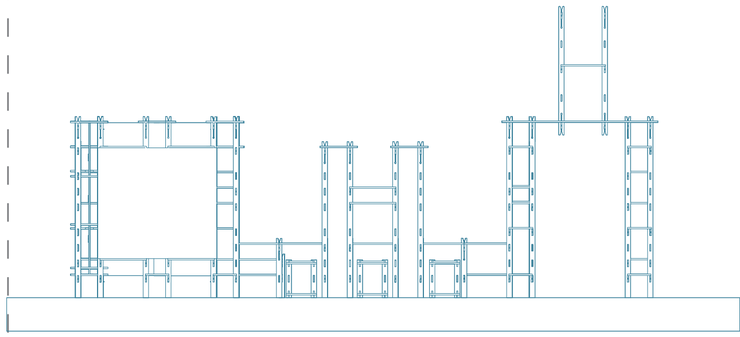
{4}

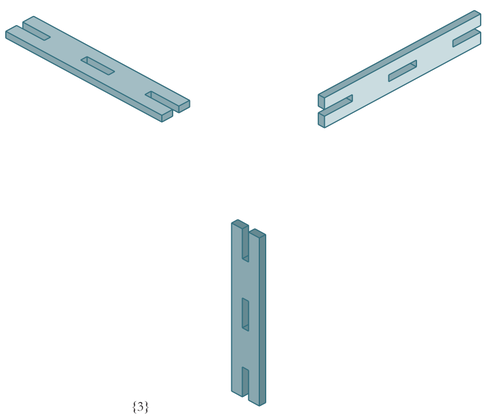
Joint

Eight horizontal rails and four vertical posts interconnect through eight precision-engineered corner joints, forming a robust yet adaptable framework that supports both structural clarity and design flexibility. This modular interlocking system allows the barn to be assembled efficiently without complex fixings, making it practical for construction, relocation, and future adaptation as the needs of the project evolve.

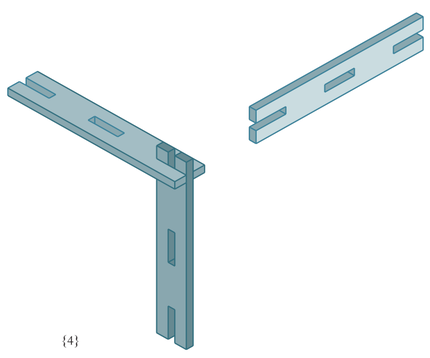
Its lightweight, repeatable form also makes it highly versatile, as identical modules can be combined to create larger configurations or reorganised to suit different functions within the WILD Tolworth Barn. As a result, the structure is not only efficient and easy to handle, but also capable of supporting a scalable architectural language that reflects the collaborative and evolving nature of the project.



