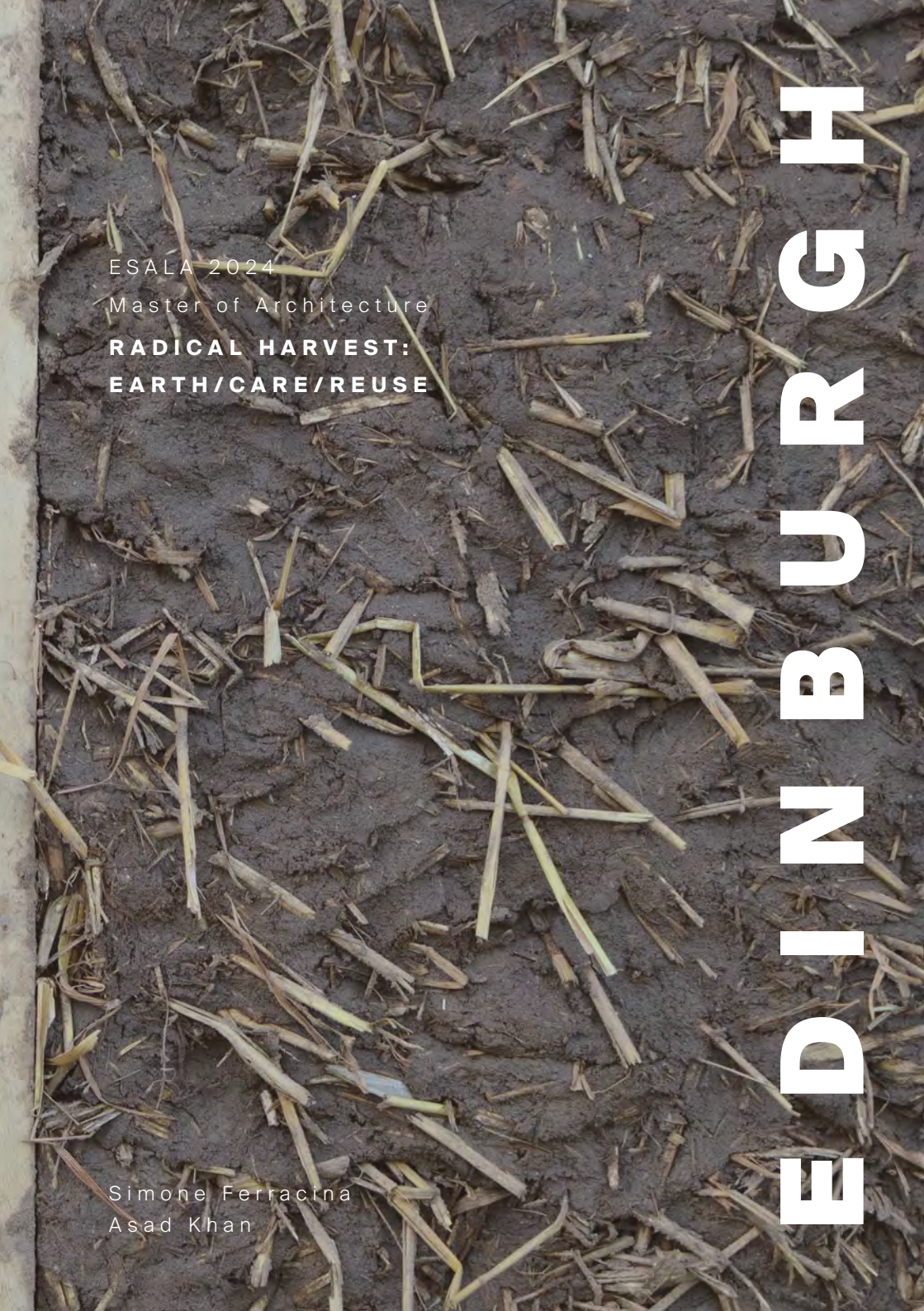

ESALA 2024

Master of Architecture

RADICAL HARVEST: EARTH/CARE/REUSE

EDINBURGH

Simone Ferracina
Asad Khan

Instrumental Earth Building

Coll Drury, Peter Brewser, James Melville

This catalogue is part of a collection published by the Edinburgh School of Architecture and Landscape Architecture (ESALA), Edinburgh College of Art, University of Edinburgh. It documents student design work produced in the Master of Architecture (MArch) programme in 2023-24. Each catalogue describes one of the following six design studios in the MArch programme. The full collection is available to view online at issuu.com/eca.march.

Catalogues 2023-24:
Architecture as Support Structure.
Close Encounters: Berlin.
Crossing Tangier.
Daire's Airc.
Grounding Naples Vol. 2
Radical Harvest: Earth/Care/Reuse.

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Master of Architecture

RADICAL HARVEST: EARTH/CARE/REUSE

Simone Ferracina
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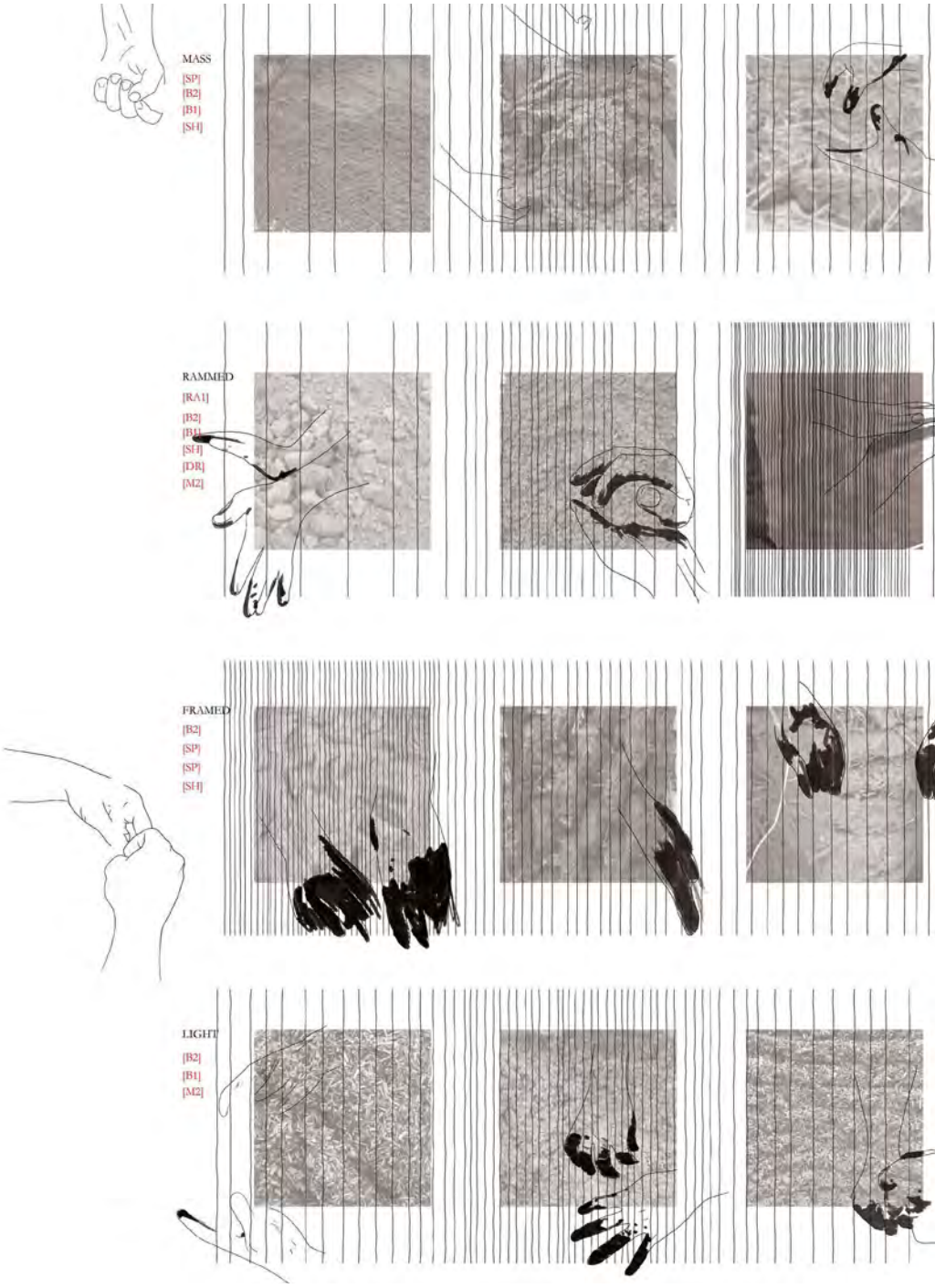
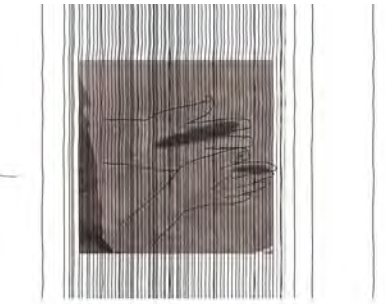
EDINBURGH

CONTENTS

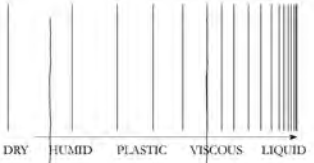


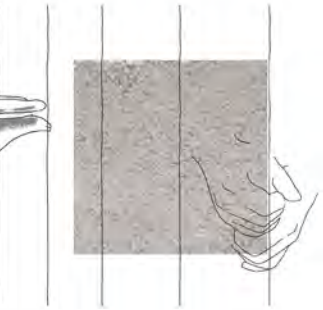
Hand Interactions: Understanding Earth

Coll Drury, Peter Brewser, James Melville

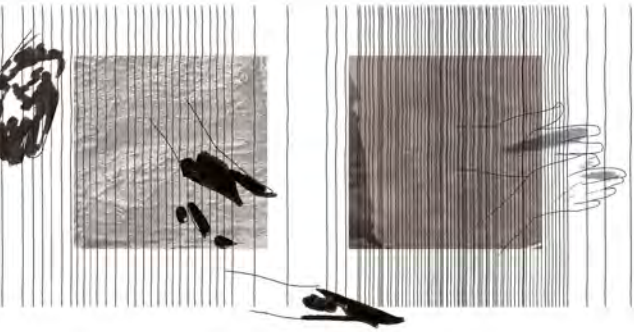


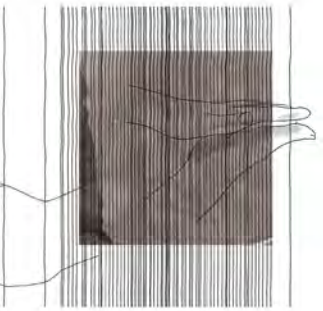
To reflect the variation in moisture content a line density language was developed through this drawing. As more water is added to the mix, molecules [lines] pull together. As the mixes dry, the forms warp, shrink, strengthen, harden [lines dissipate].

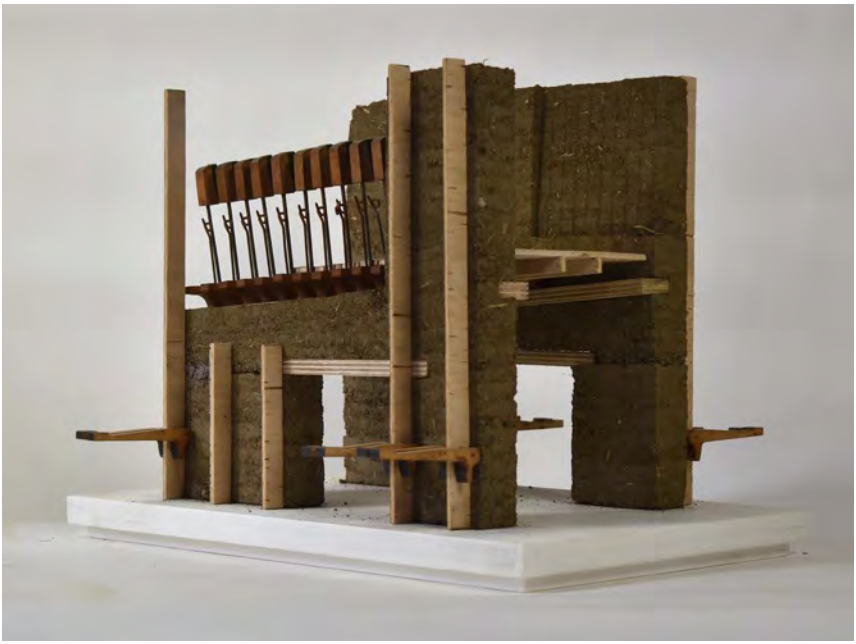




When working with the different earth construction methods, we observed a continuous changing of the materials on our hands. It was explained to us that the more the material sticks to your hand, and the harder it is to clean off, the higher the clay content. This has been represented through drawings of working hands in various degrees of 'sticky' material, where the darker texture represents the mud, material, clay.

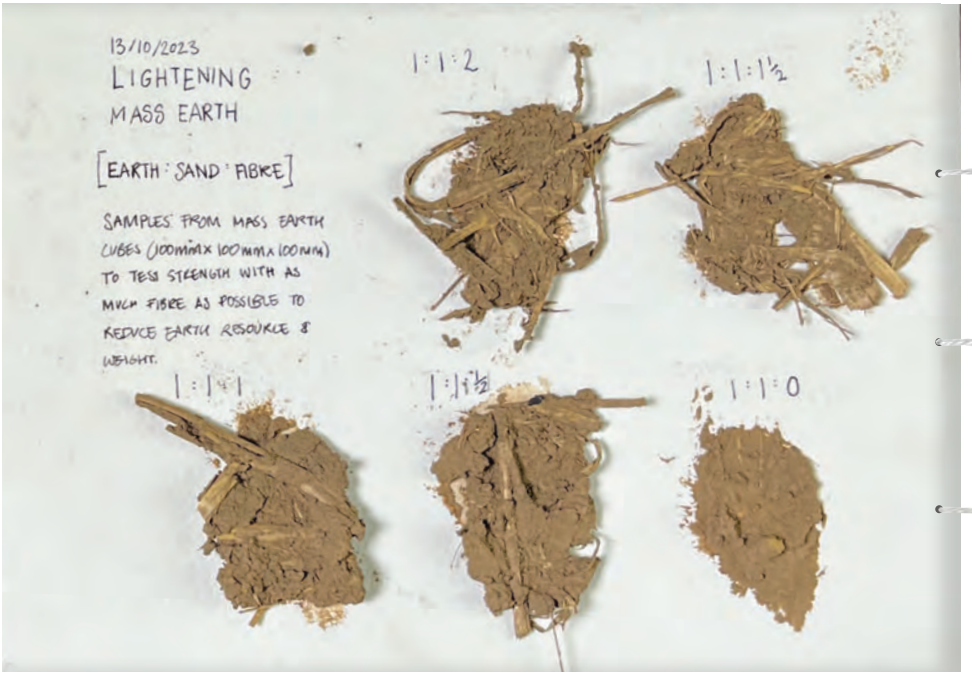






Inhabiting West Shore Road: Testing Earth Technologies

Coll Drury, Peter Brewser, James Melville

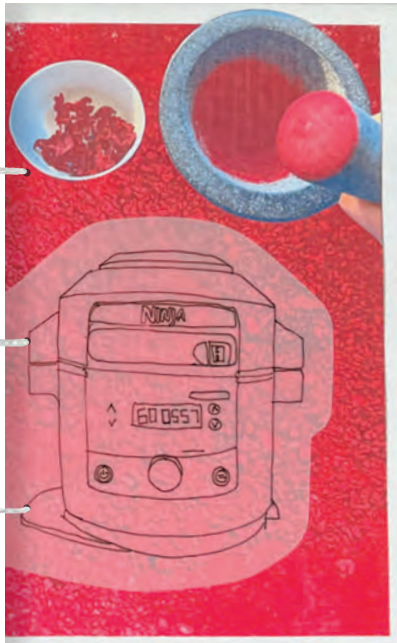


Documenting Processes

Holly Ng, Jemima Harrison

18/10/23

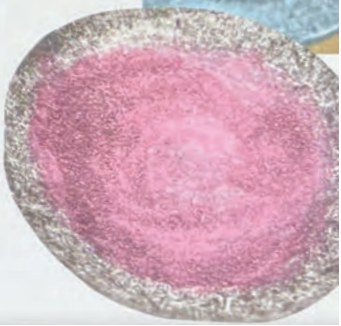
PIGMENTS : GRINDING PIGMENTS



after dehydrating the vegetables for :

red cabbage : 7 hours
beetroot : 5 hours ,

they were grinded into powder pigments using a mortar + pestle

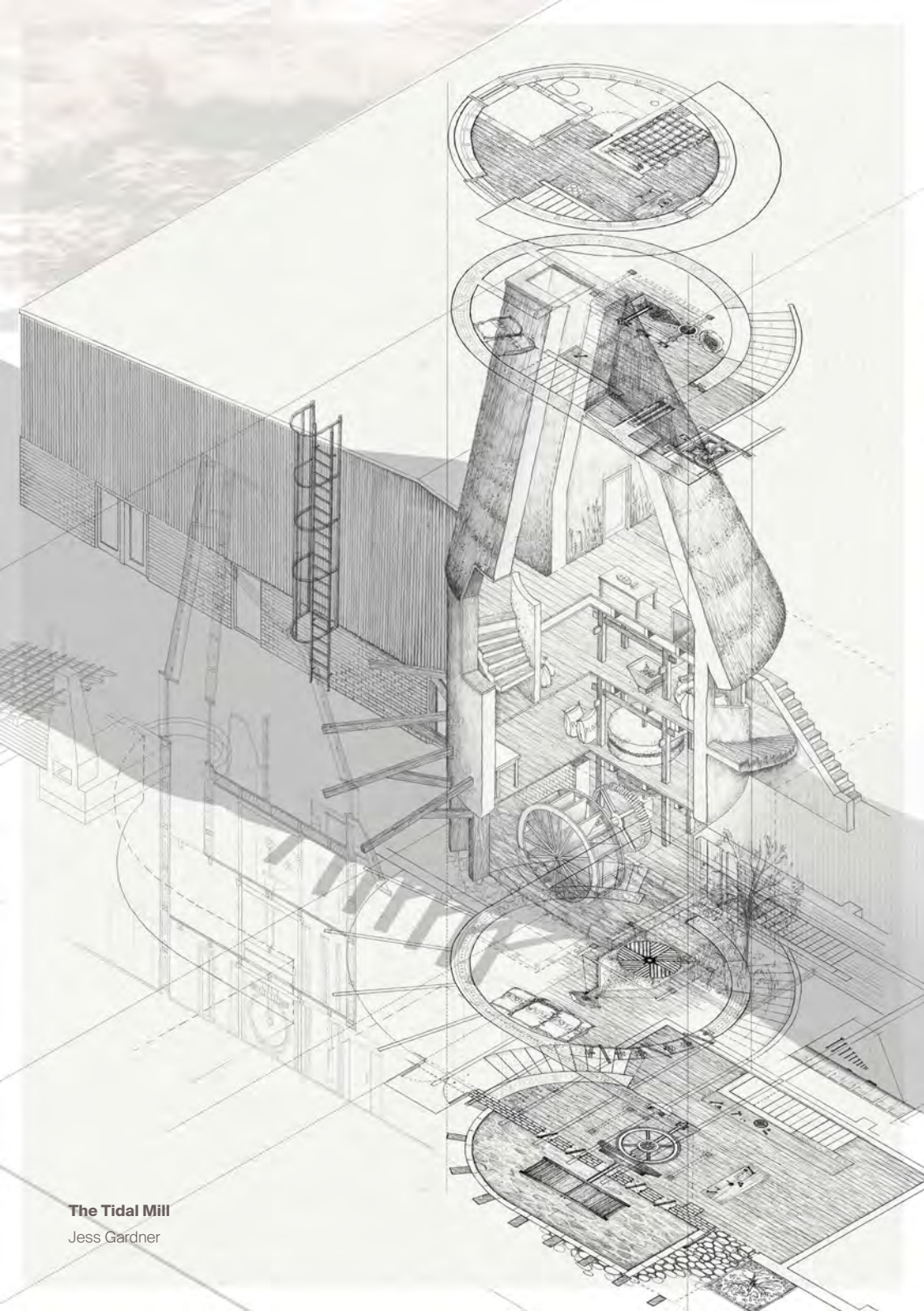


01/11/23

THE PANTRY on WEDNESDAYS

members can pay £2 each visit for a selection of groceries, supplied by Fare Share, where food is donated to from local supermarkets and producers

Jemma + Holly helped out at the pantry, meeting Lisa and Ally who volunteer there



The Tidal Mill
Jess Gardner

RADICAL HARVEST: EARTH/CARE/REUSE

radical From the Latin radix, root. 1. Relating to or forming the root, basis, or foundation of something; 2. Characterized by independence of or departure from what is usual or traditional; progressive, unorthodox, or innovative in outlook, conception, design, etc.

harvest 1. The reaping and gathering in of the ripened grain; the gathering in of other products. 2. The product or 'fruit' of any action or effort: a supply produced or appearing, a 'crop'.[1]

For a number of years, the Radical Harvest studio has promoted reuse and repurposing as forms of architectural attention and care; as modes of encountering, reimagining and revaluing that which already exists; as ways to engage with the spatial and temporal specificity of sites, materials, and communities; and as tools for prototyping new design practices, methods, and assemblies.[2] Recognising the political nature—and often violent effects—of design decisions, and their vast contributions to environmental injustice and climatic collapse, the studio has aimed to explore, learn about, envision, and prototype novel forms of inclusive, bioregional, and low-carbon architecture for the 21st century. In the 2023-24 academic year, the scope of the studio has broadened to foreground natural and bioregenerative materials (raw earth and fibres in particular) and a year-long engagement with community groups, charities, and social enterprises in Edinburgh.

1 *Oxford English Dictionary,* s.v. "radical," March 2024, https://doi.org/10.1093/OED/8608495395; s.v. "harvest," December 2023, https://doi.org/10.1093/OED/2766575079.

2 Simone Ferracina, *Ecologies of inception: Design Potentials on a Warming Planet* (Abingdon: Routledge, 2022), 126-135.

PLANET

In a recent report, the Intergovernmental Panel on Climate Change (IPCC) confirmed that human-caused climate change is responsible for the "[w]idespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere" impacting every region across the globe, and warned that "[c]ontinued greenhouse gas emissions will lead to increasing global warming […] and intensify multiple and concurrent hazards."[3] Adverse impacts are likely to include extreme weather events and natural disasters; desertification; food and water scarcity; infectious diseases; forced migration; damage to cities, settlements and infrastructures; and the loss of biodiversity and ecosystems—and to continue to disproportionately affect vulnerable communities. Indeed, as philosopher Val Plumwood explains, "control over and exploitation of nature contributes to, or is even more strongly linked to, control over and exploitation of human beings."[4]

These warnings, as well as the extreme and exacerbating weather events unfolding across the globe in recent months, underscore the need to urgently decouple the built environment (what Elisa Iturbe calls "carbon form")[5] from global patterns of extraction, consumption, exploitation, pollution, and obsolescence—and from the burning of fossil fuels. A wide range of discourses and practices are emerging at the intersection of architectural and planetary concerns, attempting to relinquish the discipline's complicity in ecocide and environmental injustice, and to redefine the future of the profession and its values. This is the context within which the students have been operating, seeking decarbonising strategies while remembering that 'carbon' is not equivalent across geographies, environmental contexts, peoples, or labour conditions; and that the effects of design decisions exceed the clear-cut contexts and parameters of the corresponding projects. Indeed, the Radical Harvest E/C/R studio asked students to develop nuanced, critical, situated, generous, creative, and empathic design methods and regimes of attention. Here, buildings were no longer fetishized as bounded physical objects, but understood as complex ecologies (of people, practices, materials, landscapes, stories, uses, effects, etc.) distributed in space and time.

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3 IPCC Core Writing Team, Hoesung Lee and José Romero, eds., "Summary for Policymakers," in *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Geneva, Switzerland: IPCC, 2023), 5, 12.