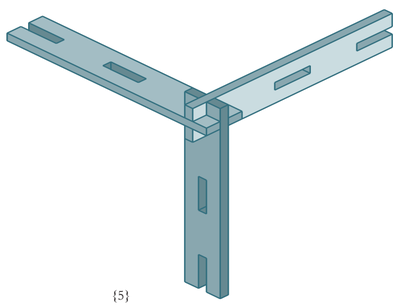




{3}



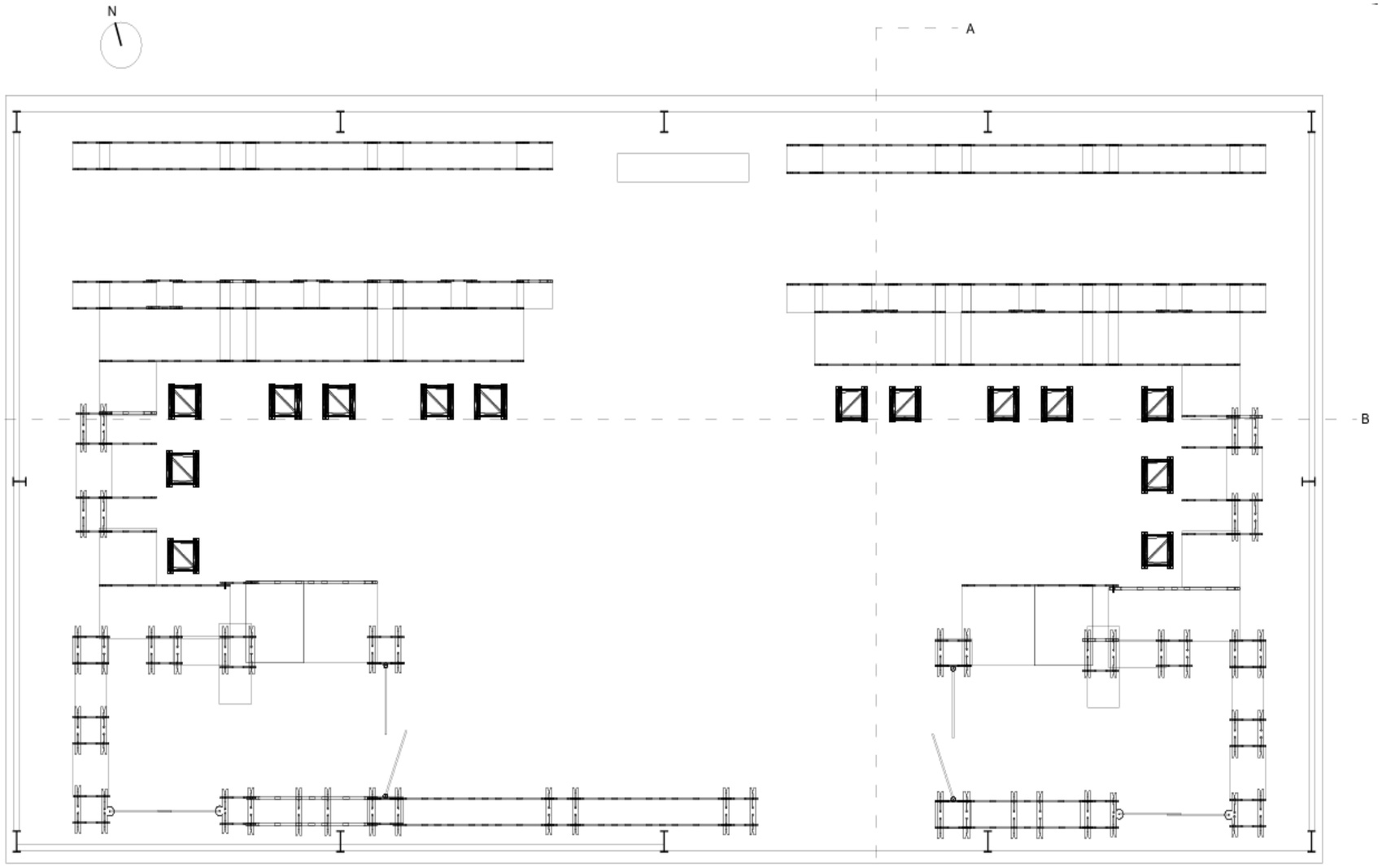
{4}

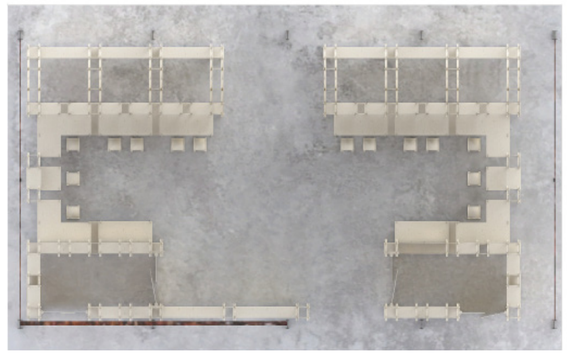


{5}

Top:
Joint Description