4 Val Plumwood, *Feminism and the Mastery of Nature* (London: Routledge, 2003), 13

5 Elisa Iturbe, "Architecture and the Death of Carbon Modernity." *Log*, no. 47 (2019), 12.

CITY

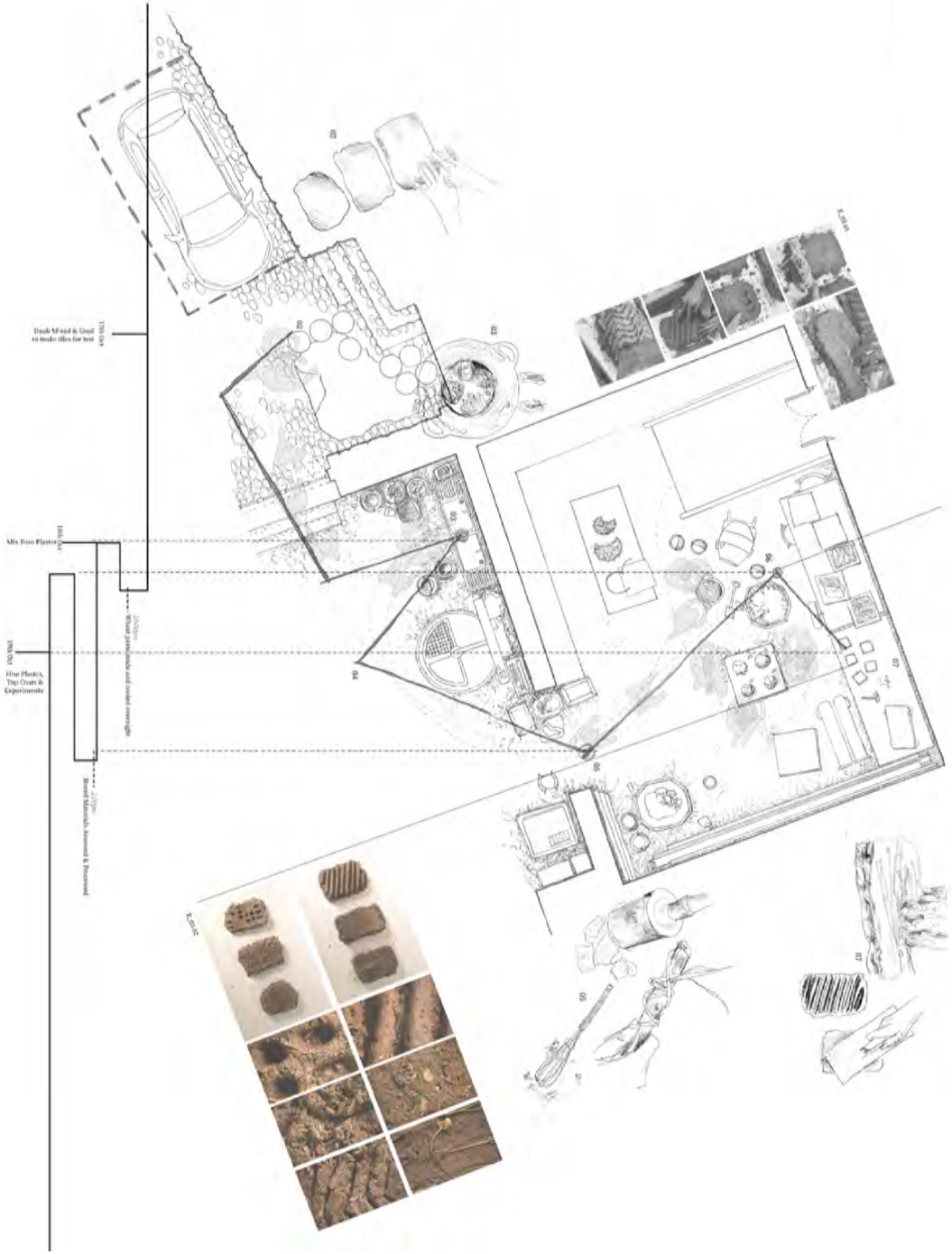
Based in Edinburgh, the Radical Harvest E/C/R studio allowed fieldwork practices to stretch and extend over the course of two semesters. The students were able to adapt and respond to contingent opportunities and discoveries, to learn from local groups and communities, and to build bonds of complicity, collaboration, and trust. Rather than identifying problems and then imposing a top-down or universal solution to those problems, the studio aimed to promote a more nuanced approach that combined design with co-habitation and co-production, promoting encounters with the city that were persistent, patient, and deeply situated and empathic.

The work of feminist philosopher Donna Haraway served as a recurring reminder of the students' role as situated designers and researchers, both in its rejection of any knowledge claims "organised by axes of domination" and decoupled from specific locations and forms of embodiment and response-ability (what she calls "situated knowledges"),[6] and in its invitation to "stay with the trouble" and engage in acts of sympoiesis (making-with) "as mortal critters entwined in myriad unfinished configurations of places, times, matters, [and] meanings."[7]

This framework included engagements with the fabric of the city (e.g., vacant or poorly performing buildings; structures and infrastructures at risk of demolition; leftover plots; cracked pavements), with its inhabitants and stakeholders (e.g., community groups, charities, social enterprises, elderly citizens, tradespeople, artists), with the flow of materials and goods (e.g., quarry waste; discarded food; second-hand scaffold boards and rope; untunable pianos; compost), and with ongoing and forthcoming planning and redevelopment projects (e.g., the Granton Waterfront and Seafield regeneration schemes). While stemming from encounters with pre-existing conditions, the work of the Radical Harvest students also considered more speculative questions concerning how climate change might impact the city of Edinburgh, and envisioning what a post-carbon future might entail for the Scottish capital.

6 Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies* 14, no. 3 (1988): 585.

7 Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham: Duke University Press, 2016), 1.



Surfacing Identity

Eleanor Hyde, Jess Gardner, Nat Mikulska

DRAWING

> *Vision is always a question of the power to see—and perhaps of the violence implicit in our visualizing practices. With whose blood were my eyes crafted?* [8]
>
> Donna Haraway.

In the Radical Harvest E/C/R studio, the drawing was not valued as an output, but a process or, better yet, as a way to engage and relate. It was not an autonomous or introspective practice, but a conversation with someone or something else—a way to think, and spend time, with what one draws. To draw something in this studio was to pay attention and care for it—not only to see it, but to make it visible; to establish its 'proper' place within architectural discourse and practice.

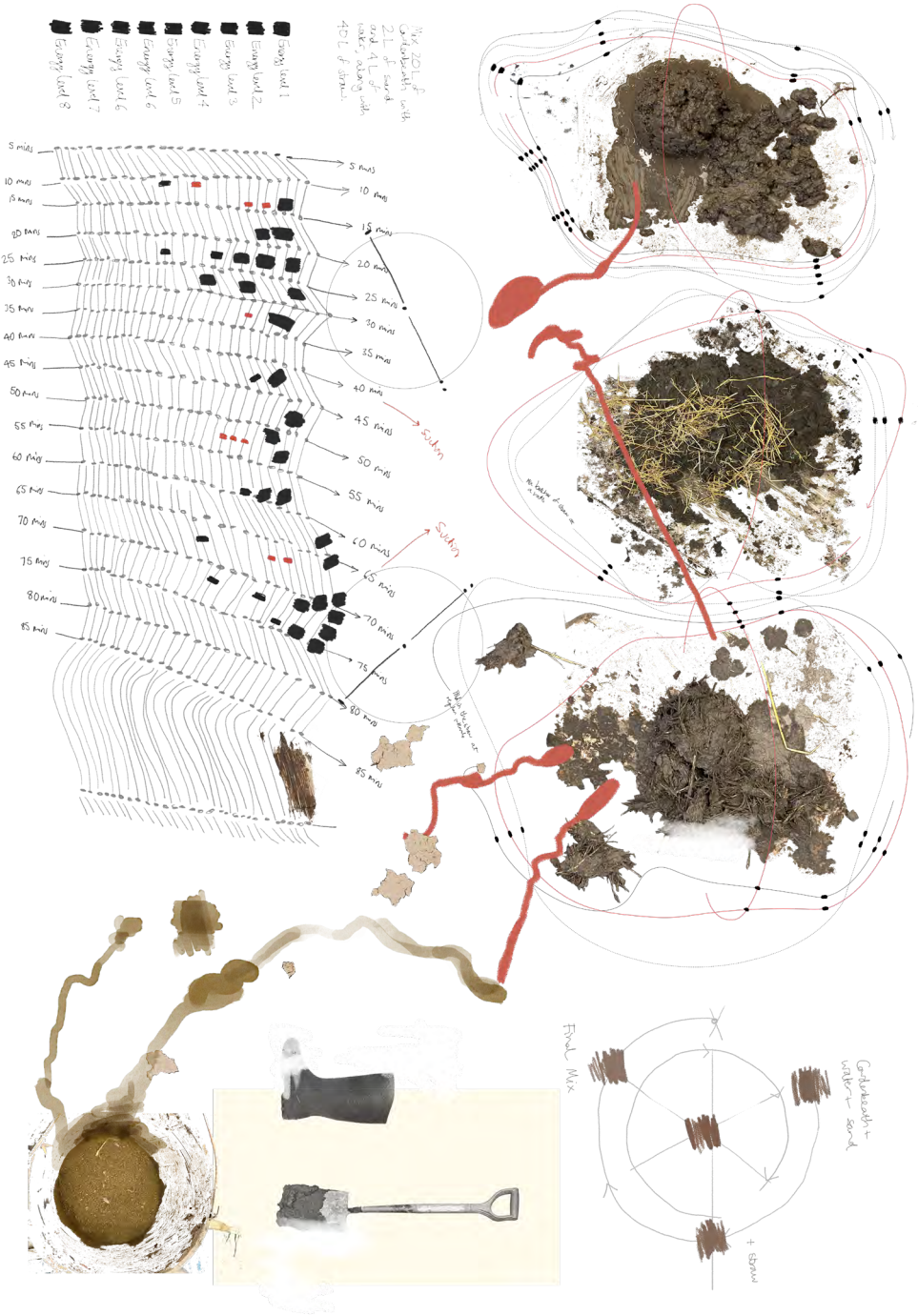
Indeed, drawing and the associated orthodoxies and conventions often do the opposite: they mark what has value (what is deserving of re-presentation) apart from that which doesn't, from that which can be ignored and abstracted away. In this sense, abstraction is always a form of violence and exclusion, and drawing can become a political tool for complicating, re-situating, muddying, reclaiming and revaluing—for crafting *other* eyes.

The students in the Radical Harvest E/C/R studio drew items typically excluded from architectural practice: the operations of charities and community groups; processes of extraction and manufacturing; routines of maintenance and repair; the materials and components in soon-to-be-demolished buildings; the labour, time, and tools associated with processes of material preparation and construction; and the toxic legacies and remainders of construction materials—just to mention a few.

BUILDING

In the Radical Harvest E/C/R studio, making was not, or at least not only, a practice of embodiment—a translation from abstract ideas and intents into physical objects—but a persistent and iterative form of experimentation and negotiation with that which already exists. To make was to encounter a physical substrate, and to learn or test ways of establishing a dialogue

8 Haraway, "Situated Knowledges," 585.



Recording Time and Labour Required to Make Mass Earth Mixture

Sonakshi Pandit, Alice Reed

with it. We followed Katie Lloyd Thomas in understanding materials not as generic lumps of stuff, or as given substrates, but as ones that have been socially constructed; ones that architects shouldn't passively receive, but creatively mobilise towards the construction of buildings.[9]

The studio challenged the perceived separation between design and construction—between conceptual motives and technical or logistical implementations, architects and builders. It invited students to engage with materials and to get their hands dirty, but also to adopt a responsive, playful and intuitive design methodology.

EARTH

Over the course of the year, the students investigated—and experimented with—unfired earth as a building material for the future of construction: carbon neutral, thermally active, non-toxic, breathable, fire-resistant, and fully circular. During the first few weeks of the course, they studied the complex history and wide range of technologies associated with earth, in Scotland and abroad, learning about different types of subsoil and fibres, and about their application in construction.

Following a week-long workshop with Becky Little and Rowland Keable of Earth Building UK & Ireland (EBUKI), the leading earth-construction experts in the country, the students became literate in different techniques (mass, light, framed, moulded and rammed earth) and in the corresponding recipes and terminology, iteratively inventing and testing mixes, tools, building components and tectonic assemblies. This process of experimentation and prototyping progressively gained focus, both pursuing specific questions (plastering finishes, textures, and colours; insulating wall assemblies; the prefabrication of components; the fabrication of formwork; etc.) and addressing the needs and constraints associated with specific sites and clients. Indeed, during the second semester, these material and tectonic protocols were moored and scaled up, and the students developed, for local charities and social enterprises across Edinburgh, eight live-build project: *Earthen Udders, Rods, and Bundle*s and *Multi-Species Tower* at the Leith Community Croft; *Noticing [The Ripple Project]* and *Modular Earth* at The

9 Katie Lloyd Thomas, *Building Materials: Material Theory and the Architectural Specification* (London & New York: Bloomsbury, 2022).

Ripple Project in Restalrig; *Instrumental Earth Building* and *The Cobb* at Plan A in Granton; the *Edinburgh Eco-Pavilion* at the Edinburgh Student Housing Association; and the *Lauriston Community Kitchen* at Lauriston Farm.

CARE

> *Care is "a species activity that includes everything we do to maintain, continue, and repair our 'world' so that we can live in it as well as possible. That world includes our bodies, our selves, and our environment, all of which we seek to interweave in a complex, life-sustaining web."* [10]
>
> Joanne Tronto.

The studio foregrounded the responsibility towards those, human and nonhuman, affected by the architect's decisions, and promoted architectural design as a form of care. Design decisions were not relegated to conceptual aspirations or art-historical baselines, but grounded in the associated real-world consequences and effects on bodies and environments, in the same way that materials may be understood, following Jane Hutton, as "fragments of other landscapes,"[11] or that the specification of ultra-clear glass or aluminium may be directly linked to an increase in environmental and social damage.[12]

Care is not practiced from a distance, but requires company (*cum panis*), reciprocity, and accountability. It begins by staying-with. For this reason, the students in the Radical Harvest E/C/R studio sought to spend time with, and learn from, community groups, charities, student cooperatives, and social enterprises in Edinburgh—because their ongoing work is already sowing the transformative seeds for a caring, low-carbon, and sustainable city.

---

10 Bernice Fisher and Joan Tronto, "Towards a Feminist Theory of Care," in E. Abel and M. Nelson, eds., *Circles of Care* (Albany: State University of New York Press, 1990), 40. Quoted in Joan Tronto, "An Ethic of Care," in *Generations: Journal of the American Society on Aging*, Fall 1998, 16.

11 Jane Hutton, *Reciprocal Landscapes: Stories of Material Movements* (Abingdon and New York: Routledge, 2020), 5

12 Andrés Jaque (Office for Political Innovation), "Architecture as Ultra-clear Rendered Society," in Vanessa Grossman and Ciro Miguel, eds., *Everyday Matters: Contemporary Approaches to Architecture* (Berlin: Ruby Press, 2022), 165. Carl A. Zimring, *Aluminum Upcycled: Sustainable Design in Historical Perspective* (Baltimore: Johns Hopkins University Press, 2017).

REUSE

In order to minimise the CO2 emissions, waste, and environmental damage associated with design-led processes of extraction, construction, and demolition, and to transform architecture into a form of "resource stewardship,"[13] the studio aimed to foreground and preserve the carbon, energy, labour, and environmental toll embodied within existing structures, materials, and building components, understanding buildings as vast spatiotemporal ecologies (as opposed to discrete or definitive objects).[14]

As a result, the studio relinquished the modernist "blank slate" approach to design, and adopted an exaptive ethos that viewed any existing substrate as potentially valuable and deserving of architectural care and attention. How does design practice change if architects take responsibility not only for the construction and assembly of buildings, but also for their maintenance, deconstruction, disassembly, and for their eventual disposal? What protocols might emerge if we were concerned not only with present programmes, objectives, or conditions, but with those that might emerge in the future? What if our sense of professional responsibility extended to future generations, and to nonhumans? And what does it mean to take the local availability of buildings, materials, and components as the starting point of design? These are some of the questions the Radical Harvest E/C/R studio probed, supporting students in elaborating, through a combination of live-build and speculative projects, nuanced and imaginative responses.

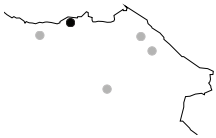
Simone Ferracina and Asad Khan

13 Charlotte Malterre-Barthes and Zozia Dzierżawska, "New Rules for a Generous School of Architecture," *Cartha Magazine* Vol.1, 2021.

14 Ferracina, *Ecologies of Inception*, 176-77; 249-62. See also Simone Ferracina, "The Ethics of Use: Repurposing Debenhams," *e-flux Architecture*, https://www.e-flux.com/architecture/after-comfort/563085/the-ethics-of-use-repurposing-debenhams/ .

Instrumental Earth Building

Plan A, 20 West Shore Road, Granton



Lauriston Community Kitchen

Lauriston Community Farm

Earthen Udders, Rods and Bundles

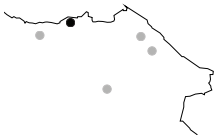
Leith Community Croft

Modular Earth

The Ripple Project, Restalrig

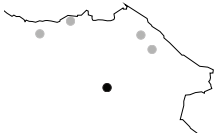
The Cobb

Granton Garden Bakery, 20 West Shore Road, Granton



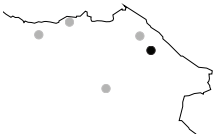
Edinburgh Eco-Pavilion

Edinburgh Student Housing Co-operative, Bruntsfield



Noticing [The Ripple Project]

The Ripple Project, Restalrig



Multi-Species Tower

Leith Community Croft

With Thanks to: EALA Impacts (Joanne McClelland, Aythan Lewes); Edinburgh Palette; Pianodrome (Tim Vincent-Smith); Work of Iron (Jack Waygood); The ESALA Workshop Staff (Malcolm Cruickshank, Paul Charlton, Paul Diamond, Molly Stubbs); The University of Edinburgh Servitorial Services (Steve Downes, Robert Hildersley); Collier Haulage (Colin Fotheringham), ECA Health & Safety (Richard Dunigan); Elham Mousavian; EBUKI (Becky Little and Rowland Keable).

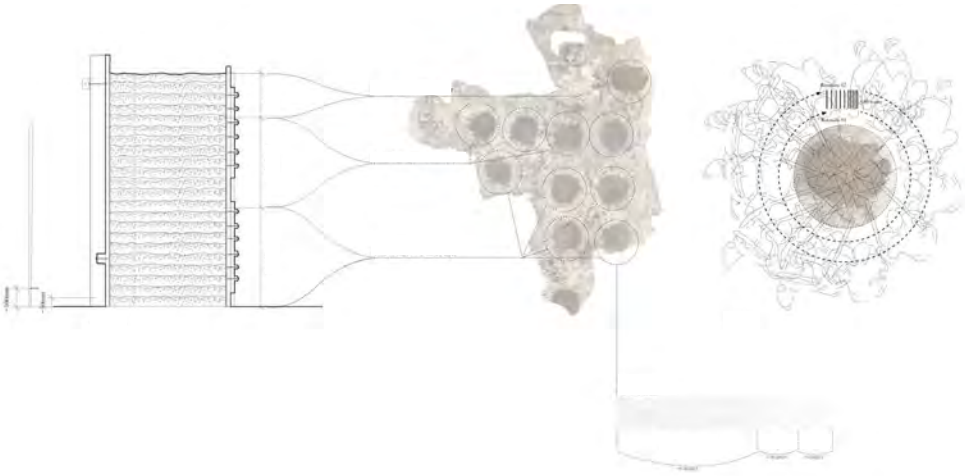
01

INSTRUMENTAL EARTH BUILDING

AN EXERCISE IN EXAPTIVE DESIGN

COLL DRURY
PETER BREWSER
JAMES MELVILLE

Our live-build project inhabits Plan A, a vacant industrial warehouse that is being transformed into a creative and circular hub, and that has a central role to play in the regeneration of the Granton Waterfront. Plan A will provide space to support a variety of creative and circular industries, artisans, and social enterprises. As one of the first interventions within this vibrant context, *Instrumental Earth Building* acts as a unique signpost to index the building's changed identity, and provides an interface between its inhabitants and the public. The rammed earth structure of *Instrumental Earth Building* is accompanied by a radical reimagining of the piano—the instrument in the title—through the language of formwork developed from discarded and reclaimed piano components. These once-beloved and finely tuned musical instruments are diverted from landfill and given a new purpose through deconstruction and experimental reuse, first as frames and spacers, and then as shelves and aerial displays. Traces of the distinctive features of the pianos are found in the recesses and extrusions imprinted on the earth surfaces, and the layer lines and ramming courses are a stark reminder of the effort and time involved. The installation is a product of distributed authorship—a considered set of improvisations born from the dynamic interplay of site conditions, human bodies, earth mixes, piano components, tools, formwork, ramming methods, spontaneous choreographies, and intuitive call-and-response.



Previous. **Instrumental Earth Building.** Detail of Rammed Earth Wall.
Left Above. **Material Movements.** Scanned Plan and Section of Drying Area.
Left Below. **Instrumental Earth Building.** View of Rammed Earth and Formwork Sections.
Above. **The Mixing Dance and Material Volumes.** Plan and Section.
Below. **Piano Imprints and Light Timber Structure.**

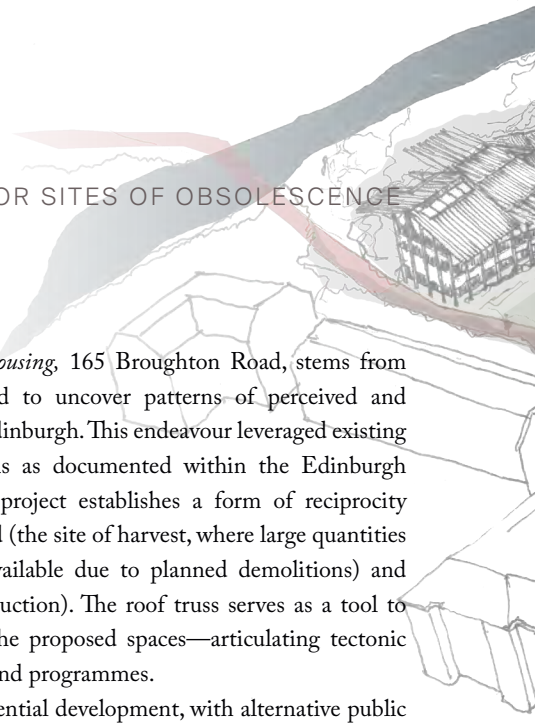
Site: 165 Broughton Road, Edinburgh.
Programme: Social Homes; Care; Community Development.

01A

POWDERHALL HOUSING

ALTERNATIVE MATERIAL FUTURES FOR SITES OF OBSOLESCENCE

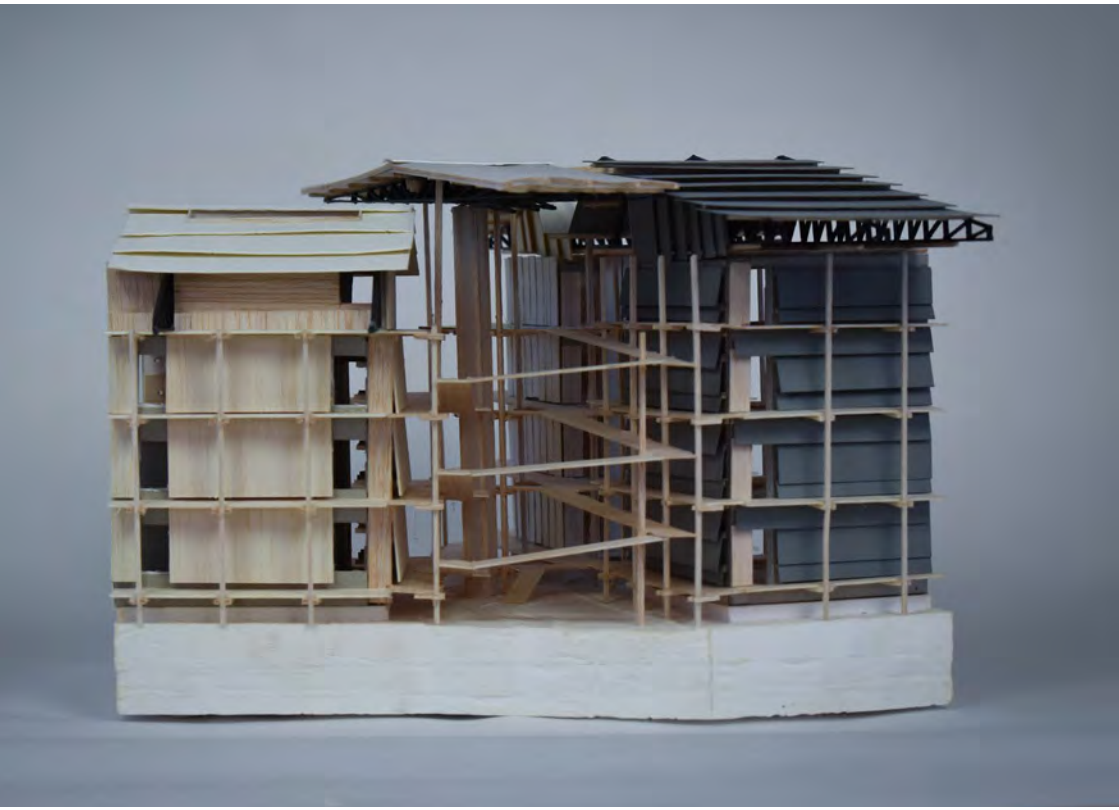
COLL DRURY

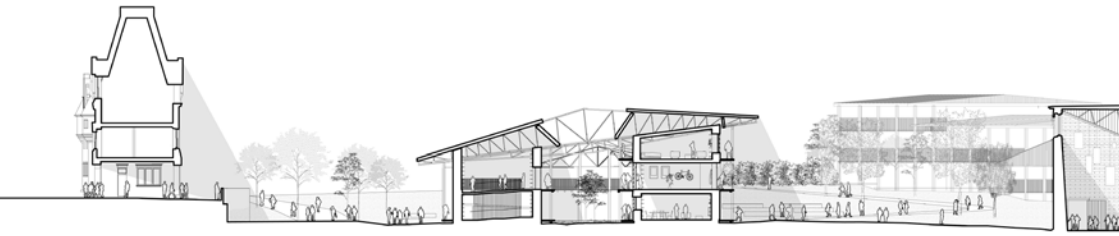


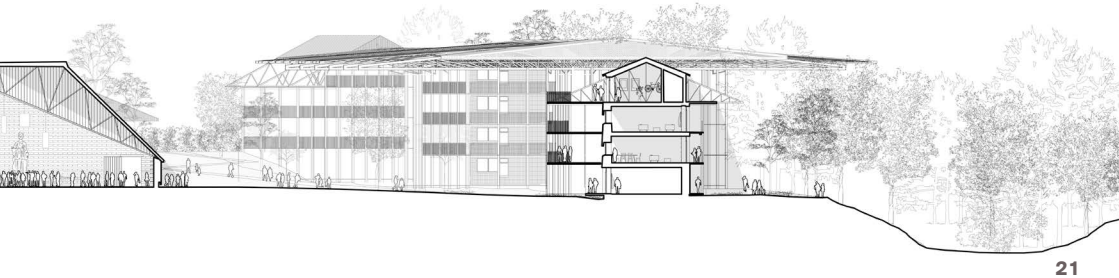
The proposal for *Powderhall Housing,* 165 Broughton Road, stems from a mapping exercise that aimed to uncover patterns of perceived and enforced obsolescence within Edinburgh. This endeavour leveraged existing catalogues of material decisions as documented within the Edinburgh Council Planning Portal. The project establishes a form of reciprocity between two sites: Seafield Road (the site of harvest, where large quantities of trusses will soon become available due to planned demolitions) and Powder Hall (the site of construction). The roof truss serves as a tool to draw, measure, and catalogue the proposed spaces—articulating tectonic relationships, material sources, and programmes.

The site primarily features residential development, with alternative public programmes seeded throughout to activate the proposal. The primary structure, made of rammed earth, is able to fit and adapt to the varying scales and conditions of materials salvaged from the Seafield site, while retaining its potential to grow and extend over time. Mirroring the live build project, the formwork used to ram the walls is varied and diverse, primarily sourced from salvaged materials at Seafield, and supplemented with local timber. After the construction of the walls, the formwork is turned into walkways, creating an accessible and open circulation network. In the project, the earth construction acts as a mediator between the material and the programme, and between the industrial scale of Seafield and the domestic scale of the proposed homes, absorbing the material loss that is commonly associated with contemporary linear development.

Previous. **Powderhall Housing.** View from Above (Sketch).
Above. **Powderhall Housing.** 1:100 Sectional Model of Interface Between Truss Systems.
Below. **Powderhall.** Site Section.
Right. **Powderhall.** Detail of 1:100 Sectional Model.







Site: The Madelvic Car Factory, Granton.
Programme: Yard; Gantry and Steeping/Wash Pits; Toxic Garden for *Phyto-Remediation* of Contaminated Earth; Theatre and Material Repair Workshops; Public Spaces.

01B

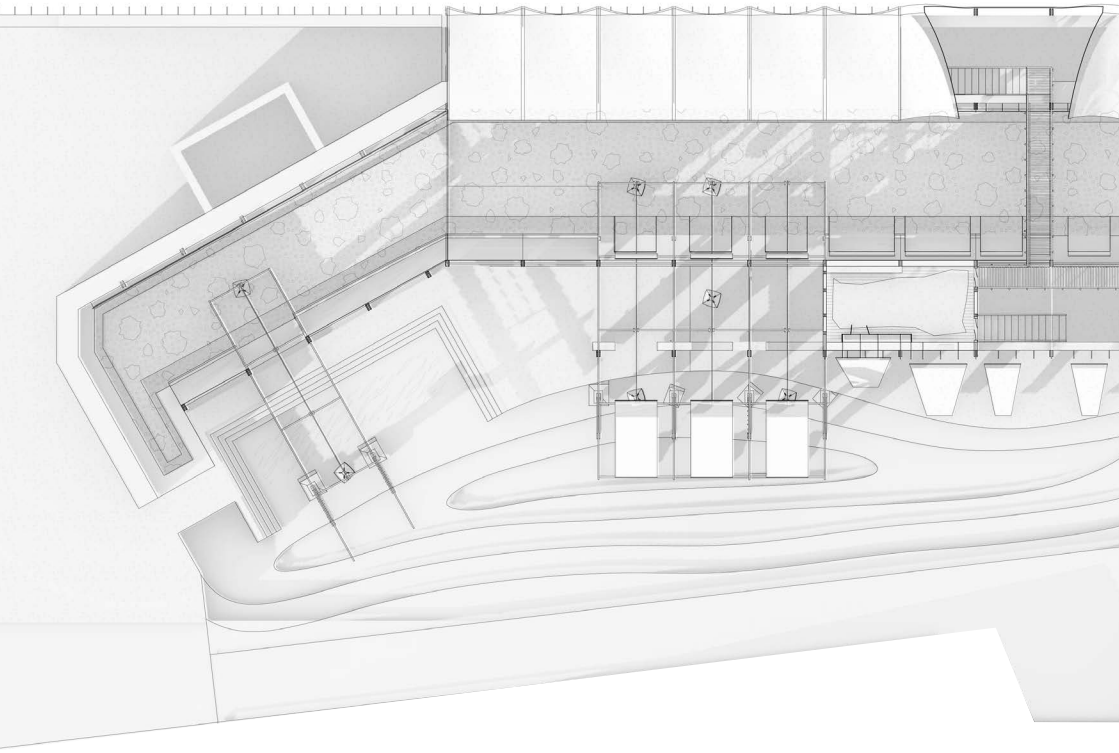
HARVESTING A CONTAMINATED EARTH

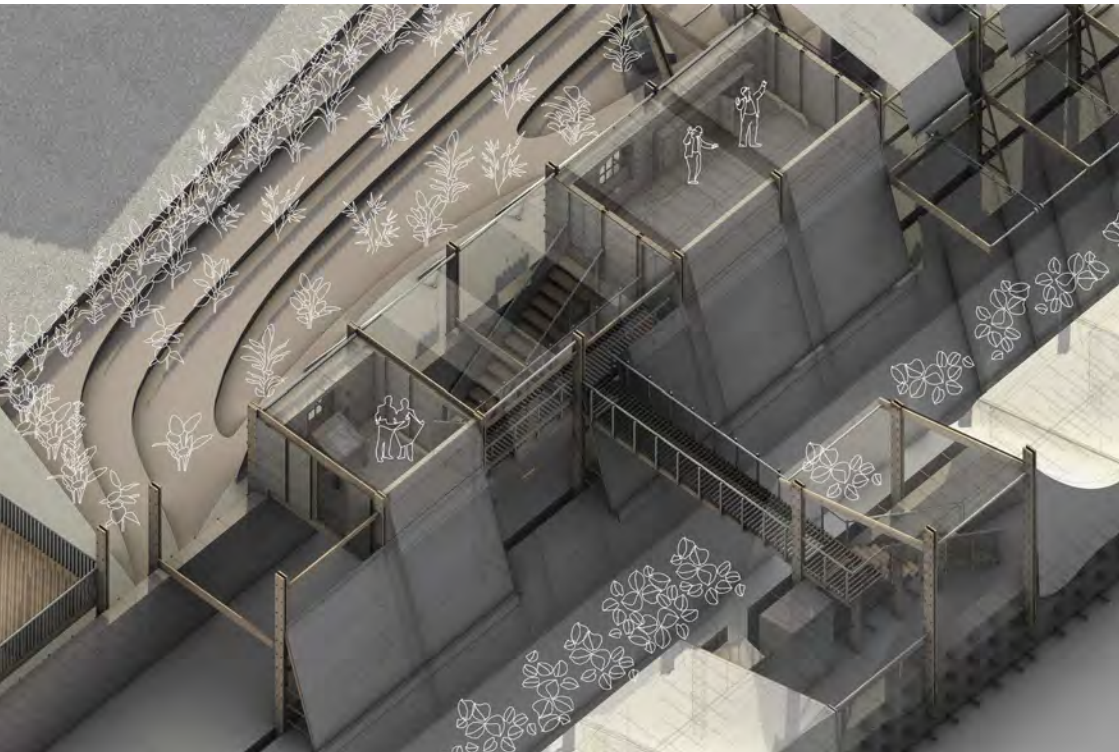
ARCHITECTURES OF REMEDIATION AND PROTECTION

PETER BREWSER

The Madelvic Car Factory sits at the centre of the Granton Waterfront Regeneration Project. The dilapidated building evidences the dramatic decline of industrial activities in the area. The thesis aims to preserve and celebrate the site's history—and to repurpose the existing structure—while also coming to grips with its pollution and toxic remainders, and finding architectural and tectonic protocols for 'staying with' them in space and time. The remedial architectures proposed seek to foreground and choreograph the risks and injustices associated with the (often invisible or unnoticed) interaction between bodies, soils, and toxicants.

Harvesting a Contaminated Earth curates safe working spaces and protocols for the processing of large quantities of contaminated earth, so that the material may be re-introduced into the construction industry. On one side, the site is enclosed by a ramp that acts as a protective boundary, also allowing visitors to witness remediation steps, to learn about the corresponding risks and procedures, and to understand the correlation between exposure and injustice. The ramp leads visitors to the upper level of the factory, which is used for material and repurposing workshops. Alternatively, visitors can enter the Toxic Garden—a terrace that, by visually correlating the remediation of wastes (their bio-availability) with the slow erosion of their earthy containers, emphasises the spatio-temporal dimensions of hazard and risk.





Land is "everything: identity, the connection to our ancestors, the home of our non-human kinfolk, our pharmacy, our library, the source of all that sustains us."

Robin Wall Kimmerer

Previous. **Phyto-Remedial Architectures.** Isometric View of Proposal.
Top. **Landscape of Madelvic Car Factory.** First Floor Plan.
Left. **Raised Remedial Workshops.** Isometric View.
Above. **Toxic Garden.** Isometric View.

Site: The Old Gasworks, Leith.
Programme: Circular Economy Hub; Garden; Storage; Sorting; Repair Workshops; Carpet Cleaning; Material Library; Digital Hub.

01C

TO ME... TO YOU...

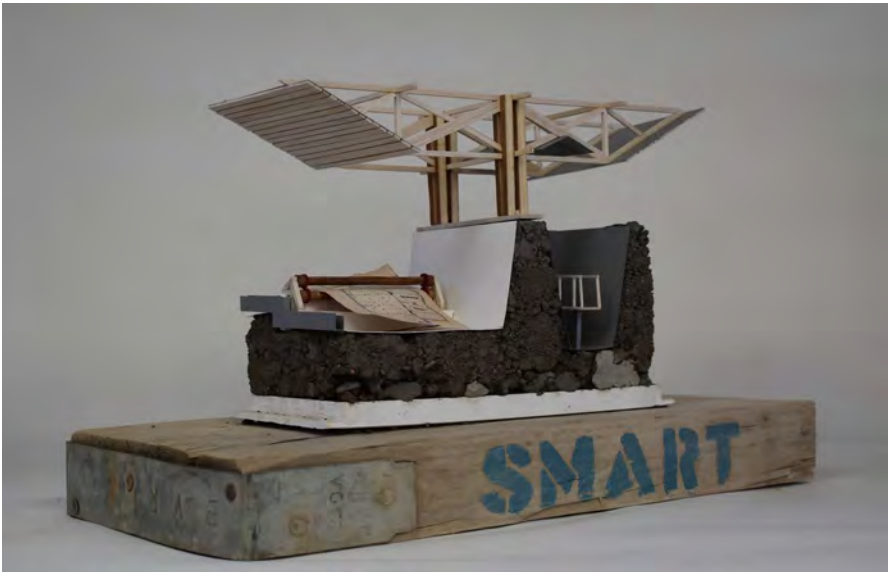
A CIRCULAR ECONOMY HUB

JAMES MELVILLE

In recent decades, the construction industry has fuelled a continuous chain of building demolition and new construction, consuming vast quantities of carbon, devouring raw materials at an alarming rate, and placing great strain on the planet's health. In stark contrast with these linear processes, and with the 'take-make-waste' culture they promote, the project proposes to use derelict and at-risk buildings to establish a network of hubs for the re-processing, storage, and circulation of building materials and components. This would keep these at-risk buildings in use and reskill local work forces, also addressing current difficulties in implementing a circular economy, such as the logistics for the deconstruction, transportation and preparation of materials in order to be specified by architects.

To Me... To You...—a title inspired by a popular children's game show—is a circular economy hub that aims to capture much of the materials discarded on building demolition sites and to extend their lifecycle, making them available to architects at the point of design; curating different material flows depending on quality; and promoting their repurposing, reconditioning, and reuse.

On the site of an old Gasworks in Leith, the project develops one such hub for the reclamation, cleaning, and repurposing of carpet, inventing an architecture that promotes the collection and treatment of water, the passive drying of wet carpet, and its transformation into flooring, insulating and cladding components.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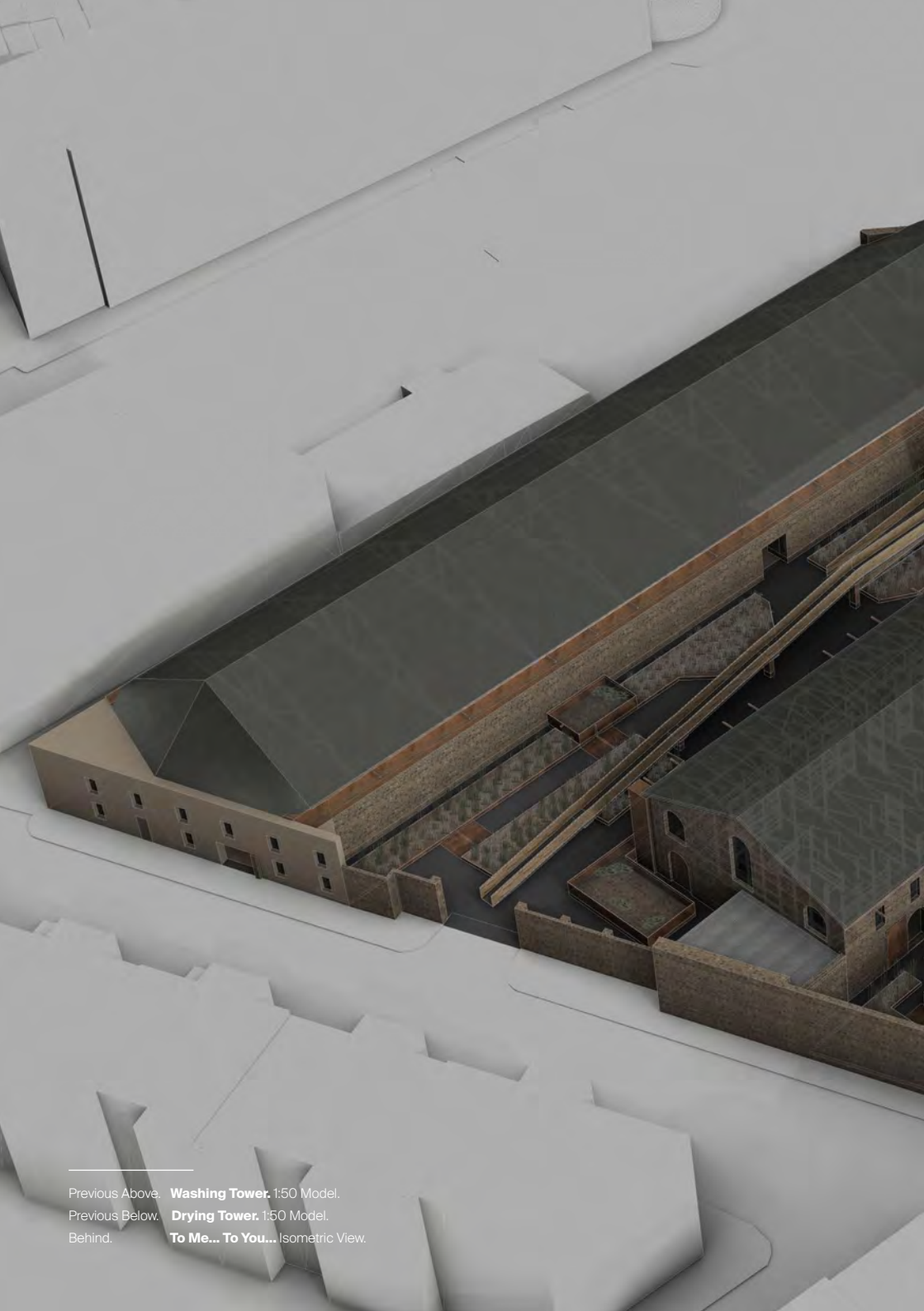
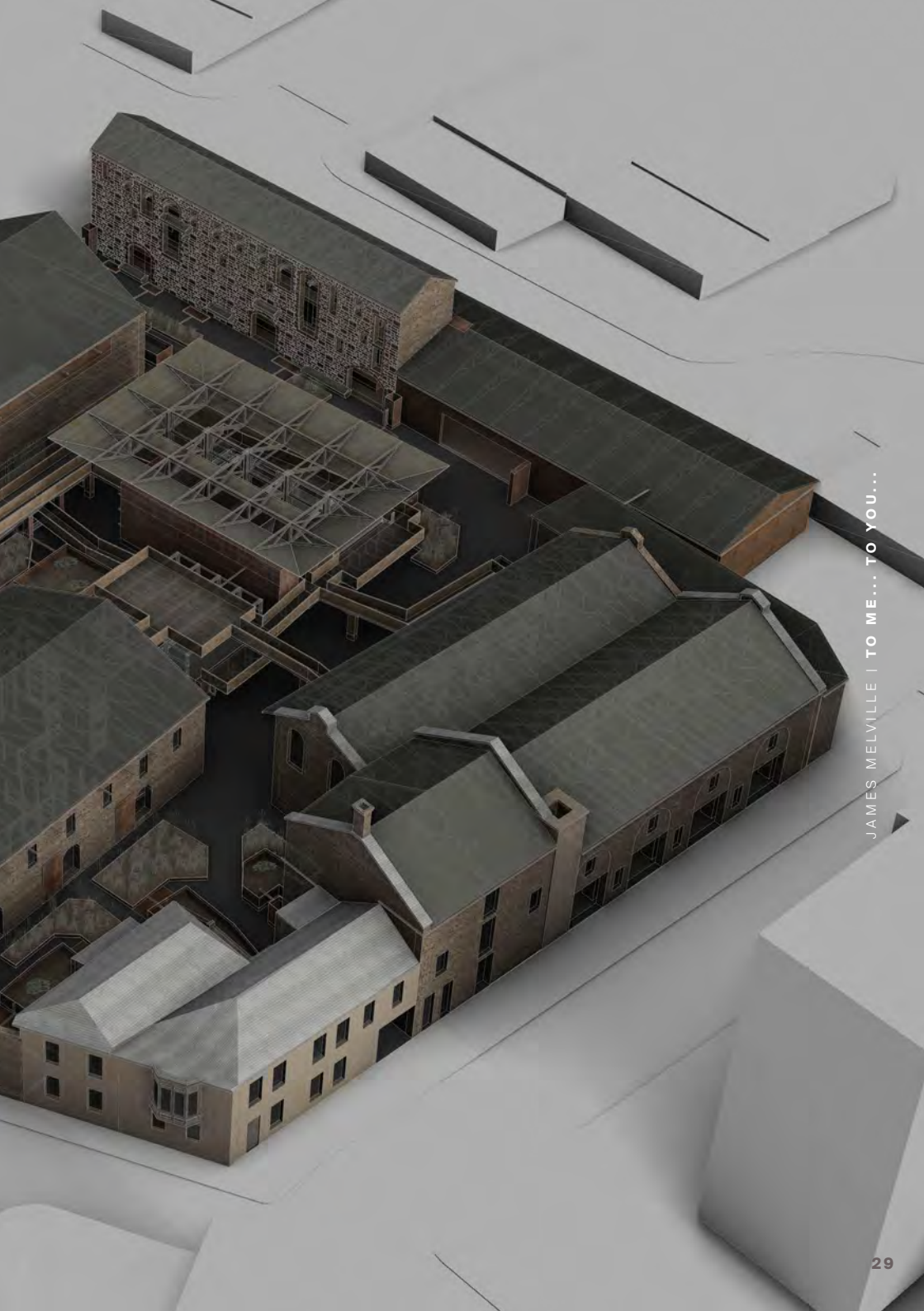


Previous Above. **Washing Tower.** 1:50 Model.
Previous Below. **Drying Tower.** 1:50 Model.
Behind. **To Me... To You...** Isometric View.



With Thanks to: Granton Community Gardeners (Tom Kirby, Lisa Houston); EALA Impacts (Joanne McClelland, Aythan Lewes); Edinburgh Palette; The ESALA Workshop Staff (Malcolm Cruickshank, Paul Charlton, Paul Diamond, Molly Stubbs); Collier Haulage (Colin Fotheringham); Move On Wood Recycling (John Hinton, Craig Meldrum); ECA Health & Safety (Richard Dunigan, Candice Schmid); Elham Mousavian; EBUKI (Becky Little, Rowland Keable).

02

THE COBB

ELEANOR HYDE
JESS GARDNER
NAT MIKULSKA

The Granton Community Gardeners and Granton Garden Bakery are transformative co-operatives and charities facilitating community gardening initiatives to improve access to locally grown produce for those in need. Parallel to gardening, the bakery is working towards a net-zero, pay-what-you-can loaf from wheat grown in disused street corners and neighbourhood gardens. As part of this strategy, a new opportunity to open and occupy a fully operational bakery unit on the Granton shore endeavours to expand the community's presence in the area. The Cobb serves as the Gardeners' first presence on the site, and attempts to begin cultivating the sense of community that characterises their original plot.

The project offers a place to sit, cook and commune as gardeners, with the table acting as a key anchor to garden activities. In the design and construction protocols we set for the project, earth construction and surface treatments aim to parallel the cycles and processes of baking: mixing, kneading, forming, resting, and eating. Indeed, the term 'cob' refers both to a construction technology and to a loaf of bread.

The Cobb aims to transplant the complex identities and programmatic typologies of the garden in order to repair and reactivate a vacant industrial plot on the shore. As it begins to welcome locals to eat, drink and cook together, we hope that the warmth and softness offered by the installation will encourage and catalyse the reanimation of the site, offering an invitation to bakers and passers-by to enjoy the net-zero 'cob.'

Previous Above. **Reflecting Bread and Baking Forms.** Applying Plaster Treatments.
Previous Below. **Building a Hearth.** Building Mass Earth.
Behind. **Transplanting a Sense of Belonging.** The Cobb in Use.

ELEANOR HYDE # JESS GARDNER + NAT MIKULSKA | **THE COBB**

Site: The Old Mill & Bingo Hall, Manderstone Street, Leith.
Programme: Community Bathhouse for Social Belonging.