Design with Joint

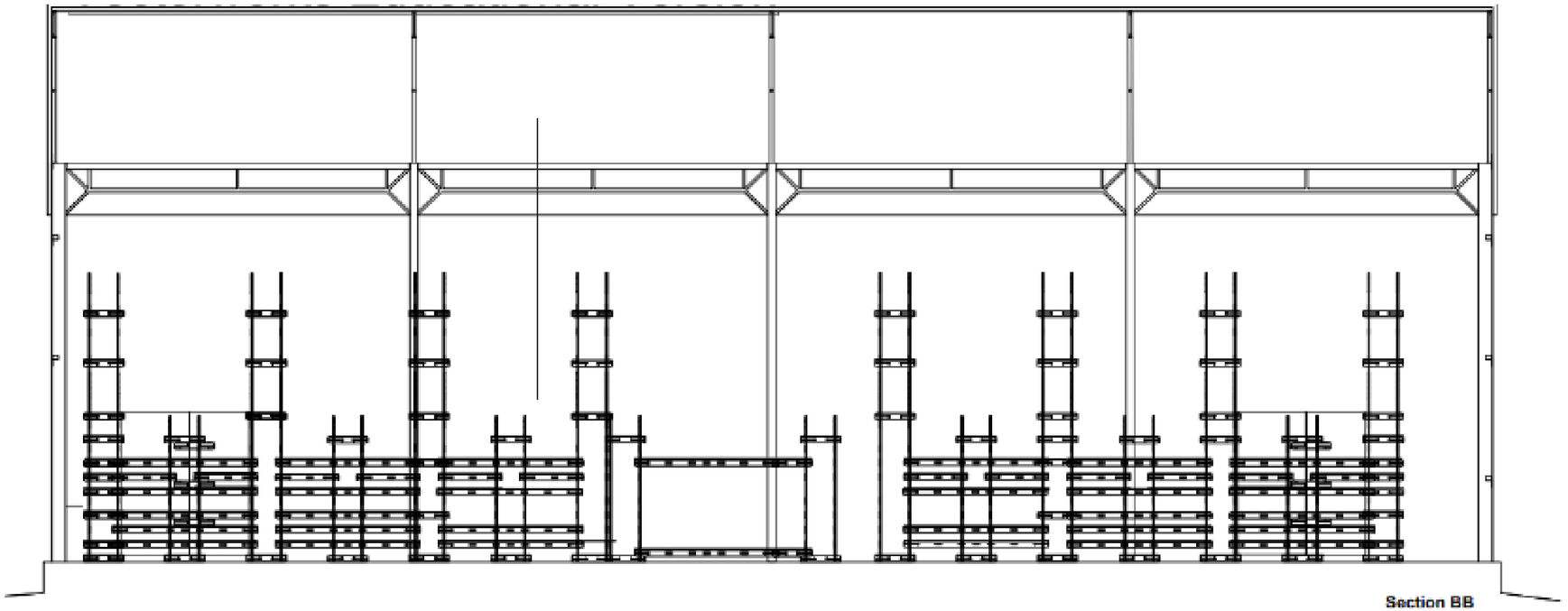
Left :
{1}Isometric view of seat
{2}Front View
{3}Side View
{4}Top View
{5},{6}, {7} Axonometric Exploded View