02A

RADICAL COMPANIONSHIP

AN ARCHITECTURE OF WARMTH AND BELONGING

ELEANOR HYDE

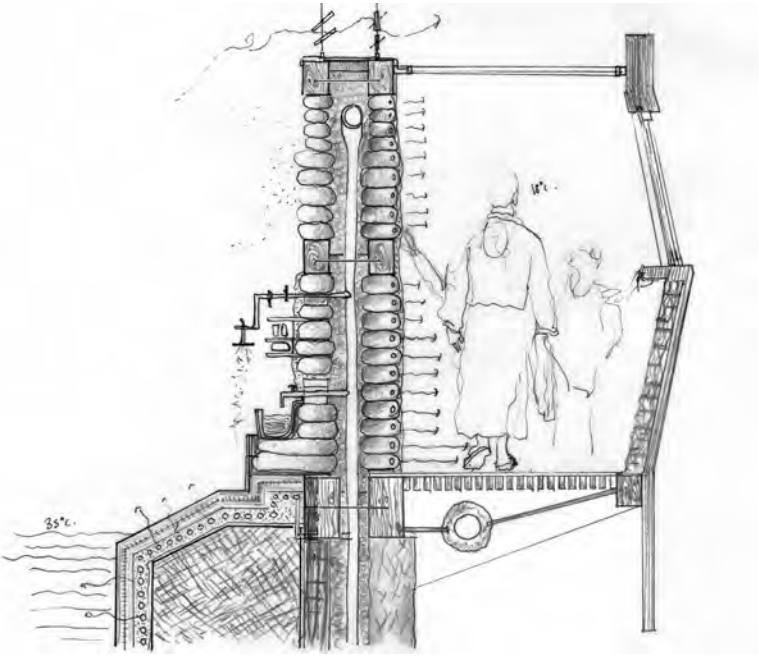
In a world grappling with escalating social inequalities and the effects of climate change, architects have a responsibility to promote and adopt careful approaches to design—to cultivate an awareness of the complex and entangled ecologies upon which design decisions produce effects. Careful architecture is both about companionship, and the noticing and nurturing of neglected energies to bring about transformation.

Building upon Donna Haraway's 'situated knowledges,'[1] the thesis embraces an architectural practice that is attentive to local contexts and ecologies. The approach fosters co-habitation and co-production, and employs drawing and re-presentation as tools to notice, reclaim, and revalue that which is neglected, and to exercise care. *Radical Companionship—An Architecture of Warmth and Belonging* proposes an architecture of companionship and care by choreographing spaces of socio-physical warmth through the architectural arrangement of earth, fire, and water.

The thesis explores this proposition in two threads: a) in situ – in the material explorations of earth construction, resolved through a live-build project for the Granton Community Gardeners and Bakery; b) speculatively – in the design of a Bottega Bakery, then up-scaled as a methodology to divert and reclaim industrial heat flows, leading to the proposal for a Bathhouse in Leith.

1 Donna Haraway, "Situated Knowledges" 1988


Granton Garden
& Bakery
Bathhouse of Belonging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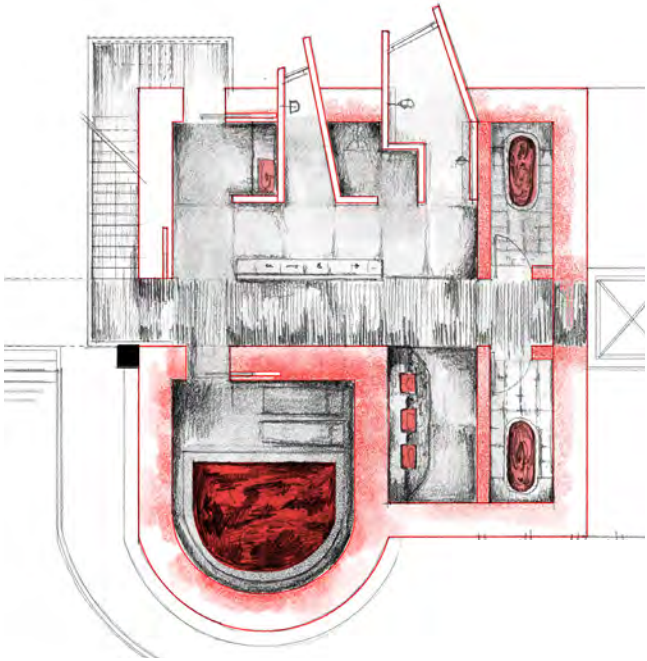


Previous. **Leith's Bathhouse of Belonging.** Multimedia.
Left Above. **Tectonic Affordances: Earth & Water.** Sketch.
Left Below. **Wash House Caldarium.** Plan Diagram.
Below. **Wash House Caldarium.** 1:50 Sectional Model.

Site: Mud Flats, Cramond Foreshore, Edinburgh.
Programme: Research and Remediation Centre for Estuarine Health, with Native Oyster Beds and Seagrass Meadows.

02B

THE OBSERVATORY OF COASTAL ECOLOGY

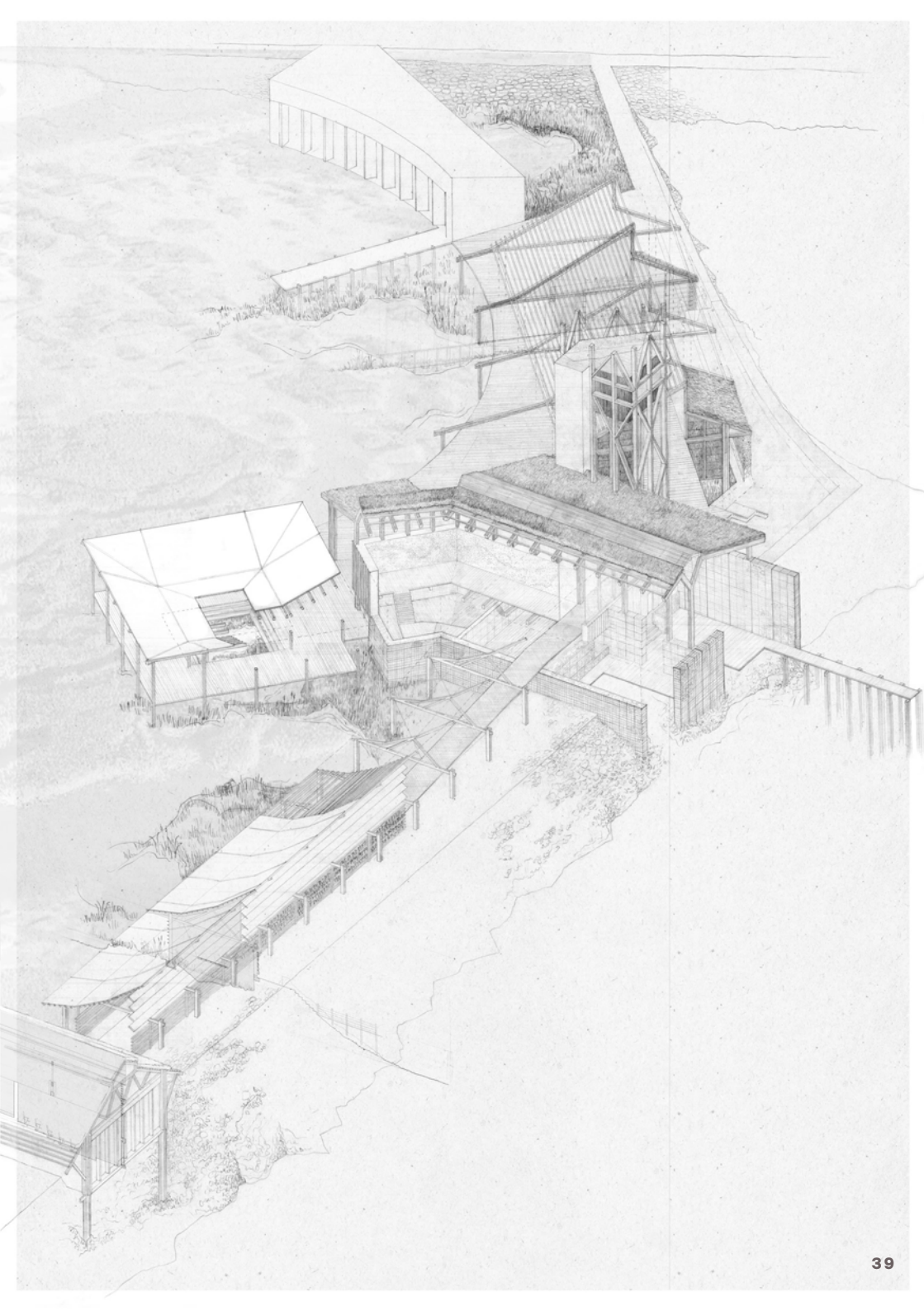
TRAVERSING AQUATIC AND TERRESTRIAL REALMS

JESS GARDNER

The project curates architectural protocols for the remediation and regeneration of the North Edinburgh shore. The masterplan centers on the 4.2 km stretch from Granton Harbour to Cramond Causeway, where four architectural 'condensations' facilitate fluid transitions between terrestrial and aquatic realms, enhancing the ability to adapt to tidal shifts and rapidly changing climatic conditions. Situated in the inter-tidal zone, the Observatory facilitates the reintroduction of seagrass meadows and native oyster beds to the estuary. Rubble gabions form new oyster reefs which calm the surges of water across the zone, and encourage the expansion of salt marshes alongside the unprotected coast. These ecologies support adaptive architectures that negotiate strategic interactions with the ground and sea.

Inspired by similar projects run by the Native Oyster Network, the programme includes research labs and facilities, a seagrass nursery, and a spat hatchery, as well as a centre for education and reskilling. It also features the whale's nest – a public tower from which to observe the cetacean population of the Forth, particularly from November to March when humpback whales arrive to feast on shoals of fish along East Scotland's coastline.

The Observatory is a prototype and testing ground for the tectonic application of bio-regional materials. It imagines a future of thriving seagrass meadows harvested as a marine fibre for sustainable construction. The structure aims to improve the resilience of its surroundings through experimental typologies that re-couple ecological and environmental conditions with material, technical, and social ones.



Previous. **Marine Fibre/Tectonic Acquaintences.** Hand Drawn Isometric.
Above **Mapping Shoreline Potential.** Hand Drawn Master Plan.
Left. **Tectonic Assembly.** 1:50 Physical Models.
Right. **Seagrass Thatch Weather Protection.** 1:50 Model + Section.

Site: Former Powderhall Stables, Edinburgh
Programme: Housing, Community Space, Public Realm and Civic Infrastructure (Including Library, Prayer Space, Workshops, Market and Workspace).

02C

EARTHNEST

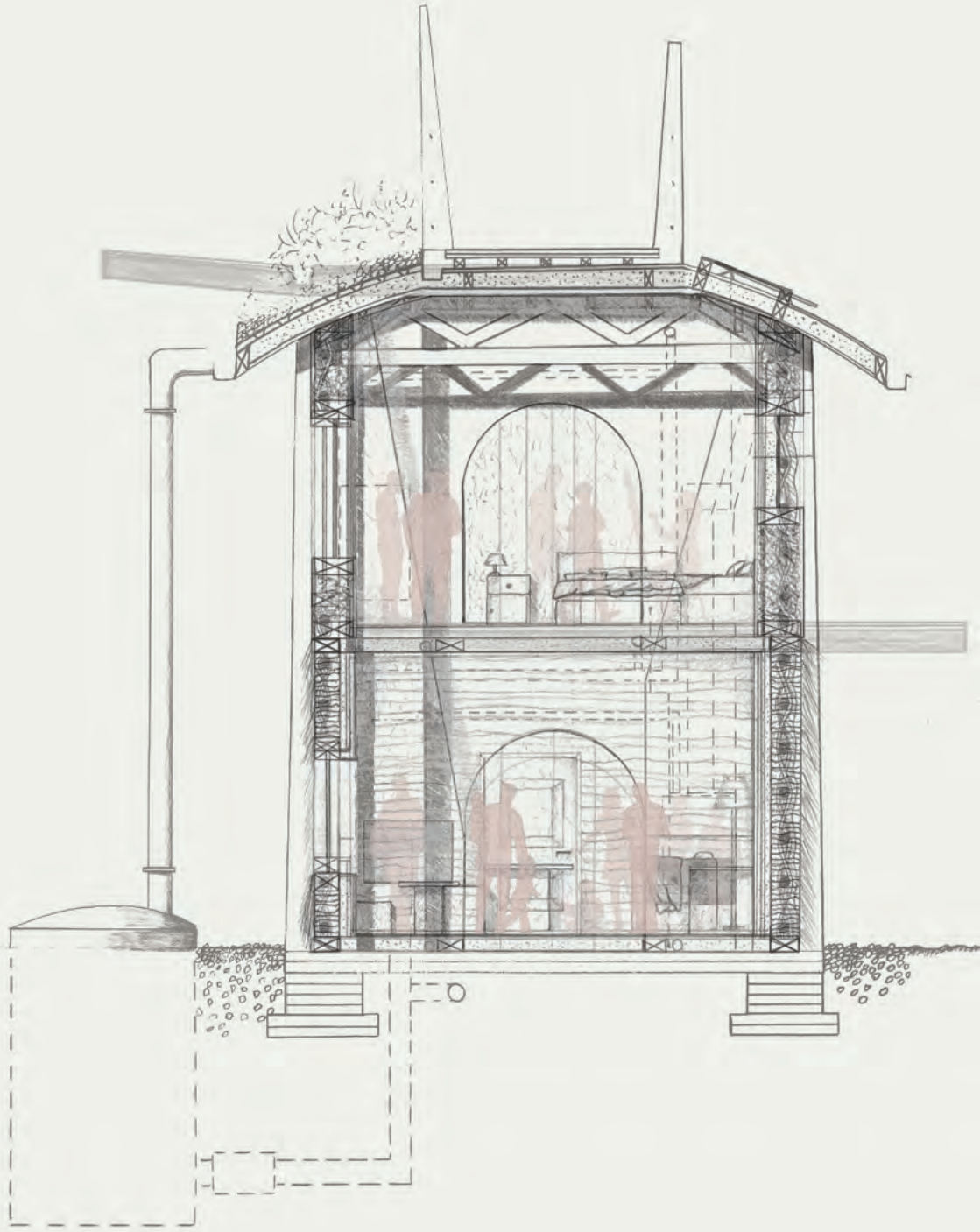
AN ARCHITECTURE OF HOSPITALITY

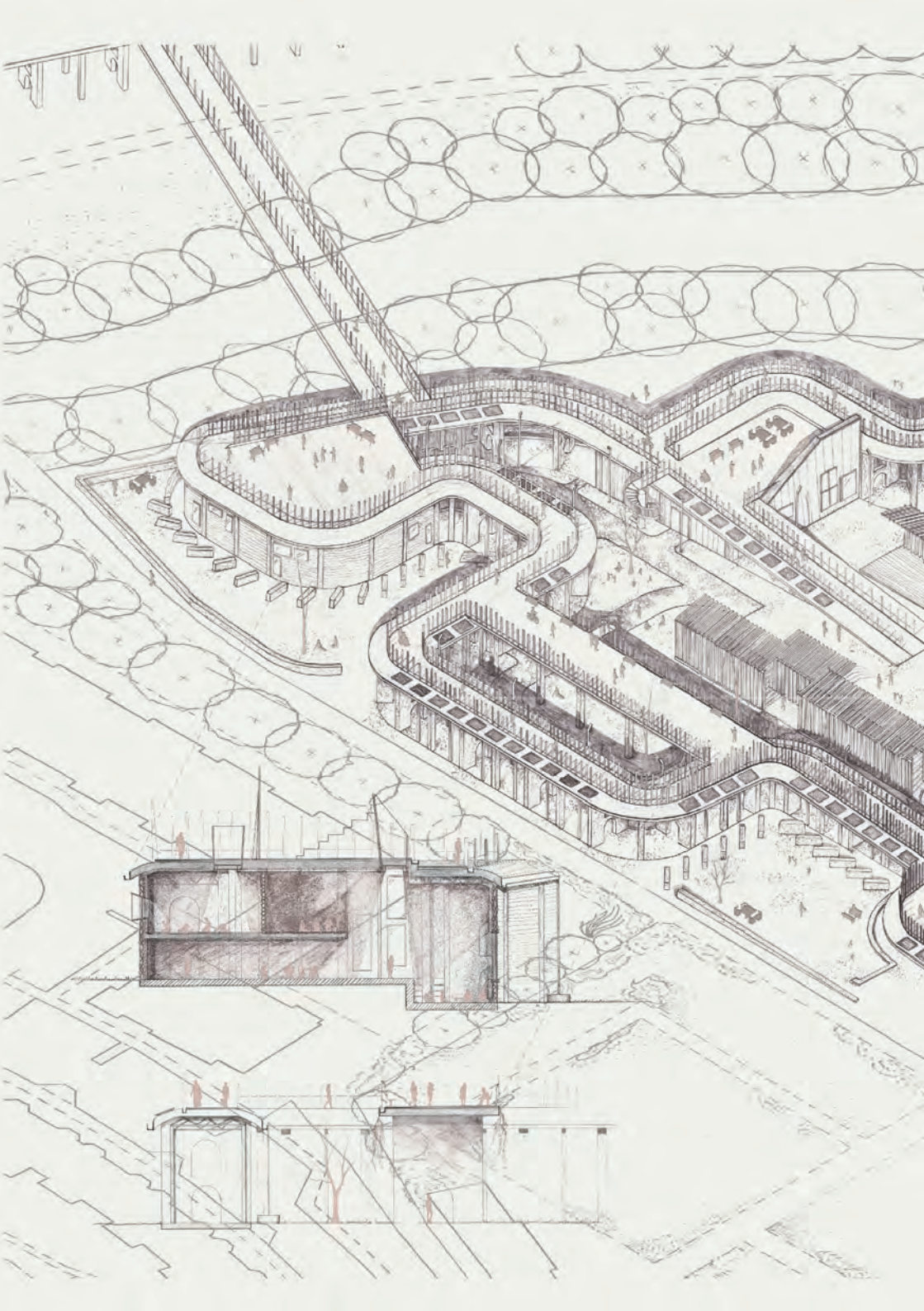
NAT MIKULSKA

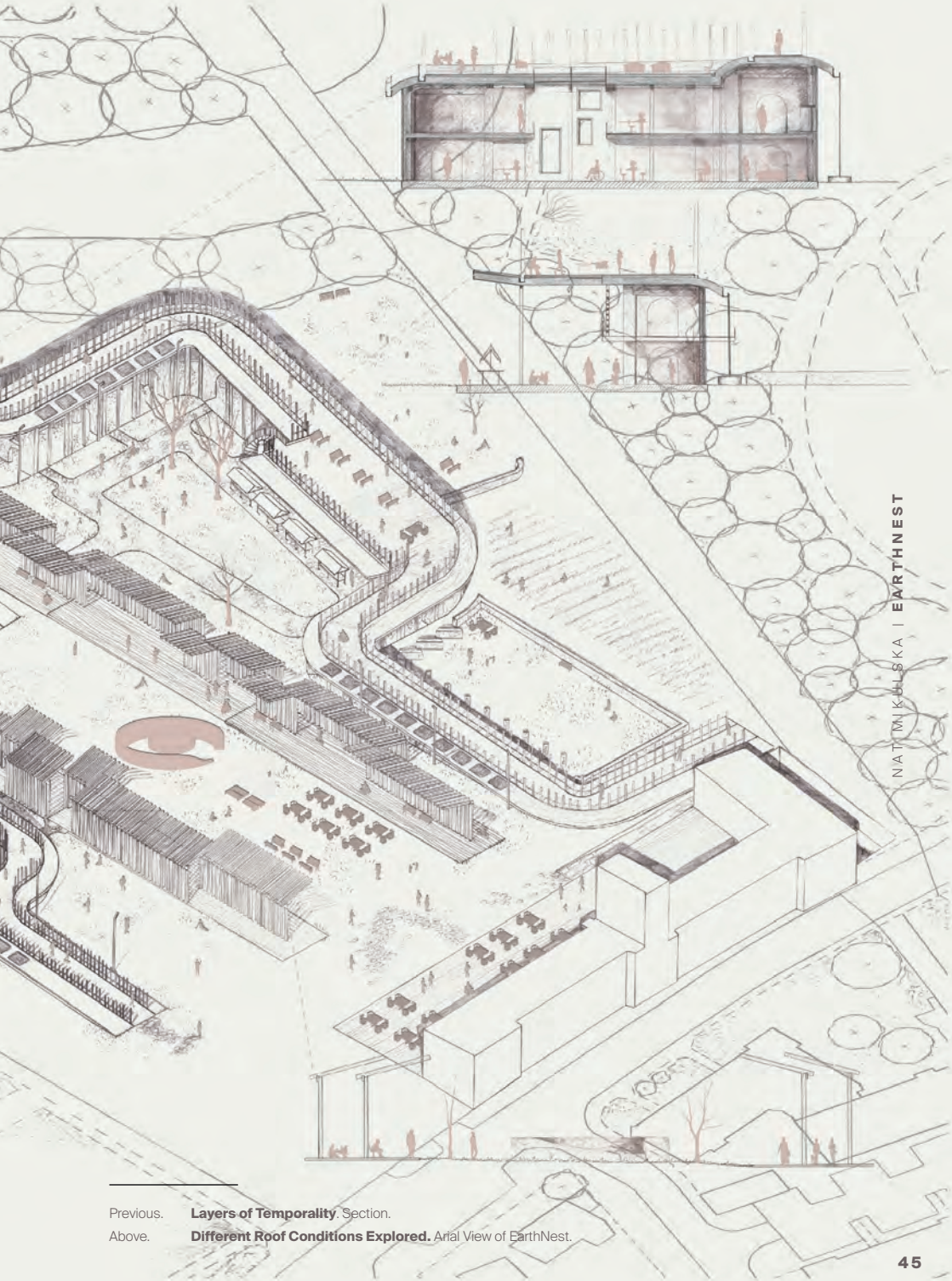
The escalating climate crisis is rapidly decimating global ecosystems, rendering vast expanses of land uninhabitable and triggering mass human displacement due to environmental catastrophes. Cities urgently need planned relocation strategies to adequately support climate refugees. A lack of planning might lead to poor housing options, difficult access to services and healthcare, or no support from local communities.

EarthNest imagines a series of self-sufficient housing nodes emerging within urban voids in Edinburgh. Envisioned as a holistic approach to climate-resilient urbanism, *EarthNest* aims to create self-sufficient, adaptable, and socially cohesive communities while minimizing environmental impact. The project proposes the modular construction of permanent structural elements that, through the use of mass earth, will afford flexible and adaptable housing options to accommodate the evolving needs of diverse demographics.

Sites dedicated to housing will feature a series of additional programmes that will be beneficial to both current citizens and newcomers, and offer spaces for community engagement. These will include public squares, marketplaces, playgrounds, community kitchens, and allotments. The project also features dedicated pedestrian and cycling paths, and their potential integration with existing public transit systems. Between these residential sites, areas of public land will be set aside for communities to transform, with the aim of increasing solidarity, food access, biodiversity, and to connect the residential nodes into a cohesive network.







Previous. **Layers of Temporality**. Section.

Above. **Different Roof Conditions Explored.** Arial View of EarthNest.

With Thanks to: The Ripple Project (Tristan Green, Danielle Ward); The ESALA Workshop Staff (Malcolm Cruickshank, Paul Charlton, Paul Diamond, Molly Stubbs); The University of Edinburgh Servitorial Services (Steve Downes, Robert Hildersley); ECA Health & Safety (Richard Dunigan); Elham Mousavian; EALA Impacts (Joanne McClelland, Aythan Lewes); Move On Wood Recycling (John Hinton, Craig Meldrum); Pleasance Gym; Alien Rock; Edinburgh International Climbing Arena.

03

NOTICING [THE RIPPLE PROJECT]

MHAIRI WELSH

This multi-purpose noticeboard structure resulted from a year-long engagement with the Ripple Project—from time spent with community action workers, volunteers, and visitors, gaining an understanding of the services they provide to local communities in order to tackle poverty and inequality. The structure reuses discarded scaffolding boards, which are bolted together using mortice and tenon joints and cross-lap connections, to create perforated frames within which durable climbing ropes are woven together, using multiple knotting systems (Celtic button, figure eight, barrel, double overhand, stevedore) and weaving techniques (tabby, twining, soumak) to make hanging surfaces for notices to be displayed. In addition to advertising local events and activities, the structure promotes the Ripple's pantry service, offering a space for the distribution of food from local supermarkets, which would otherwise go to waste. *Noticing* has been enthusiastically embraced by the Ripple community, and already fulfils its intended purpose by starting conversations, and sparking the interest of young visitors.

Previous. **View of Completed Structure.**

Above. **Mortice & Tenon.** Timber structure connections.

Below. **Tabby Weave & Button Knot.** Weaving and knotting techniques used for the baskets and notice boards.

Right. **Soumak Weave.** Weaving technique used for the seating surfaces.

Site: 52 Salamander St, Leith, Edinburgh.
Programme: Food Preservation and Distribution Centre.

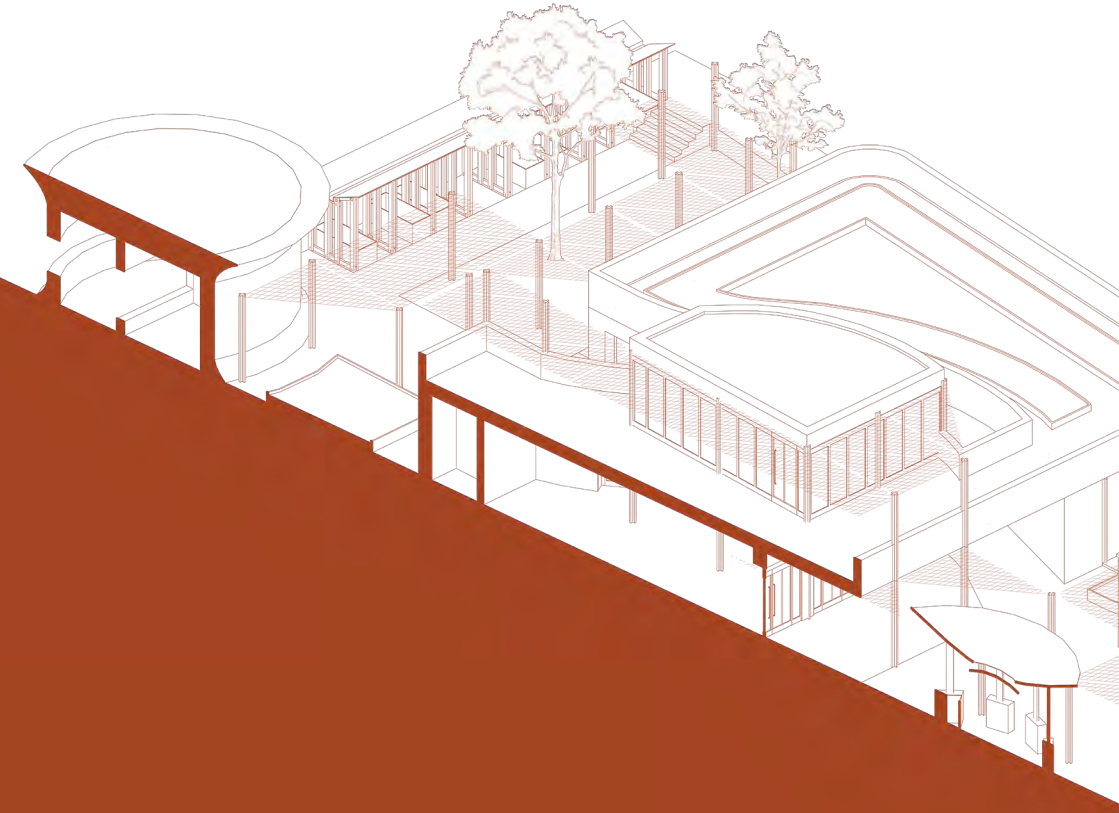
03A

FOOD PRESERVATION HUB

52 SALAMANDER ST

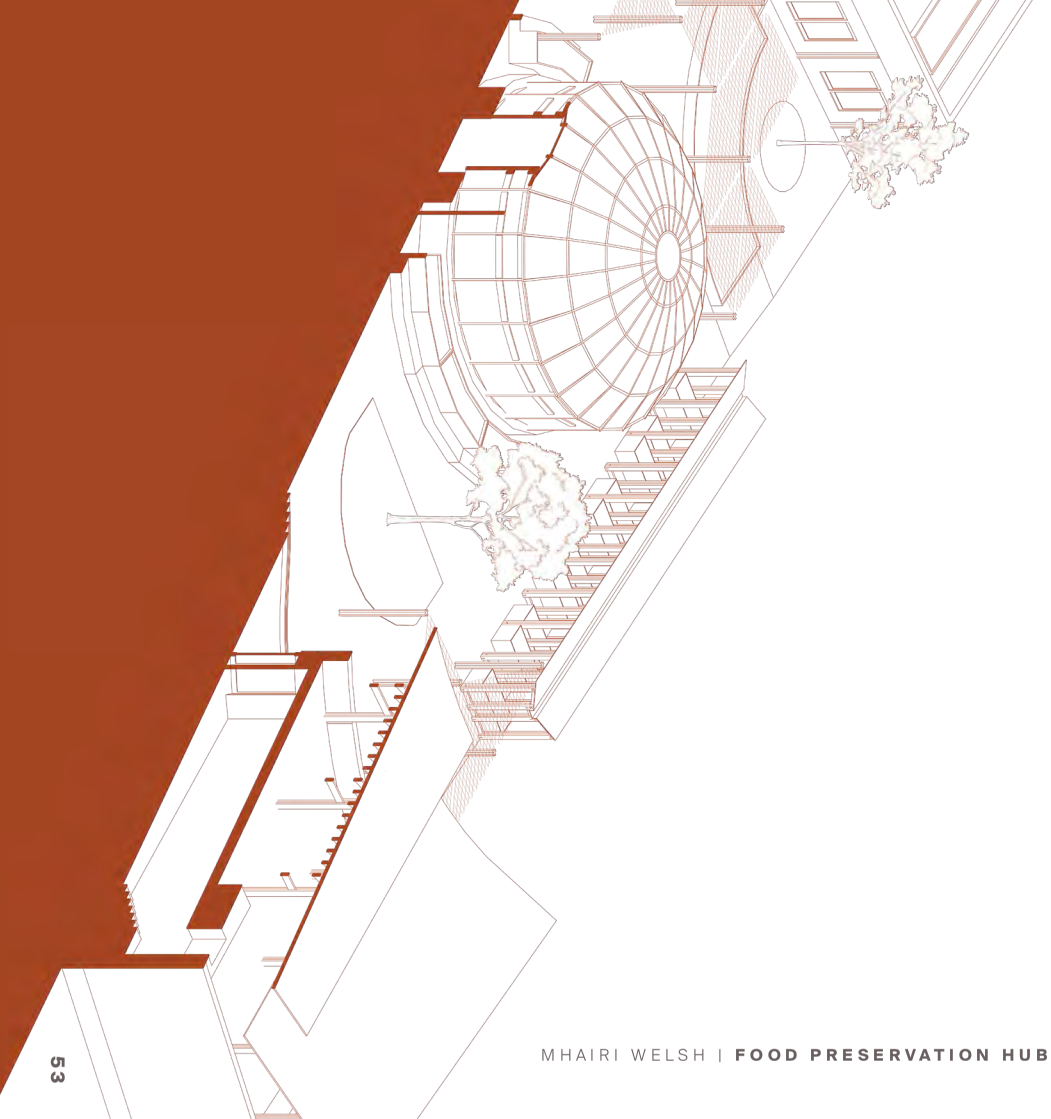
MHAIRI WELSH

Stemming from the live-build noticeboard constructed for the Ripple Project in Restalrig, the *Food Preservation Hub* scales up the tectonic systems developed, and the use of second-hand materials (timber, climbing rope, polycarbonate, etc.), to address the vast amounts of food routinely wasted in Edinburgh. The proposal imagines a series of architectures designed for the preservation of food using solar drying, hang drying and pickling techniques, as well as multiple spaces for the growing of vegetables, and for the collective preparation and enjoyment of meals. Combining the assembly and disassembly of timber components (mortice and tenon, cross-lap, and bolted connections) with earth construction techniques (mass and light earth in particular) the project prototypes architectural solutions for the processing of food waste and for its redistribution to those in need. The *Food Preservation Hub* is situated within an existing student housing scheme, aiming to support the development of communal protocols of reciprocity and care, and providing employment and low-cost food to both the students and local communities. Alongside the food preservation systems, the facilities include flexible community spaces which may be used for a variety of activities, including workshops. Here, food preservation and earth construction techniques may be demonstrated, tested, taught, and passed down.



Previous. **Food Preservation Hub.** Ground Floor Plan.

Above. **Preservation Systems and Flow Through Proposal.** Axonometric Section.



With Thanks to: The Ripple Project (Tristan Green, Dawn Baxter, Todd Bioletti); Walker Homes (Darren); The ESALA Workshop Staff (Malcolm Cruickshank, Paul Charlton, Paul Diamond); ECA Health & Safety (Richard Dunigan); ECA Ethics (Lucy Steeds); Elham Mousavian; EBUKI (Becky Little, Rowland Keable).

04

MODULAR EARTH

CO-DESIGNING THROUGH SURFACES

HOLLY NG
JEMIMA HARRISON

The Ripple Project, a social and community-led enterprise based in Restalrig, Edinburgh, tackles poverty and inequality through a variety of services and initiatives. Despite not owning a permanent space, the organisation cultivates a powerful sense of kinship and cohesion, which is evident across their facilities.

Modular Earth is the result of a year-long immersive collaboration with volunteers and visitors at The Ripple Project. It culminates in a modular system that addresses the client's need for additional storage as well as seating. It provides punctual interventions that can act independently and aggregate to form larger social and functional constellations. The design comprises a timber frame, which was adapted from locally sourced and dismantled pallets, light earth (a combination of subsoil and fibres), and earth plaster. The project aims to foster ownership and interaction through bespoke, easy-to-learn light-earth and plastering techniques, with finishes serving as a tactile interface for sharing memories and ideas. Community members were encouraged to participate in the finishing of modules through hands-on workshop sessions. The finished units offer a multi-sensory experience through natural textures, colours, and scents, engaging diverse age groups. The process of plastering, glazing, and imprinting during the workshops fostered a sense of ownership and pride, embedding the participants' identities within the work. A manual documenting each step and addressing challenges is provided to empower the Ripple community to build additional units in the future.

Previous Behind. **Material Flows.** City Scale Map.
Previous Inset **Imprints.** Community Plastering Workshop.
Left. **Tactile Surfaces.** Plaster Finish.
Above. **Community Collaboration.** Community Plastering Workshop.
Below. **Completed Modules.** Handover to The Ripple.

Site: 223 Oxgangs Road North, Edinburgh, and Surrounding Communities.
Programme: Regenerative Urban Fabric; Precise Interventions of Care; Urban Repair; Material Processing and Community Facility; Resource Management.

04A

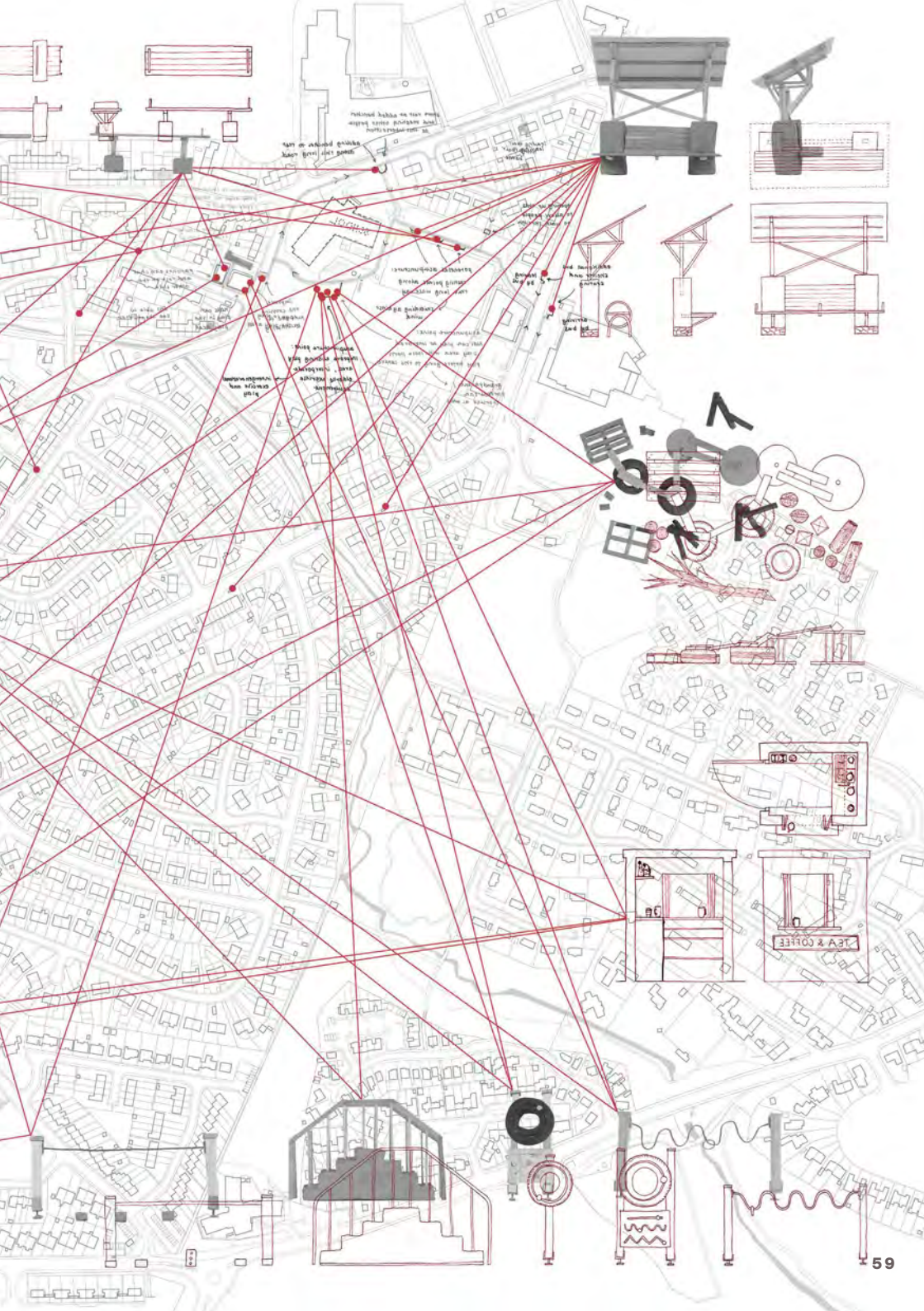
EARTH-BASED URBAN ACUPUNCTURE

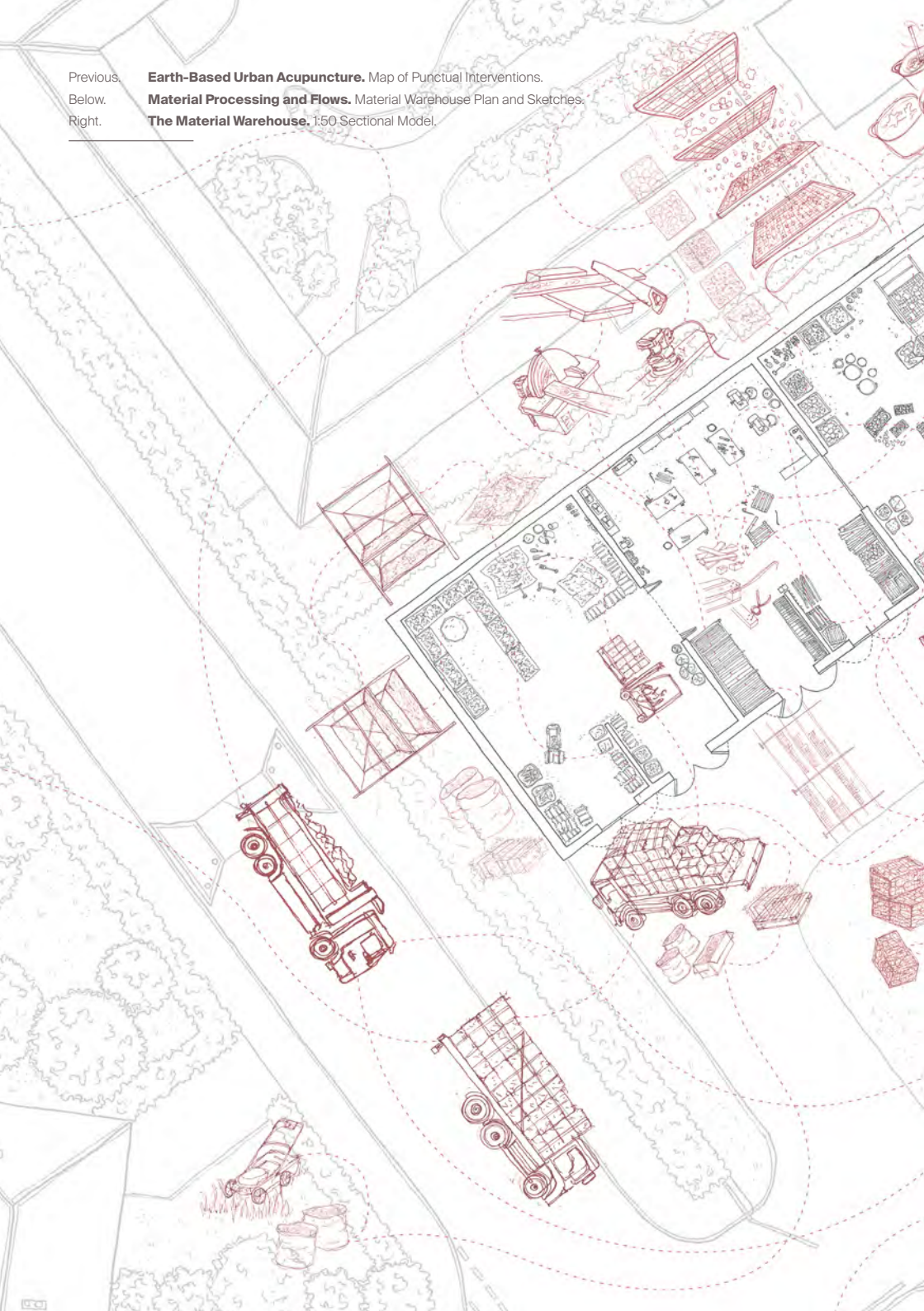
PUNCTUAL CHANGES FOR COMMUNITY EMPOWERMENT

HOLLY NG

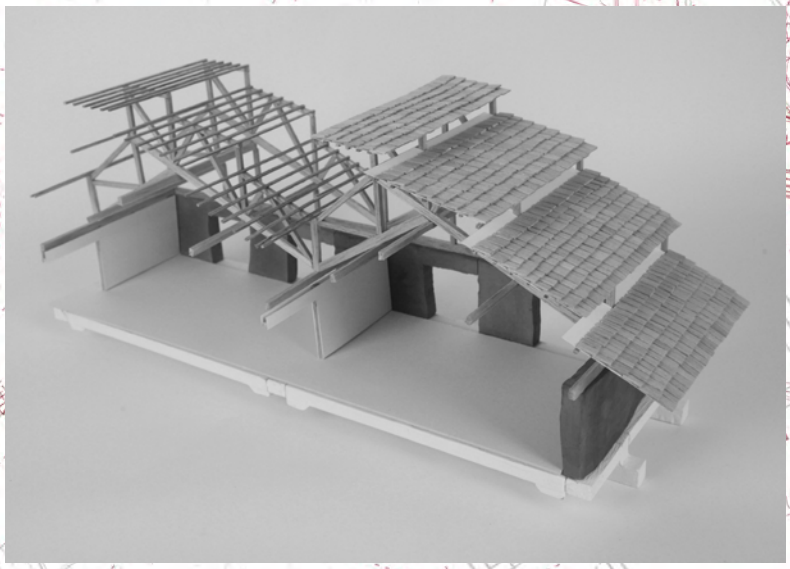
The South of Edinburgh is home to three community centres in close proximity. Despite providing crucial services to the respective catchment areas, the centres operate in an insular manner, thus lacking cohesive trajectories for urban cooperation. The project advances *Earth-Based Urban Acupuncture* as a design strategy for a broader landscape of communal care. It aims to revitalise urban spaces through precise, small-scale interventions, supporting community-guided incremental change for a regenerative social and urban fabric. This involved identifying existing nodes of care infrastructure—and gaps—through field research and urban analytics.

This research, alongside the year-long immersive engagement at The Ripple Project, informs the architectural design of the speculative interventions proposed, which range from punctual additions and instances of urban repair (for example, improving accessibility by strategically placing rest stops alongside frequently used routes) to larger developments (a material processing and community facility to support the construction and maintenance of smaller strategic interventions). The latter serves as a hub for resource management, community engagement, material innovation, the development and sharing of skills, and local employment through workshops and community events. It encompasses three key programmes: a circular material hub for the storage and reconditioning of locally harvested resources; workshop spaces for democratising building and construction skills; and adaptable indoor/outdoor gathering spaces, organized around stacks of salvaged materials and components.


TEA & COFFEE



Previous. **Earth-Based Urban Acupuncture.** Map of Punctual Interventions.
Below. **Material Processing and Flows.** Material Warehouse Plan and Sketches.
Right. **The Material Warehouse.** 1:50 Sectional Model.



Site: 15 Duke Street, Leith, Edinburgh.
Programme: Community Workshop.

04B

THE SKIVVY PUBLIC HOUSE

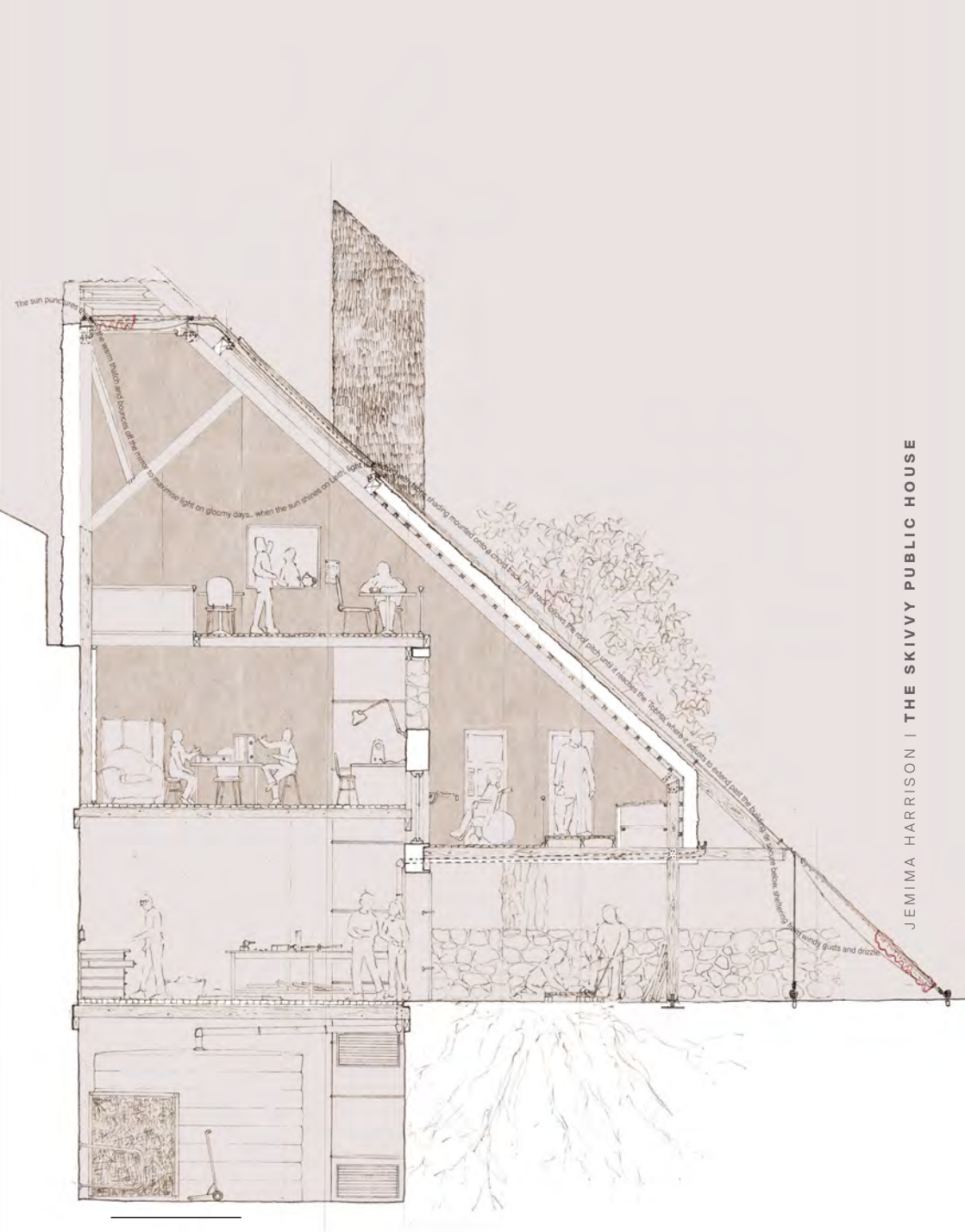
SOCIO-COMMUNAL BUILDING HUB

JEMIMA HARRISON

An existing warehouse in Leith, known as *The Skivvy Public House*, takes its name from the slang term *skivvy*, one who completes menial household tasks. The project aims to redefine and reclaim this term by foregrounding the value of care, maintenance and repair in the built environment, and proposes to transform the existing building into a community workshop.