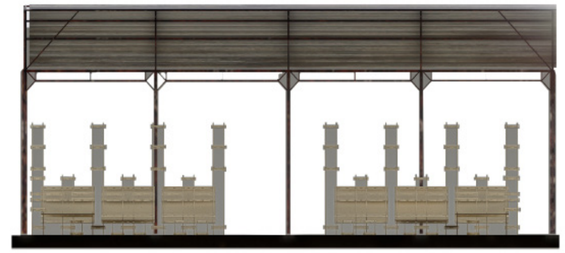


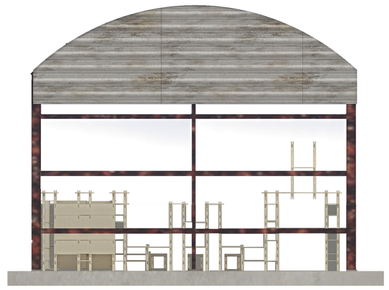


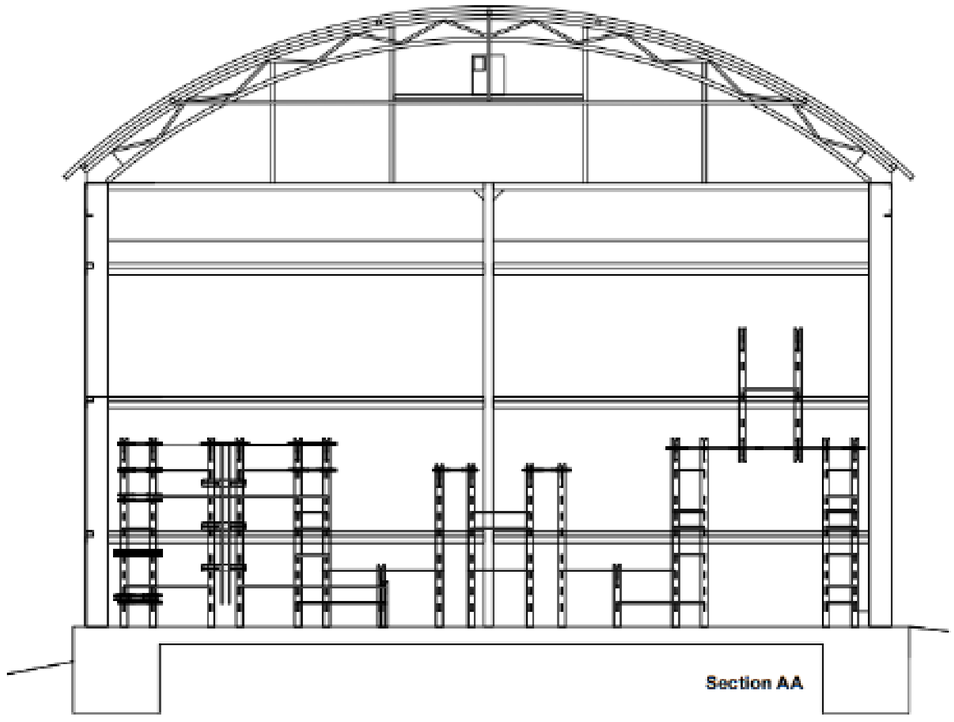
Top:
Plan with material

Left :
Proposed Groundfloor Plan



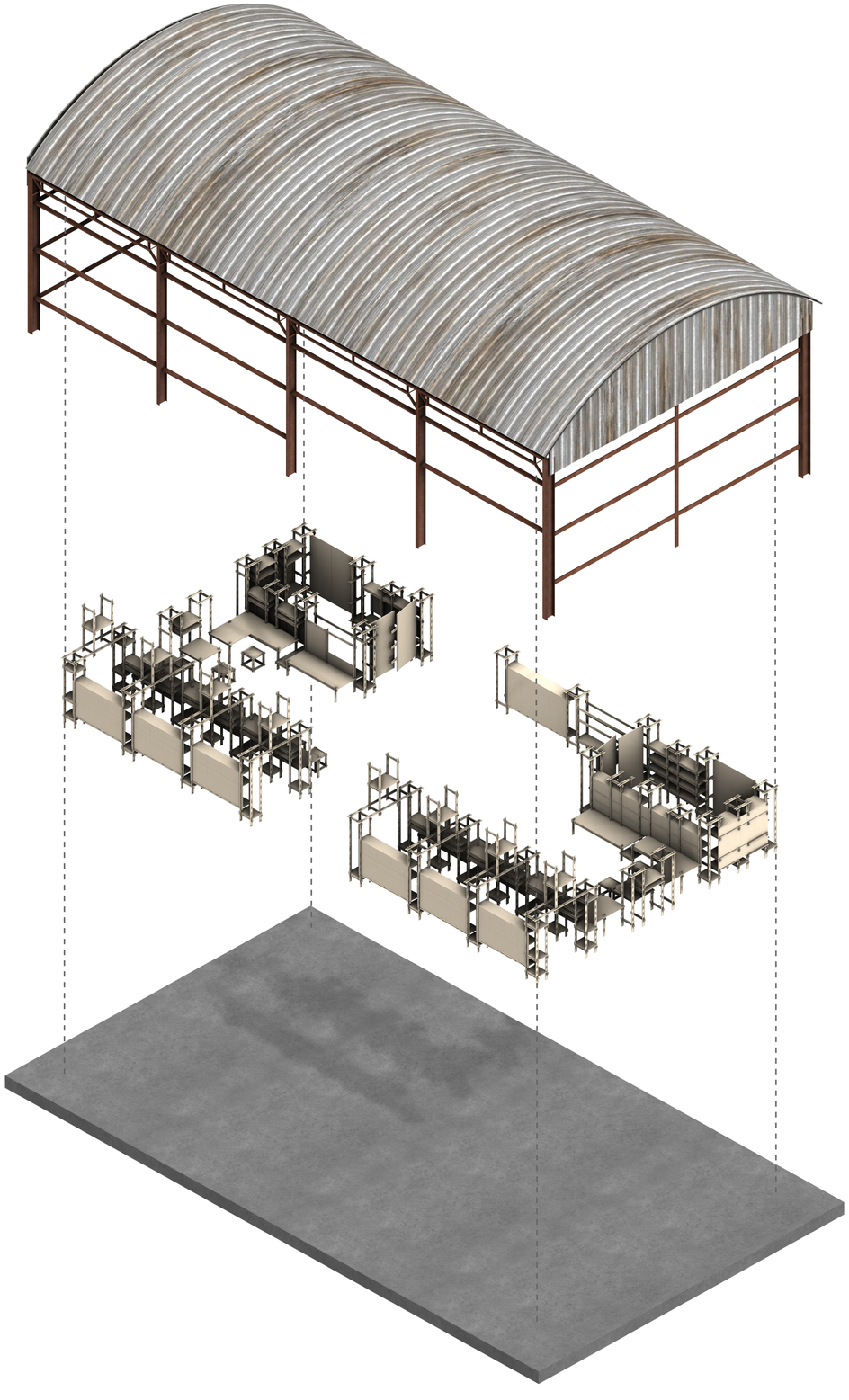


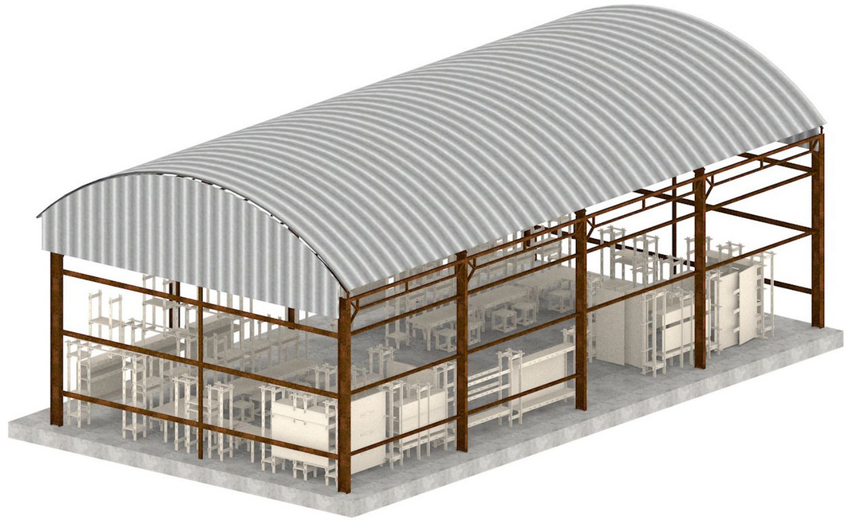


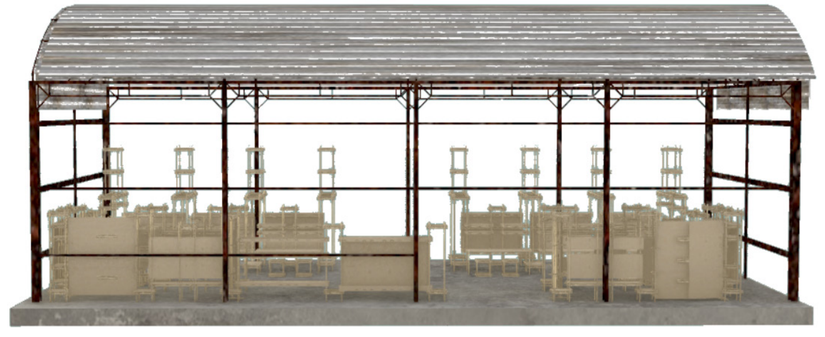


Top:
Section with material
Short Section with material

Left :
Proposed Section
Proposed Short Section



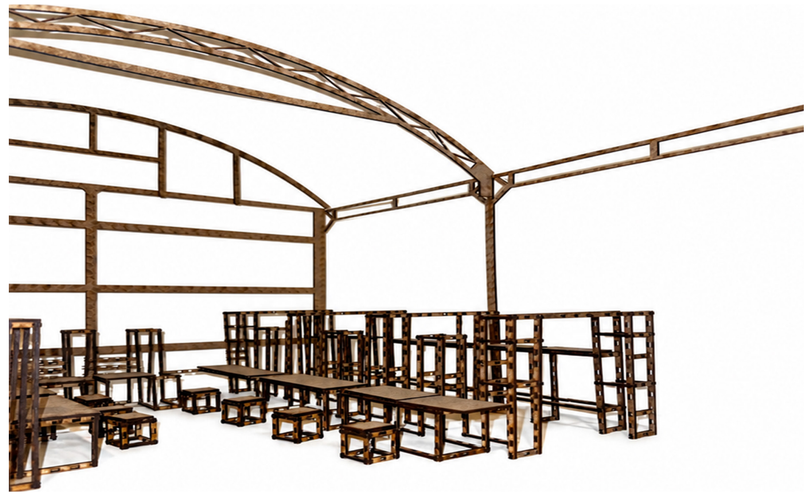




Top:
Isometric with material
Front Elevation with material

Left :