Developed alongside a live-build installation at The Ripple Project, a network of potential sites was explored by identifying vacant buildings and transport opportunities, while prioritising accessibility for all community members—regardless of age, social status, or bodily ability. Earth construction was investigated as an architectural medium to enhance residential energy efficiency and thermal comfort, aiming to contribute to multidisciplinary initiatives to combat fuel poverty and unsafe levels of indoor humidity. The workshop acts as a socio-communal intervention that complements such efforts as policy-making, energy regulation, and adaptive reuse.

It imagines itself as a space—potentially, one of many—for the facilitation of local and bottom-up retrofitting efforts through the manufacturing of modular light-earth insulated panels. The project choreographs a careful sequence of operations and rituals for collective making: the preparation of subsoils and fibres; the soaking of earth; the mixing of components; the assembly and drying of modules; the finishing of surfaces with earth plasters and linseed oil; and, finally, the dispatching of panels. These seemingly menial processes punctuate and structure community-led cooperation, and empower local residents to modify and improve their living spaces.



Previous. **The Tobhta**. 1:50 Sectional Model.

Left. **Seed Dispersal.** Hand Drawn Speculative Masterplan Within Community.

Above. **The New Skivvy Public House.** Hand Drawn 1:50 Short Section.

With Thanks to: Lauriston Farm (Lisa Houston, Rob Davidson, Sam Jones, Dav Shand, Rue Wickramasinghe, Linda Laughland); The ESALA Workshop Staff (Malcolm Cruickshank, Paul Charlton, Paul Diamond, Molly Stubbs); ECA Health & Safety (Richard Dunigan); Elham Mousavian; EBUKI (Becky Little, Rowland Keable).

05

LAURISTON COMMUNITY KITCHEN

AN OVEN FROM THE EARTH

MYLES ALBON-CROUCH
HARRIET JOHNSON
NICHOLAS LEVENDIS

Lauriston Farm, a 100-acre plot in North Edinburgh, is an exemplary model of urban agroecology, traditional farming, habitat creation, and multifunctional land use. In collaboration with farm coordinator Lisa Houston, this project employs a participatory approach to design, and expands a pre-existing earth-based kitchen in the farm's allotment section, integrating a clay oven, storage cabinets, working surfaces, and an extended roof. The addition promotes the site's growth, fostering a sense of togetherness and providing a space for communal gatherings. The design evolved from a year-long immersion on the site, and from the exploration of earth-based construction techniques using locally harvested soils and fibres from Lauriston Farm.

The construction process, spanning several weeks, began with the in-situ excavation of earth from an existing reservoir. The site was then levelled, and a brick-core foundation was laid. The team crafted an earthen dome capable of retaining heat for long periods of time using techniques refined through extensive testing. Two strategically placed Y-frame posts support the roof structure while integrating seamlessly with the cabinets below, which were crafted using woven willow, framed earth, and treated timber for a durable and functional structure. The lessons learned from this initiative can inform the development of similar community-driven projects, contributing to the creation of more sustainable and socially inclusive built environments.

Previous. **Lauriston Farm.** Surrounding Allotments.
Behind. **Space for a Hearth.** Bricks + Mass Earth.


FRAGILE
KEEP DRY
THIS WAY UP
THIS WAY UP

Site: Lauriston Community Farm, Edinburgh.
Programme: Design of Community Centre + a Masterplan for the Lauriston Farm Site.

05A

BOHN TALAMH

FROM THE EARTH

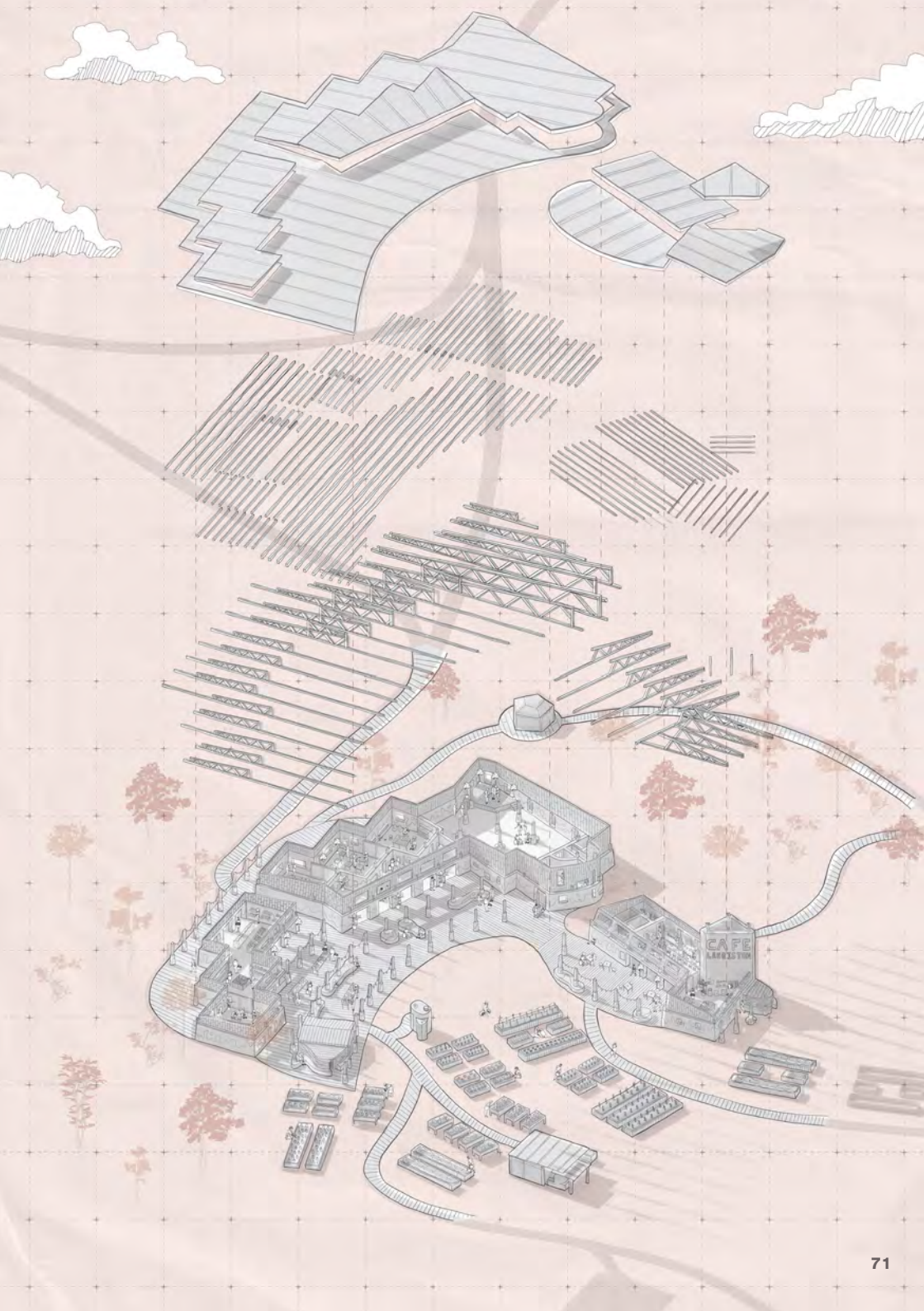
MYLES ALBON-CROUCH

Bohn Talahm ('From the Earth' in Gaelic) integrates client-driven participatory design, earth-based construction, and adaptive, phased development in a speculative proposal for a community centre at Lauriston Farm, a 100-acre urban farm in North Edinburgh. The project aims to co-create an architecture that is sought after, cared for, and continuously used, adapting to the changing needs of this farming community.

Rooted in a deep understanding of the farm's operations and unique context, the project develops a nuanced, context-specific design language in earth media, through extensive field research, site analysis, and ongoing dialogue with key stakeholders.

The proposal develops an adaptive plan for the farm's expansion of communal spaces. The phased approach synchronises these potential developments with seasonal rhythms, environmental conditions, the material and economic availability of resources, and the social dynamics on the site. This ensures that the resulting community centre emerges as a living extension of the farm itself, adhering to its core principles.

This flexible and incremental approach is combined with the client as an active and expert agent in the design process. Rather than an academic exercise whereby the designer dictates the terms of the project while treating communities as mere recipients of predetermined solutions, the project develops in conversation with, and in response to, the client's actual needs and aspirations—as a testbed and realistic template for future changes on the site.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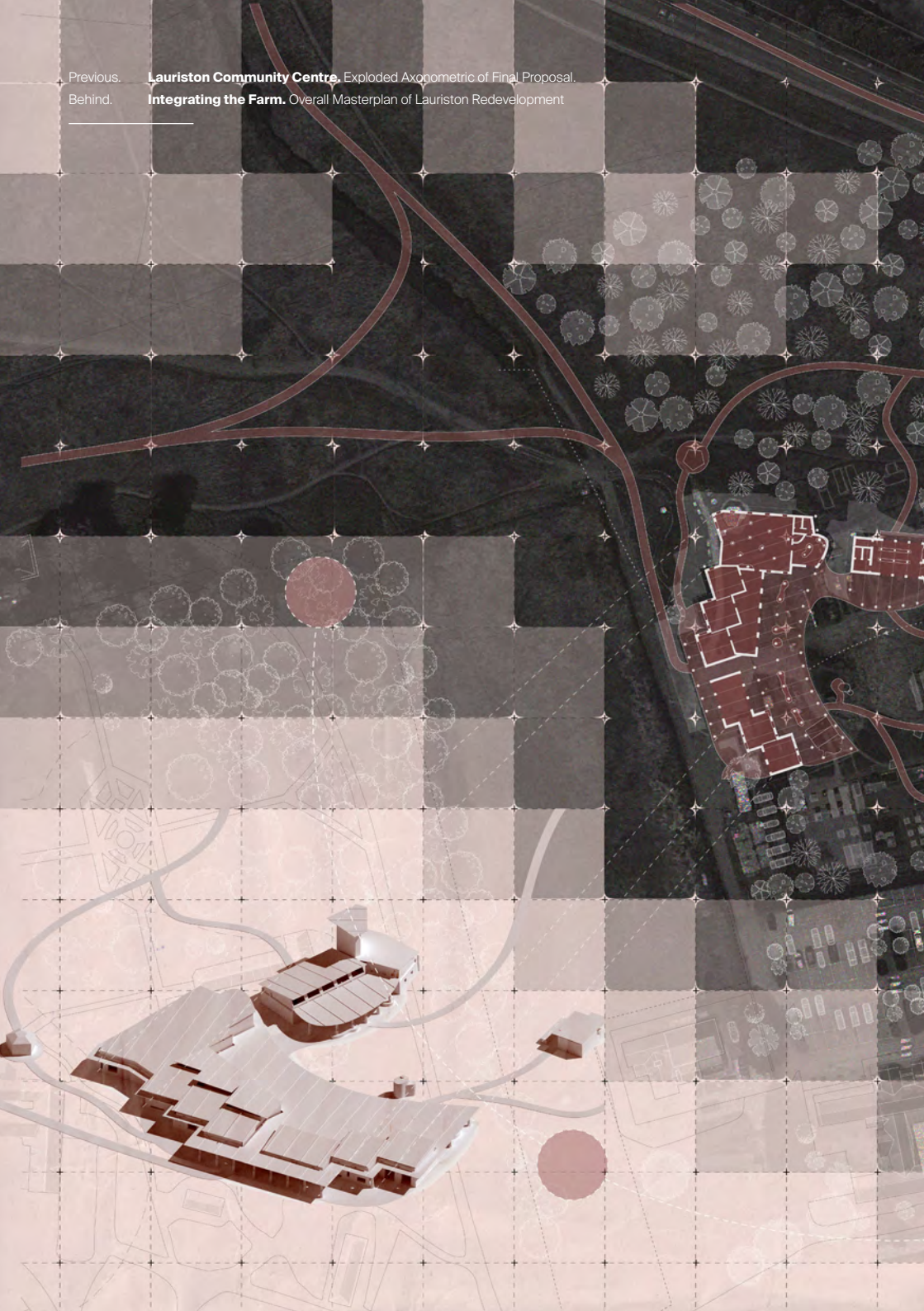


Previous. **Lauriston Community Centre.** Exploded Axonometric of Final Proposal.
Behind. **Integrating the Farm.** Overall Masterplan of Lauriston Redevelopment

Site: Madelvic Car Factory, Granton

Programme: Community Farm and Teaching Centre; Teaching Farm and Allotments, Production Farming, Preservation Centre, Teaching Kitchen, Market Hall.

05B

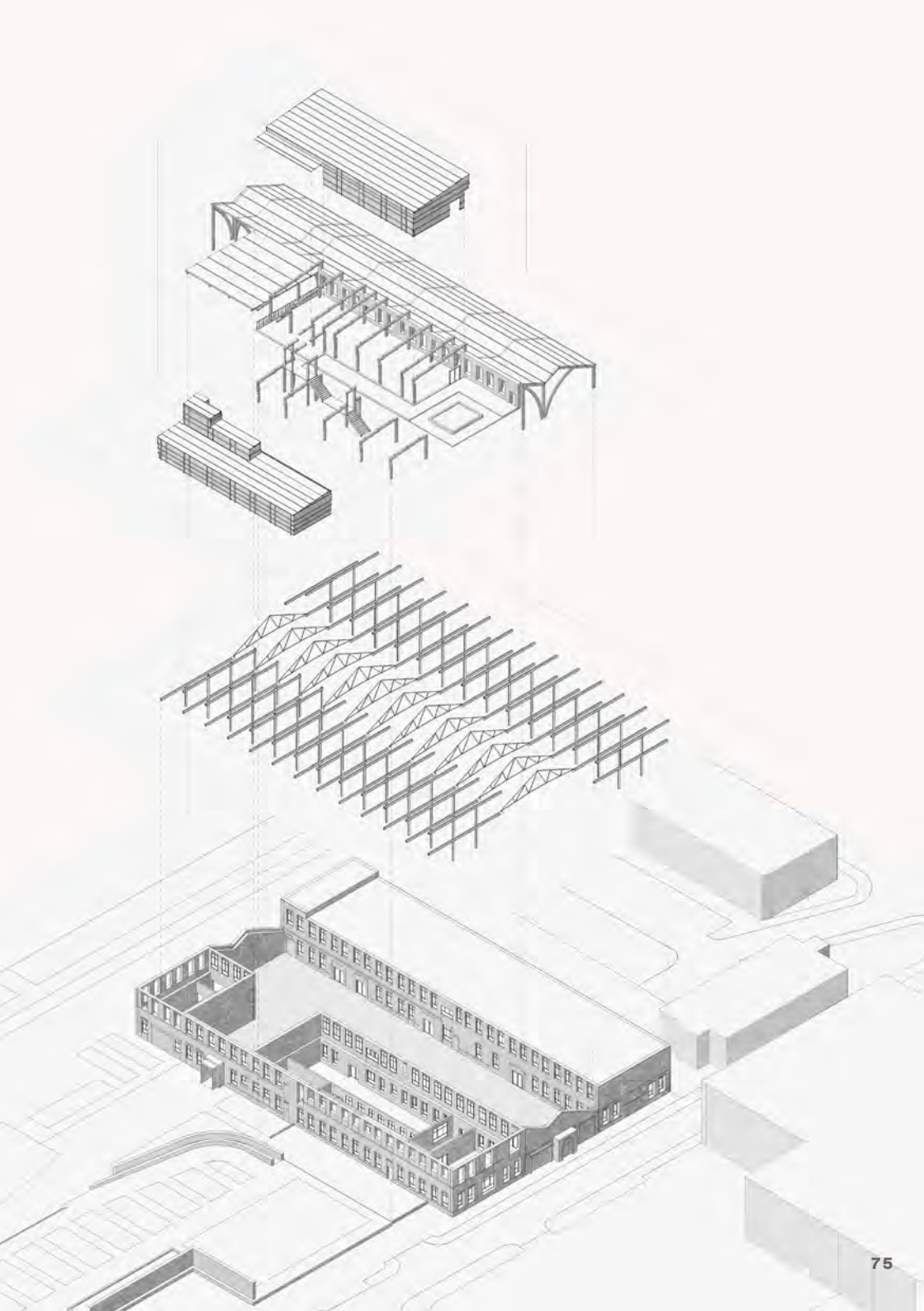
MADELVIC COMMUNITY FARM

A CENTRE FOR GROWTH

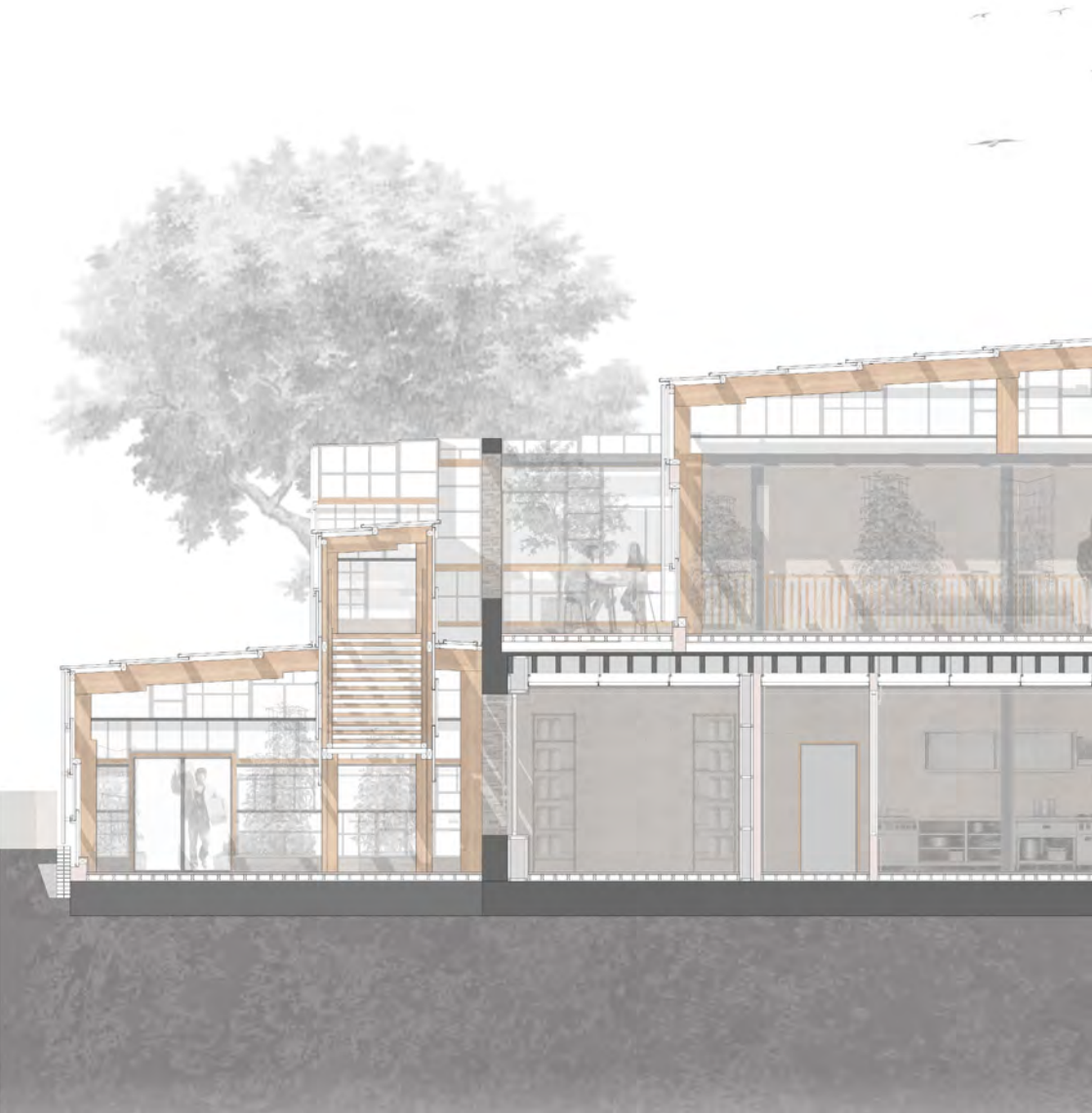
HARRIET JOHNSON

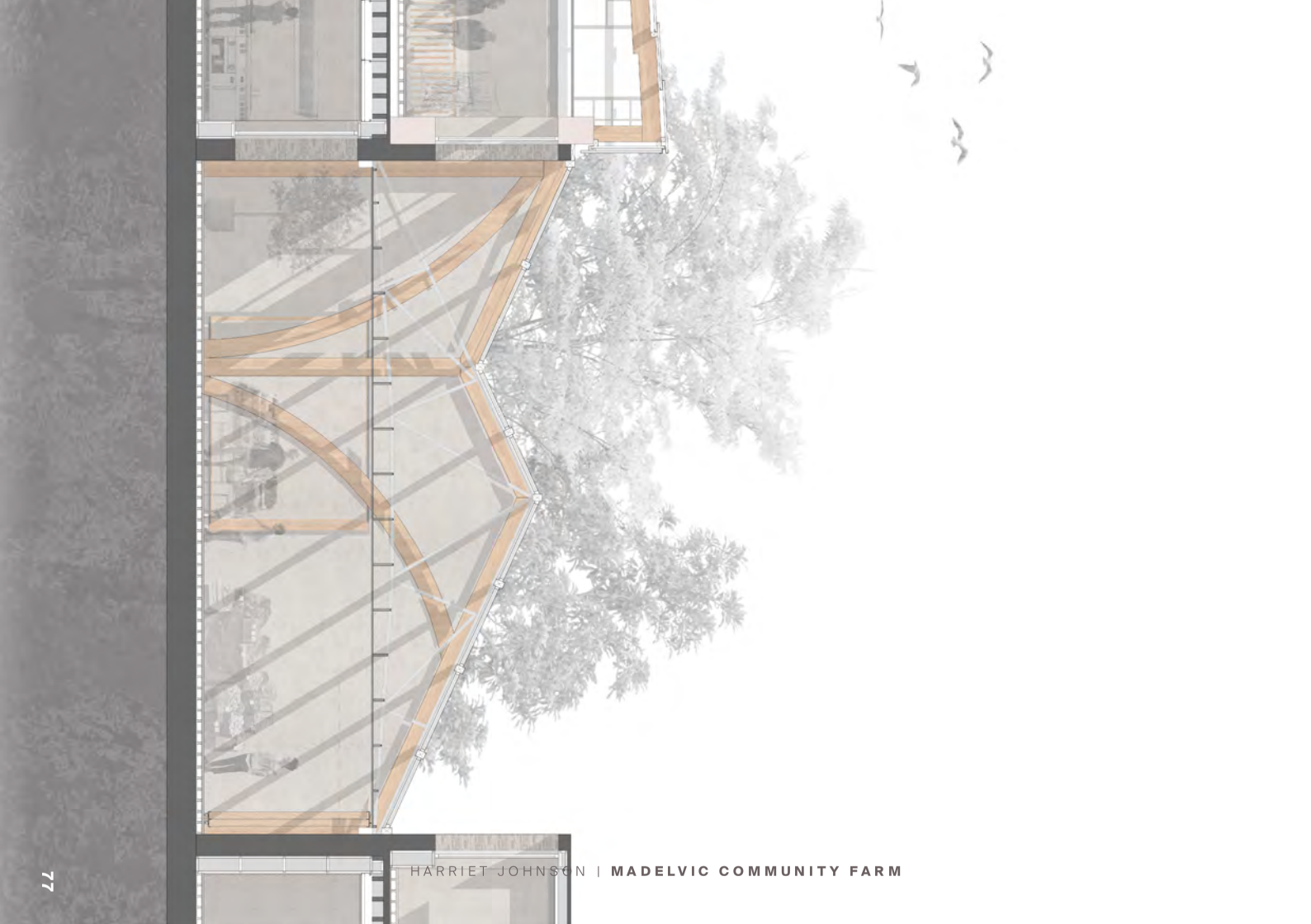
The project re-purposes a derelict Victorian motor factory into a centre for educating local communities on food production, preservation, and nutrition. The site was chosen because it is at risk of demolition, and due to its location within a highly deprived area. A sustainable design approach has been applied throughout, with the use of earth construction techniques and mass timber, as well as the implementation of a greenhouse system that reuses discarded bay windows. Additionally, the project pays attention to the conservation of the existing building, both to preserve the history of the site and to minimise the scheme's embodied carbon.

Central to the proposal is a foregrounding of education and community provision. Large external growing areas and greenhouses aim to reconnect visitors and learners to agricultural knowledges and practices, equipping them with the skills, tools, and space needed to grow food. Several microclimates are created through the placement and orientation of external free-standing walls, planting areas, glazed partitions, and greenhouses. The on-site food production serves three purposes: community provision through subsidised prices and the collaboration with food banks; education in cooking and preservation techniques within the teaching kitchen and preservation centre; and the generation of a small income stream through the sale of conserves, chutneys and sauerkraut.



Previous. **Retained and Proposed Structure and Implementation of Elements of Earth Construction.** Axonometric.
Below. **Strategy of Design within and around the Existing.** Section.





Site: Lauriston Farm, the Market Garden

Programme: Series of Composting Structures, Rest Stops, a Central Market Hall, and Market Stalls, Supplement and Expand the Existing Practices of the Market Garden.

05C

BEYOND DISPOSAL

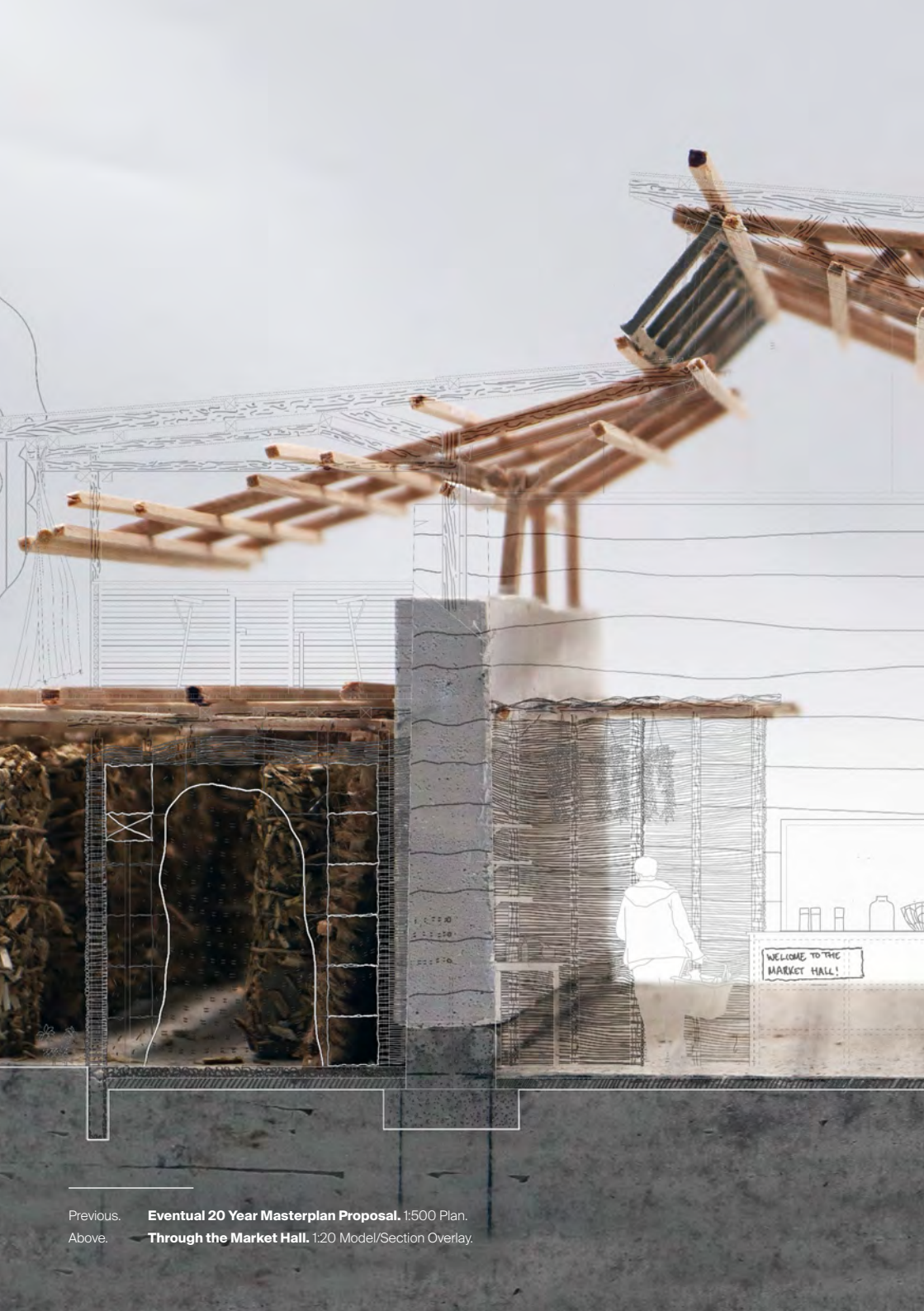
THE ARCHITECTURAL PAIN MOUND

NICHOLAS LEVENDIS

This project integrates composting and earth construction into a circular architecture for regenerative growth at Lauriston Farm, a community-led urban farm in North Edinburgh.

Building upon the compost-based, heat transfer, bioenergy system invented by Jean Pain in the 1970s—the so-called Pain Mound—the project counters combustion-focused architecture with a metabolic alternative. This mound-making redefines architecture as a warm, fecund pile—a soft counter-monument of sorts, which shelters and nurtures inner and outer organisms. Its metamorphic shape and core temperatures fluctuate following urban food-waste flows and the farm's seasonal cycles of decay and renewal, providing diverse spatial programmes and architectural affordances to the Lauriston Farm Community.

Spanning a phased 20-year timeline, the project begins with the construction of a Market Hall, complemented by ancillary structures that form a series of interconnected nodes, including composting stations, rest stops, and market stalls. The composting stations, located at strategic points throughout the site, serve not only as functional infrastructures for waste management, but also as gathering spaces that facilitate social interaction, the sharing of skills, and ecological remediation. Constructed from local earth, timber, and willow, these permeable and adaptable structures evolve and expand over time, responding to the changing needs of the Lauriston community; aided by closed-loop systems that minimize the project's environmental impact and maximize resource efficiency.



Previous. **Eventual 20 Year Masterplan Proposal.** 1:500 Plan.
Above. **Through the Market Hall.** 1:20 Model/Section Overlay.

With Thanks to: Leith Community Croft (Jaimie MacDonald, Evie Murray, Tom Watson); Leith Primary Parent Council (Laura Cogan, Carolyn Boyd); Leith Primary School (Hugh Stuart); Red Squirrel Tree Care (Richard Hattersley-Smith); EALA Impacts (Joanne McClelland, Aythan Lewes); Edinburgh Palette; The ESALA Workshop Staff (Malcolm Cruickshank, Paul Charlton, Paul Diamond, Molly Stubbs); The University of Edinburgh Servitorial Services (Steve Downes, Robert Hildersley); Collier Haulage (Colin Fotheringham); ECA Health & Safety (Richard Dunigan); Elham Mousavian; EBUKI (Becky Little, Rowland Keable); and those who volunteered their time for the project (Kate Hallin, Mari Helland, Dylan Fardon).

06

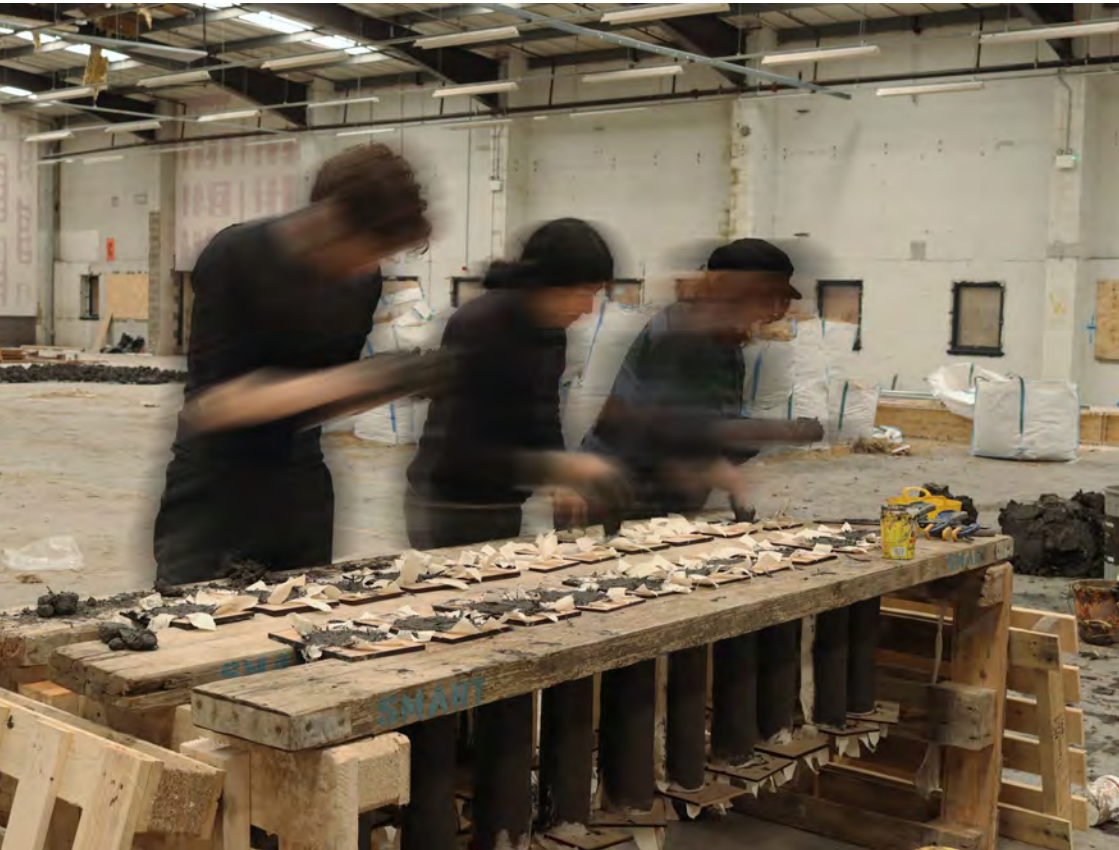
EARTHEN UDDERS, RODS AND BUNDLES

LEITH COMMUNITY CROFT

SONAKSHI PANDIT
ALICE REED

The project began with the intention of developing prefabricated mass-earth components that could be easily handled, transported, combined, assembled, and disassembled. Guided by an extensive set of experiments with different earth mixes and build-ups, the development and testing of prototypes, and the brief set out by the clients—Leith Primary Parent Council—we chose to develop a bundle module consisting of earth rods tied together with rope. This material system enabled us to develop a series of different clusters and islands that may be (re)configured to meet various playground dynamics. In their last iteration, and in order to meet the quality and consistency required, the earth rods were made by filling fabric formwork with mud and straw. This process took place around a bespoke table, the Earthen Udder, which anchored productive activities and turned them into opportunities to share stories, time, and skills—for making together.

The first bundle-structure is being piloted at Leith Community Croft (LCC), where it provides a home for birds and insects, a resting place for visitors and crofters, and a meeting point for community congregations. In addition, and in line with the LCC's ethos, we chose to instil into the fragment a performative element—a ritual originating in the Celtic pagan tradition of the clootie well. This involves tying pieces of fabric around trees to honour the land—an act that has also traditionally been adopted for wish-making. The bird perch pole within our project then also functions as a branch that can receive clooties (strips of cloth), promoting them as a place-making strategy, and enabling the project to change over time.


SMART

Previous. **Crofter's Gathering Place.** Leith Community Croft.
Left Above. **Unplugged Earth Rods.** Image of Components.
Left Above. **A Democratic Act.** Bundling the Earth Rods.
Left Below. **Community Making.** The Earthen Udder.
Above. **Textural Qualities.** Close Up Image.
Below. **Connection Between Bundles and the Mound.** Close Up Image.

Site: The Water of Leith, Edinburgh.

Programme: Compost-Heated Sauna and Community Cinema; River Log Jams; Somatic Eco-Therapy Rooms; Crawl Spaces; Material Banks; Passive Fridges; Facilities for Fermenting and Community Making.

06A

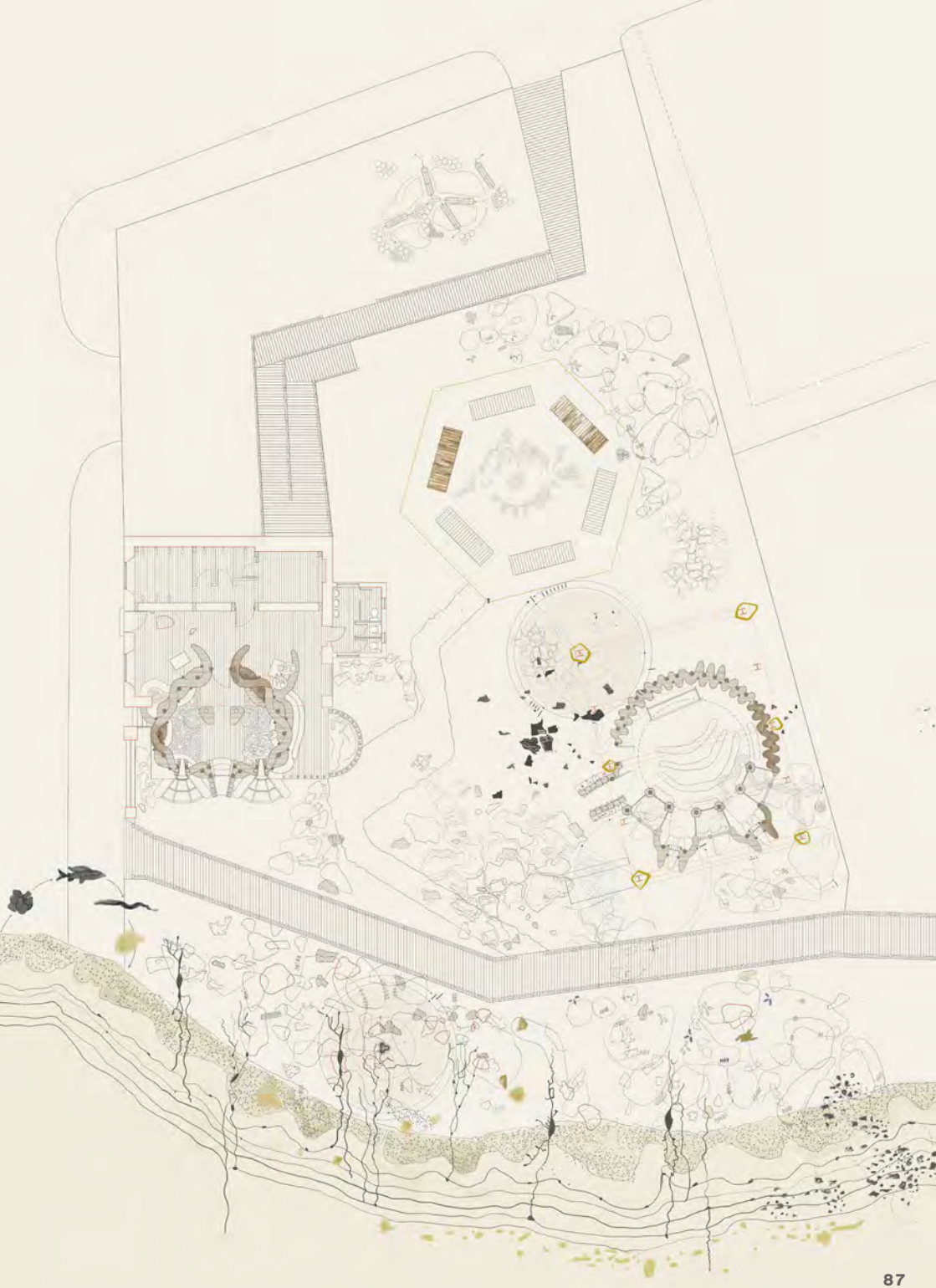
ECO-SOCIALIST RITUALS ACROSS THE WATER OF LEITH

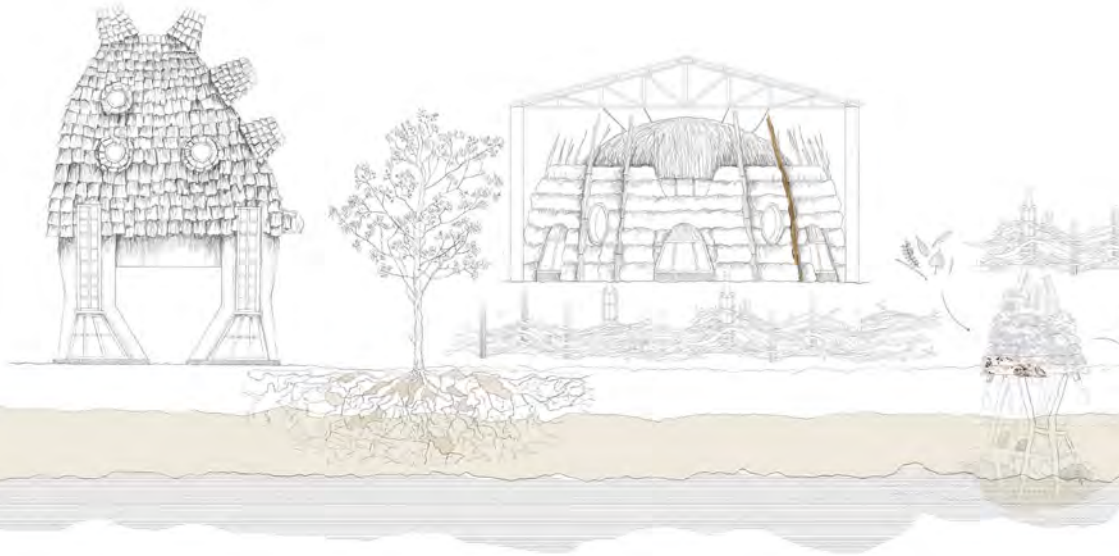
SONAKSHI PANDIT

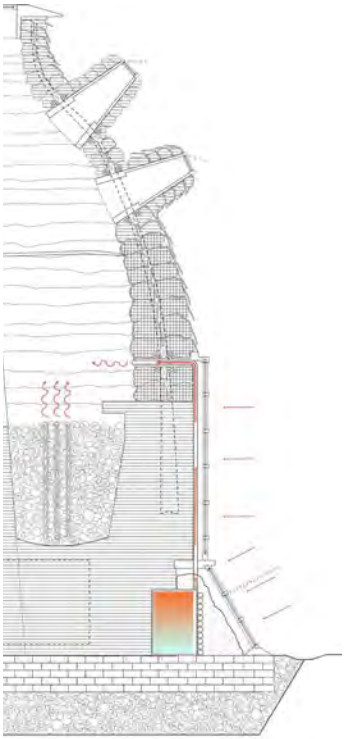
The proposal aims to address the growing separation between people, their bodies, and the land they inhabit. It sets out to establish new forms of public space across the Water of Leith, rooted in the pedagogy of an eco-socialist imaginary that encourages the re-encountering of human and nonhuman beings in expansive, strange, and careful ways that depart from normative and neoliberal modes of being and living.

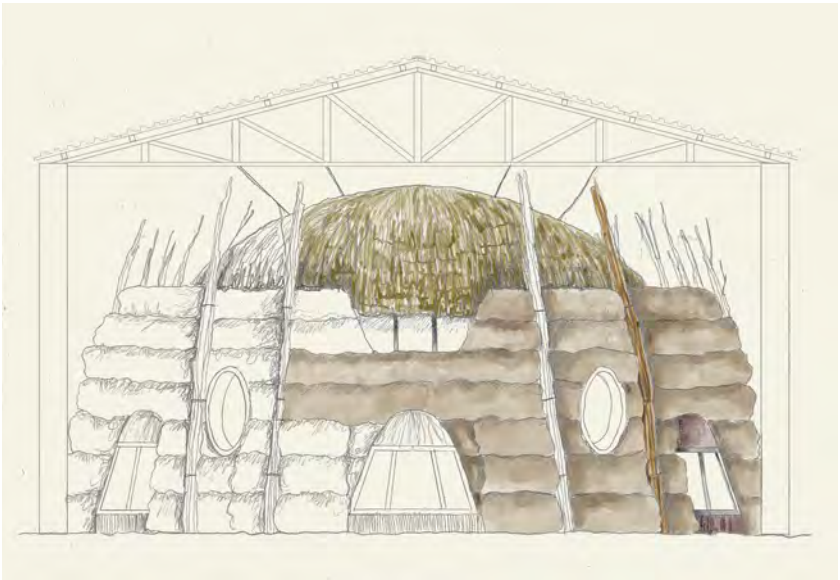
In conceptualising the river as a super-organism, the project also weaves the proposed spatial configurations into the existing contingencies and rituals of the Water of Leith, particularly through the on-going work of the Water of Leith Conservation Trust. Practices of commoning such as citizen science, composting, foraging, dead hedging and eel rope making, amongst many others, feature in the form of tectonic solutions that continue to support these activities, proliferating them along the stream. The project draws from the material accumulations deposited across the river, articulating an architectural language composed primarily of willow, earth reels, compost, and wooden debris. These seasonal substrates are reconfigured and combined to provide novel affordances around existing structures across the river: compost-heated saunas and community cinemas; river log jams; somatic eco-therapy rooms; crawl spaces; material banks; passive fridges; and facilities for fermenting and community making.

The project understands the river as a series of networked socio-ecological assemblages, weaving together community, people and land—towards an alternative model of well-being and prosperity.









Previous. **Articulating Ground Ecologies on Site.** Site Plan.
Behind. **Proposed Interventions Along the Water of Leith.** Elevation.
Left. **Compost-Heated Sauna.** Model.
Left. **Compost-Heated Trombe Wall.** Wall Section.
Above. **Community Cinema and Gathering Place.** Elevation.

Site: Powderhall Stables, Broughton, Edinburgh.
Programme: Horticultural Education; Visitors Centre; Seed Bank; Allotments; Green Community Corridor.

06B

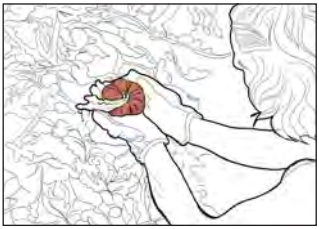
REVIVING SEED SOVEREIGNTY THROUGH EARTH ARCHITECTURE

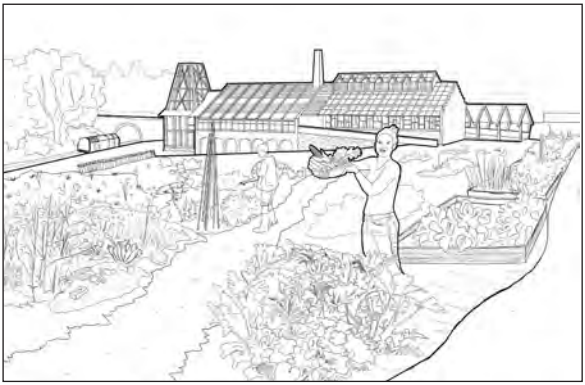
ALICE REED

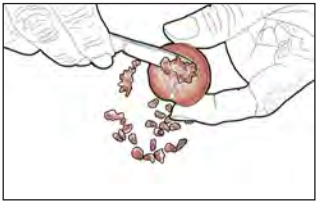
The seed, a symbol of life, has been central to indigenous communities for millennia. Human intervention in plant evolution has enhanced biodiversity, quality, and nutrition by adapting crops to specific climates. However, the mid-20th century shift towards mechanised agriculture, agrochemicals, and privatised food systems led to the decline of traditional farming practices and the loss of open-pollinated plant varieties.

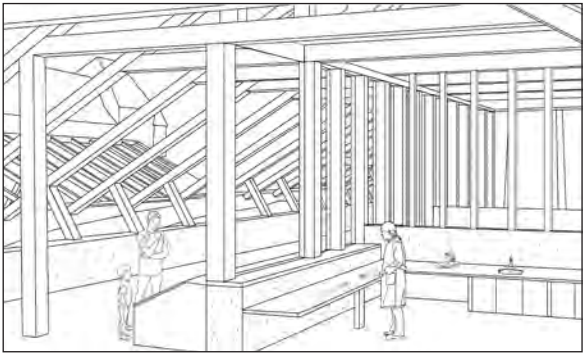
Surveying Leith's industrialised port through urban analysis and field research, I have identified a network of disused railway infrastructure. Building upon the work of the Edinburgh Seed Network, the project aims to reintegrate neglected industrial voids into communities. It attempts to decentralise the food system, as well as to revive seed harvesting and storage traditions while fostering community involvement, knowledge transmission, and an enhanced sense of seed sovereignty. By retrofitting the Powderhall Stables, the project creates space for a community seed bank, horticultural education centre, and allotments while utilising the nearby existing railway infrastructure for transporting seeds, waste, and building materials.