Axonometric with material

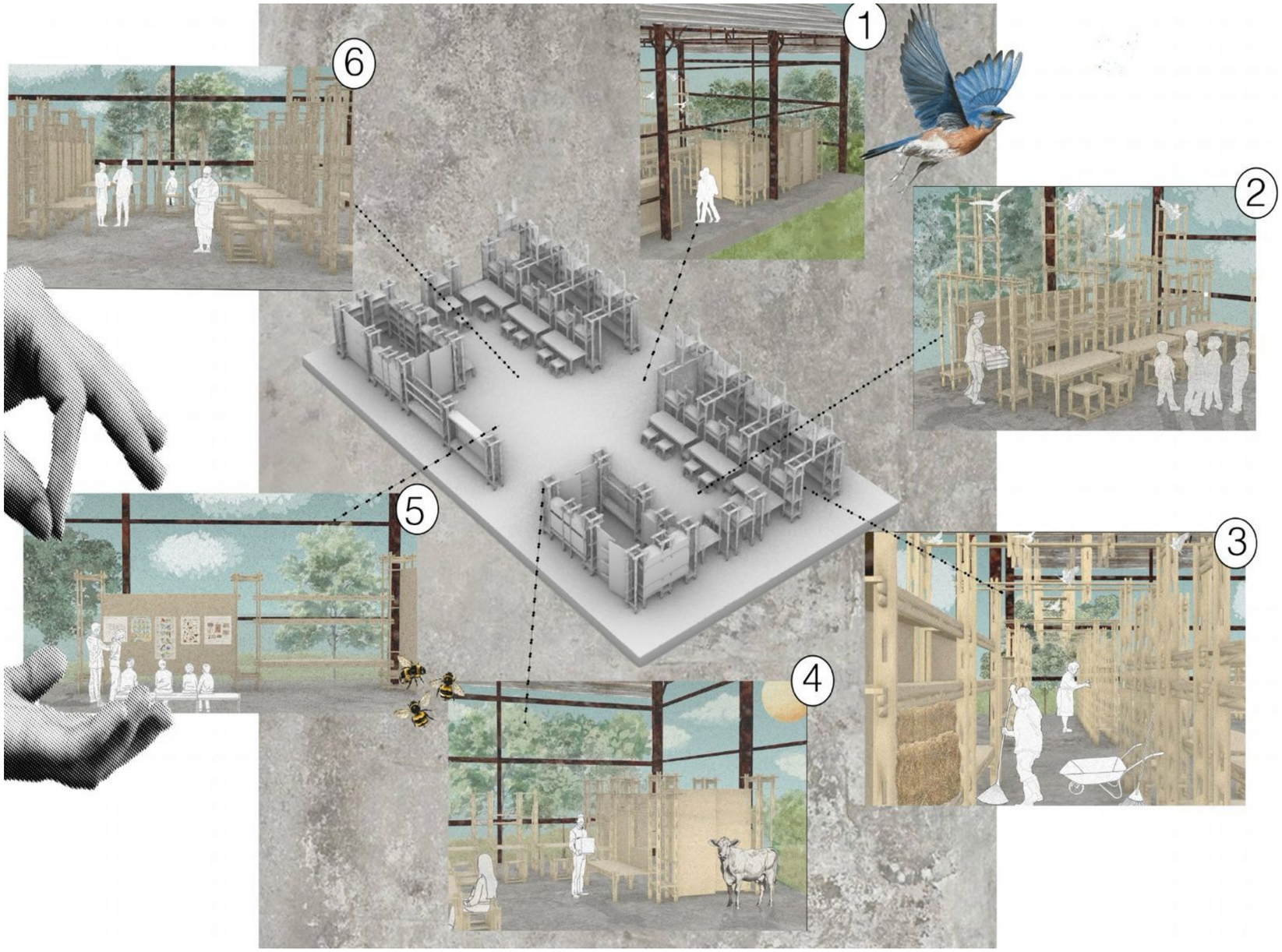


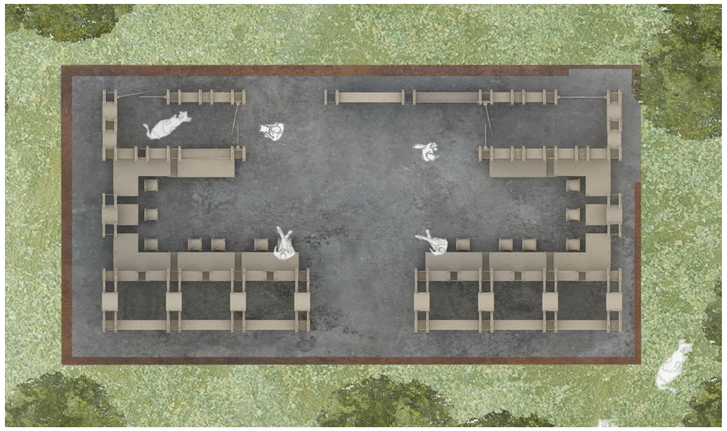




Top:
Interior View of Workshop Space

Left :
Isometric view
Front elevation



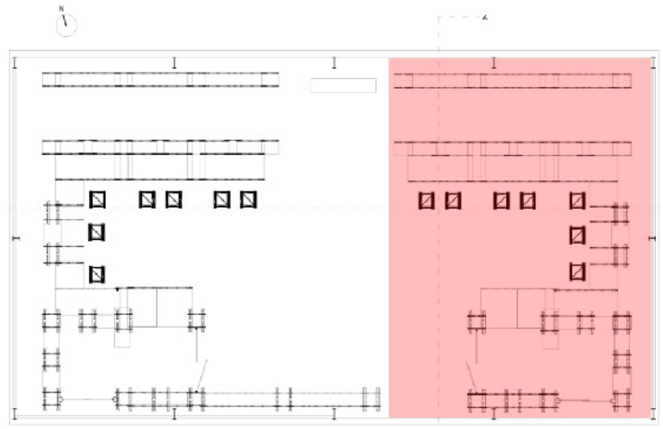




Top:
Plan and Section with Materials

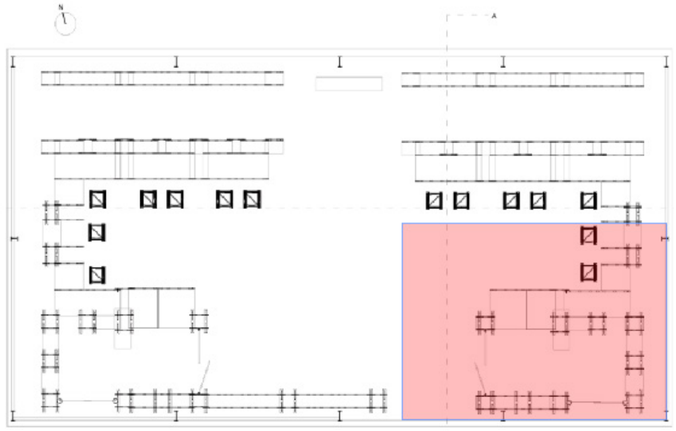
Left:
Storyboard





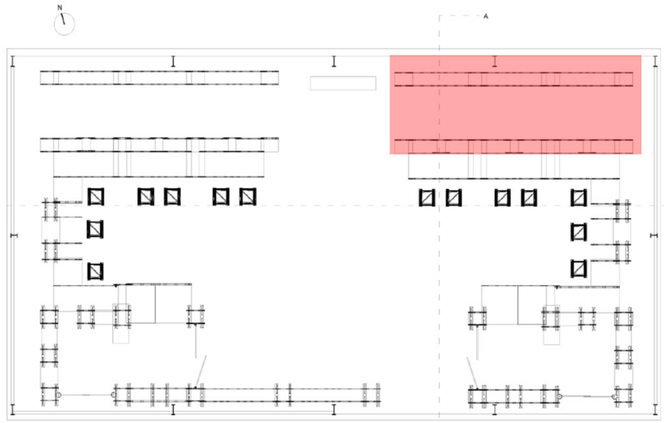
Left:
3D Visual
Workshop and Staff Storage





Left:
3D Visual
Cattle Pen and Workshop





Left:
3D Visual
Storage for Workshop



@RETURNTONATURE_TOLWORTH