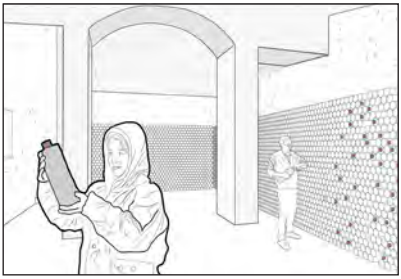
The architecture evolves in tandem with a year-long process of experimentation and testing with prefabricated earth construction, culminating in fibre-cast earth 'rods' and bundles, installed at the Leith Community Croft. The project uses earth rods and bundles in diverse spatial and tectonic configurations to generate dynamic learning spaces and farming affordances, empowering communities, and promoting collaboration and skill sharing.

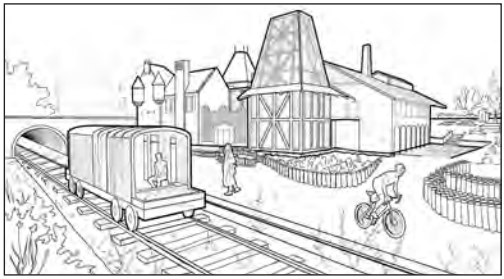


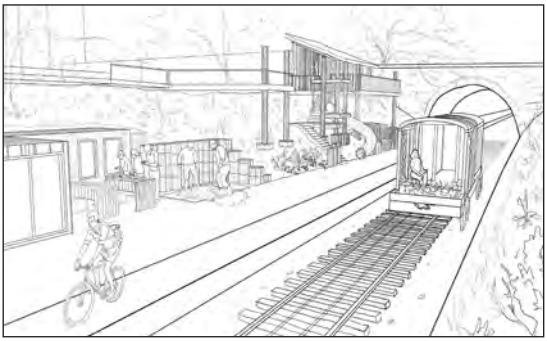


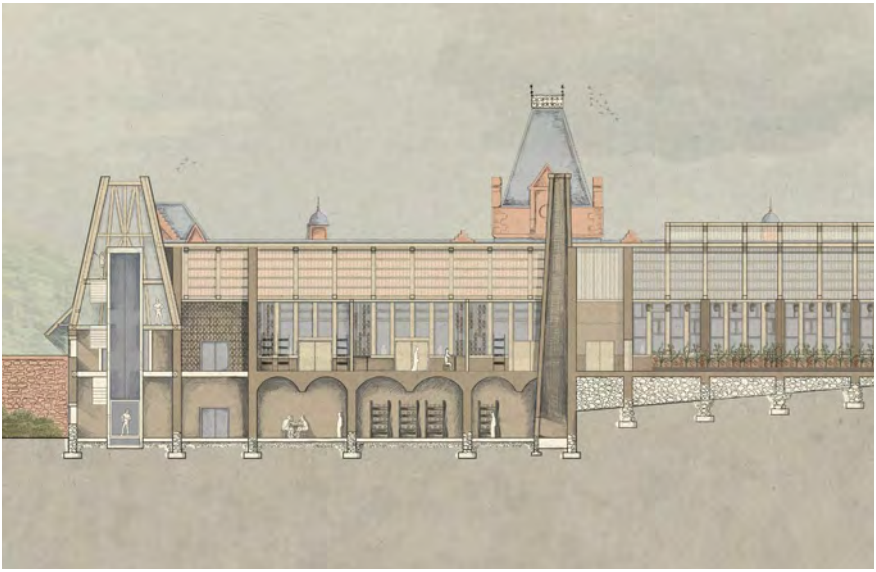












Previous. **The Story of the Seed.** Perspective Comic Strip.
Left. **Powderhall Stables Retrofit.** 1:50 Structural Model.
Above. **Powderhall Seed Bank and Community Farm.** Site Plan.
Below. **Seed Cleaning and Drying Rooms, Mushroom Farm and Viewing Tower.** Section.

With Thanks to: Leith Community Croft (Jaimie MacDonald, Evie Murray, Tom Watson); Leith Primary Parent Council (Laura Cogan, Carolyn Boyd); The ESALA Workshop Staff (Malcolm Cruickshank, Paul Charlton, Paul Diamond, Molly Stubbs); The University of Edinburgh Servitorial Services (Steve Downes, Robert Hildersley); Collier Haulage (Colin Fotheringham); ECA Health & Safety (Richard Dunigan); Elham Mousavian; EBUKI (Becky Little, Rowland Keable); Adam Mitchell.

07

MULTI-SPECIES TOWER

SUSANA TERRIENTE-MARIN

Adjacent to the Leith Academy School, the Croft is a hotspot for locals interested in cultivating a relationship with nature. Enhancing the pre-existing links between the school's Eco Club and the allotment community, this experimental insect hotel aims to increase people's awareness of the urban wildlife in Edinburgh, acting as a stage and pedagogical interface between humans and nonhumans. The close proximity to Leith Primary means that children will be able to actively engage with the tower—transforming it, maintaining and repairing it, and finally learning to consider and address the needs of its inhabitants. The structure encourages experimentation in techniques of habitat conservation and creation, facilitated by the malleability of mud as a building material.

The assembly includes a timber exoskeleton, with shelves filled with prefabricated earth rods and other natural elements at various heights and scales to accommodate a range of nonhuman inhabitants, including insects and birds.

With Thanks to: Edinburgh Student Housing Coop (Nik Larson, Lorenzo Martinico); EALA Impacts (Joanne McClelland, Aythan Lewes); The ESALA Workshop Staff (Malcolm Cruickshank, Paul Charlton, Paul Diamond, Molly Stubbs); The University of Edinburgh Servitorial Services (Steve Downes, Robert Hildersley); Move On Wood Recycling (John Hinton, Craig Meldrum); Collier Haulage (Colin Fotheringham); ECA Health & Safety (Richard Dunigan); Elham Mousavian; EBUKI (Becky Little, Rowland Keable).

08

EDINBURGH ECO-PAVILION

PRE-FAB RAW EARTH MODULES WITH ADAPTABLE DESIGN

RICE DONG
BAIYANG HOU
SILING ZHU
JOE YAN

The Edinburgh Eco-Pavilion, developed for the Edinburgh Student Housing Co-operative, features an earth-based modular construction system offering a democratic, student-run housing alternative. The project creates a live-build structure in the existing courtyard, providing a sheltered space and seating area for students to enjoy and potentially replicate or modify in the future.

In collaboration with co-op members and considering the site's conditions, the design process involved experimenting with earth prefabrication. The walls consist of prefabricated blocks made by layering strips of fiber and raw earth into molds, akin to 3D printing. These blocks are designed to optimize stability, strength, and drying times, while their lightweight nature facilitates easy transport and assembly. A timber roof is integrated into the walls, forming a structurally supportive ring beam.

The pavilion's modular design allows for adaptable wall functions and aesthetics, supporting changing needs. Strategic gaps in the stacked modules permit interchangeable functional inserts like seating or storage, secured with diagonal braces. Its adaptability makes the pavilion suitable for various activities, including social gatherings and relaxation. The system's flexibility also suggests potential applications in emergency shelters, event spaces, and community centres.

Previous. **Edinburgh Eco-Pavilion.** View of Pavilion.
Left. **Prefabricated Raw Earth Modules.** Close-Up Image.
Above. **Additive Manual Printing of Blocks.** Construction off Site.
Middle. **Wall Installation.** Construction on Site.
Bottom. **Timber to Earth.** Connection Detail.

Site: Scottish Law Commission, Edinburgh.
Programme: Community Centre for the Edinburgh Student Housing Co-Operative.

08A

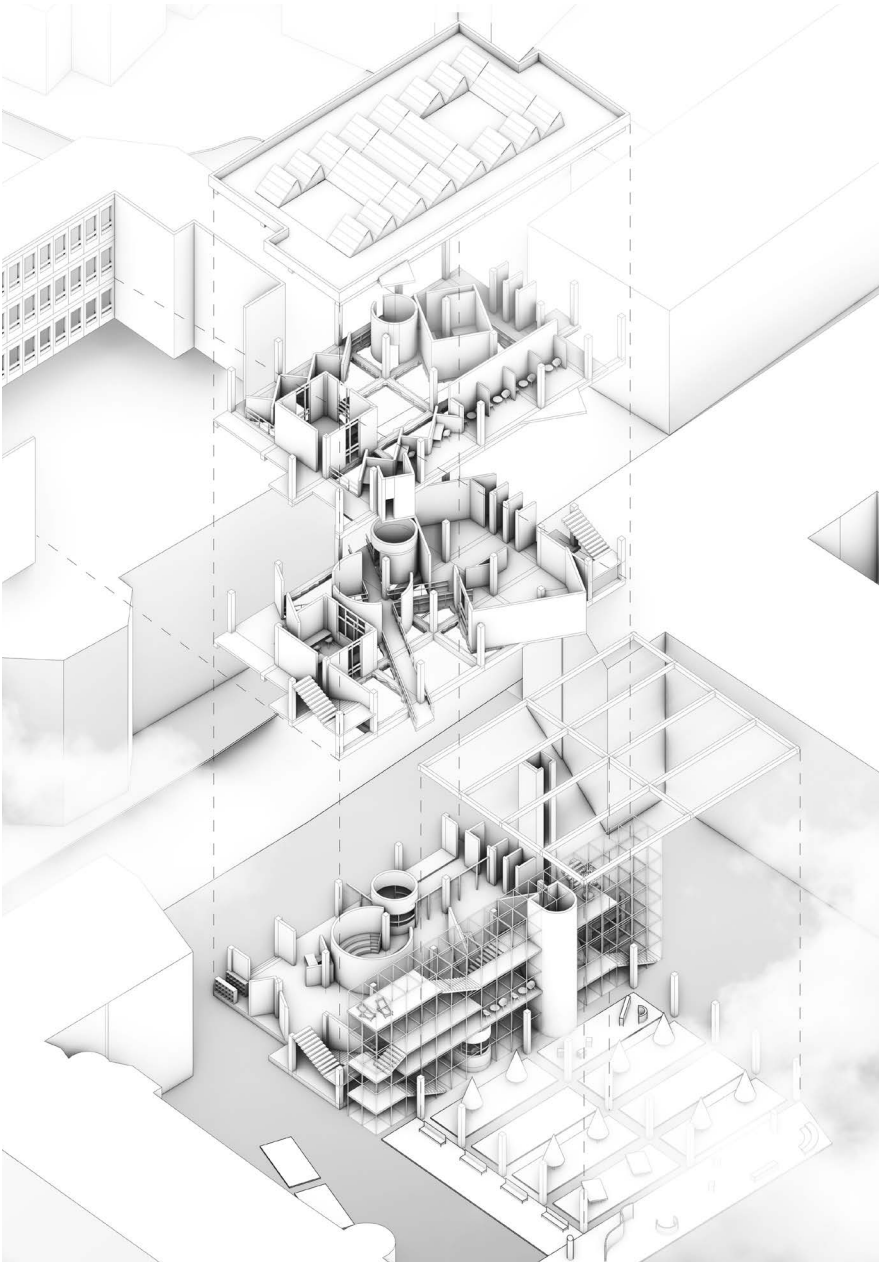
COOPERATIVE CONSTRUCTIONS AND SUBTRACTIONS

RICE DONG

This project transforms the former Scottish Law Commission headquarters, an abandoned brick and concrete structure, into a community centre for the Edinburgh Student Housing Co-operative (ESHC). Listed in the Buildings at Risk Register, the structure offers reusable materials that, combined with earth construction, can create self-managed, affordable student spaces aligned with ESHC's model.

The thesis supports ESHC's ethos of bottom-up reclamation, gradual transformation, self-management, and self-build. After a year of experimentation with prefabricated earth blocks, the project culminated in a live-build structure for ESHC. *Cooperative Constructions* scales up this material system, integrating it with protocols to transform the existing building.

The project features flexible indoor spaces, a multi-level balcony with scaffolding, and an outdoor plaza. The indoor area uses an open plan with cut-away concrete floors and earthen walls for improved lighting, thermal performance, and interactivity. The balcony connects interior and exterior spaces, with customizable corners for coffee stations and greenery. The outdoor plaza, occupying the former library, offers eight distinct experiences. Emphasizing community-crafted raw earth walls, the project promotes a low-tech, low-cost building method with circular materials, serving as a model for repurposing vacant buildings.



Previous. **Cut-Away Concrete Structures.** Sectional Model.
Left. **The Transitional Balcony.** Outdoor Rendered View.
Above. **Interactive Public Space.** Exploded Axonometric.

Site: Astley Ainslie Hospital, Edinburgh.
Programme: Intergenerational Community; Urban Planning and Soil Research; Co-Operative Residential; Self-Sufficiency Workshop.

08B

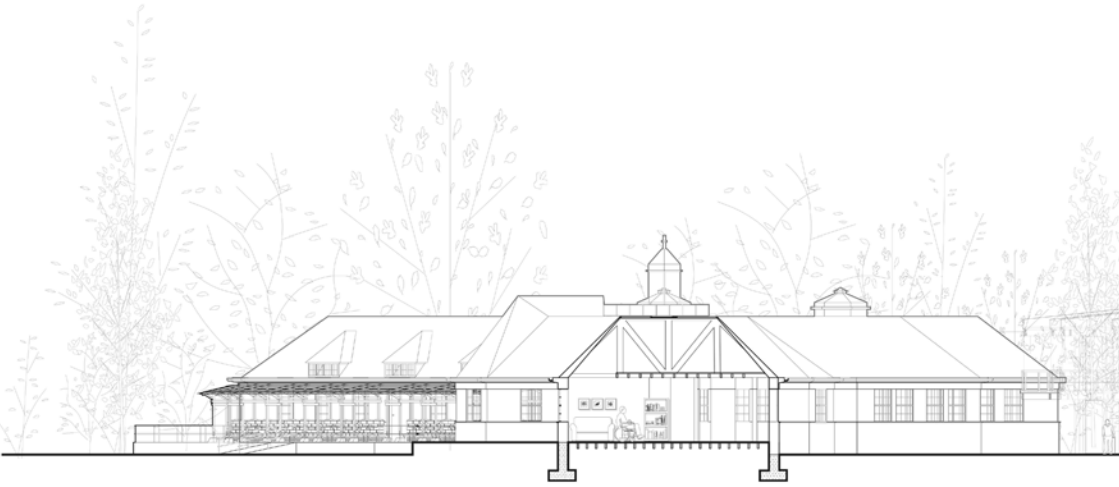
EARTH BLOCKS

BUILDING SOCIO-COMMUNAL COHESION

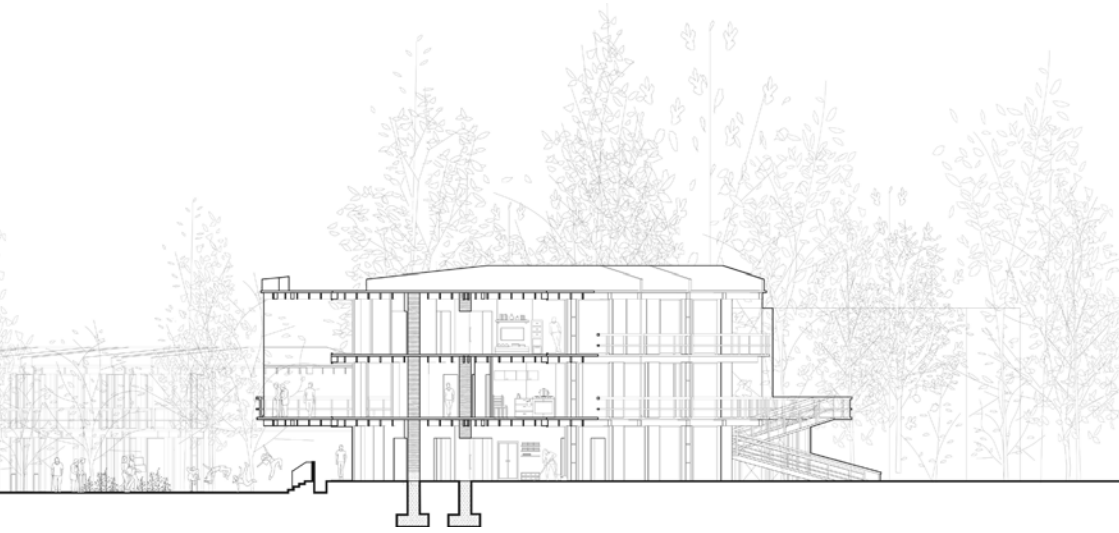
BAIYANG HOU

In an era marked by increased privatisation, fragmentation, and social isolation, the need for alternative models of co-existence and socially conscious architectural practice has never been more critical. These models provide viable solutions to the challenges posed by modern urban living. One standout example is the Edinburgh Student Housing Co-operative (ESHC), a democratically run and student-owned residence. The Co-operative exemplifies an alternative model based on principles of self-management and shared responsibility, offering a refreshing departure from traditional housing arrangements.

Drawing inspiration from the success of the ESHC, and reactivating and repairing a vacant building, the project seeks to develop architectural protocols for communal living, integrating sustainable material ecologies and innovative design protocols that foster eco-social stewardship within the built environment. The project's core focus develops earth-based design protocols that not only support the Co-op's collective living arrangements and rituals of shared care, but also addresses broader concerns such as multi-functionality, affordability, and adaptability. By doing so, the project aspires to create a more sustainable, socially integrated, and resilient model of communal living that can be replicated in various contexts.



Previous. **View of Facade and Balcony.** Rendering.
Left Above. **Outdoor Courtyard.** Rendering.
Left Below. **Earth Block Pavilion.** Rendering.
Bottom. **A Response to Tree Preservation.** Site Section.
Below. **Tectonic Assemblies.** 1:30 Sectional Model.



Site: Astley Ainslie Hospital, Edinburgh.
Programme: Intergenerational Community; Urban Planning and Soil Research; Co-Operative Residence; Self-Sufficiency Workshop.

08C

INTERGENERATIONAL SYMBIOSIS

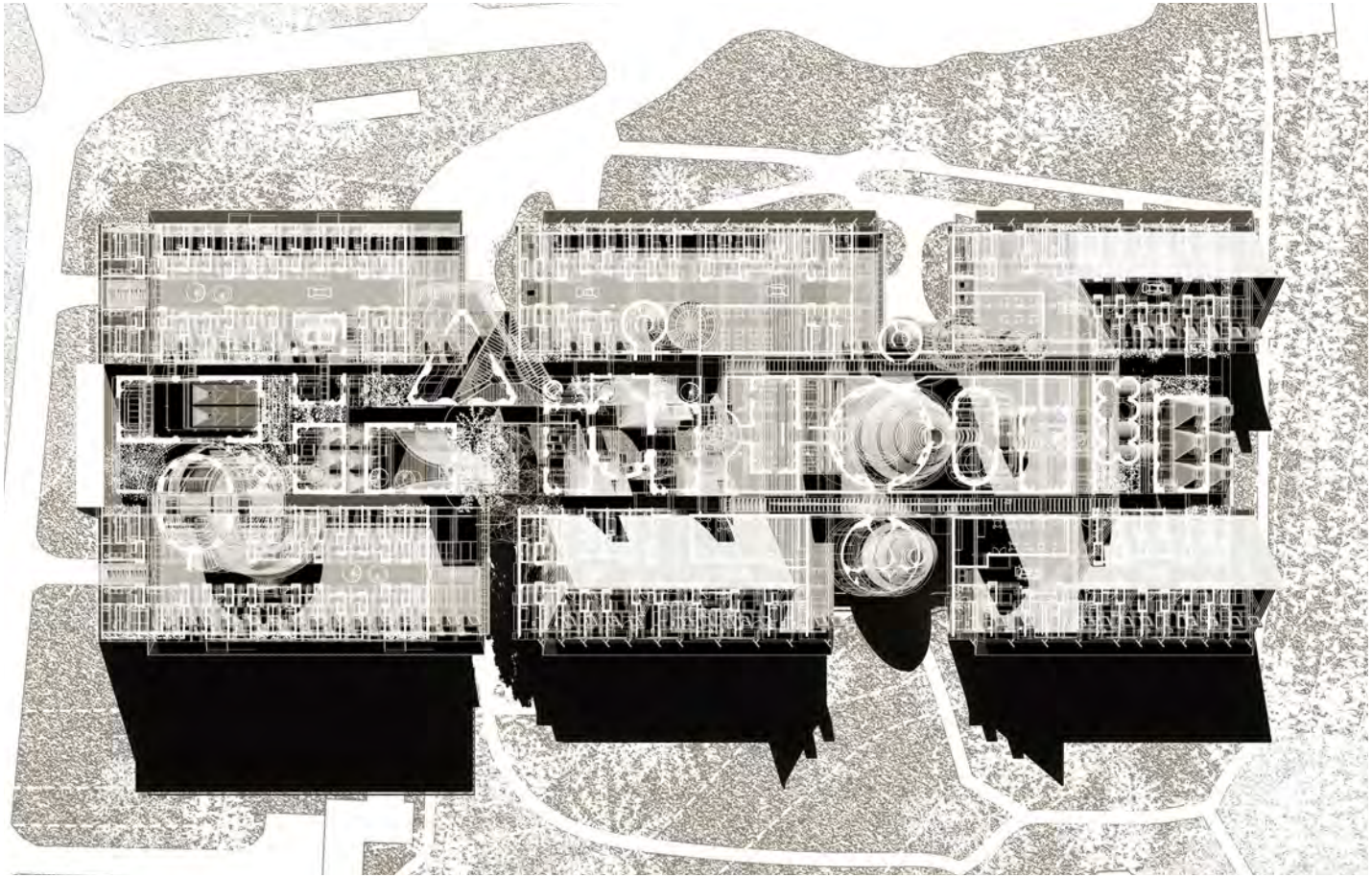
EMPOWERING COMMUNITIES THROUGH PARTICIPATION

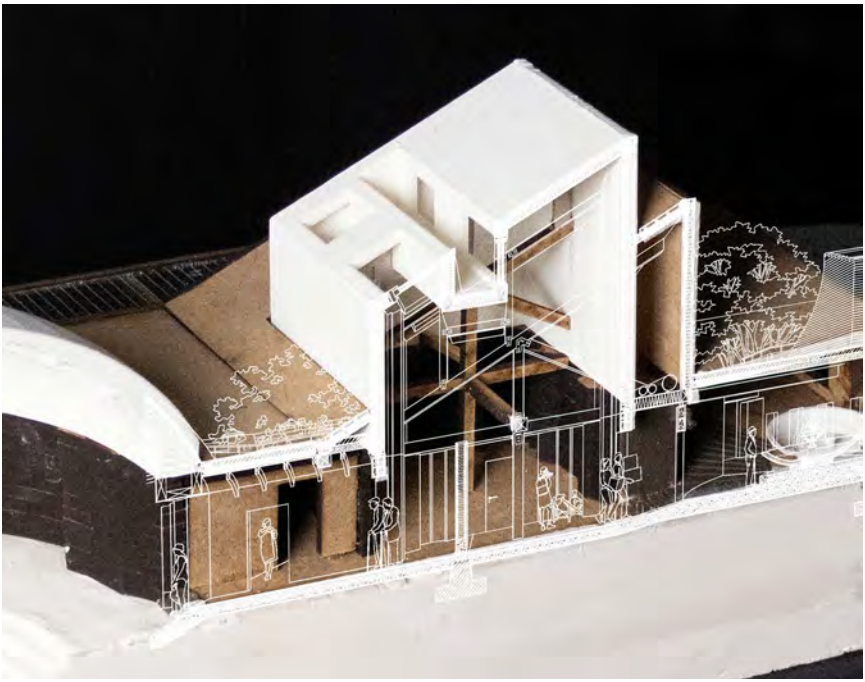
SILING ZHU

Intergenerational Symbiosis, in a holistic sense, fosters reciprocally beneficial relationships between ecological actors through cooperative interactions. The model pioneered by the Edinburgh Student Housing Co-operative (ESHC) exemplifies this through a democratic, decentralised, and self-governed structure that promotes shared responsibilities and support systems amongst residents. Building on the cooperative ethos of mutual aid, this project proposes an architectural intervention for intergenerational living at Astley Ainslie Hospital. The proposal employs handcrafted 3D-printed earth blocks for modular construction. This tectonic system accommodates, through a variety of module sizes and designs, the residents' DIY skills, while allowing personalised space modifications that reflect each inhabitant's unique character.

The proposal organizes and adds to the existing buildings in three linear zones: one for students, one for elderly residents, and a central 'intergenerational symbiosis generator'—a communal hub fostering interaction and the sharing of spaces and activities.

The project ultimately aims to create a supportive, vibrant community that, through the progressive construction, maintenance, and modification of the building, encourages mutual assistance, exchange, and empathy.





Previous. **The Roof Garden.** Rendering.
Left. **Intergenerational Symbiosis.** Plan and Isometric.
Above. **Intergenerational Symbiosis.** Perspective Section Overlayed onto Sectional Model.
Below. **The Main Bath.** Rendering.

Site: Granton, Edinburgh.
Programme: Memory Museum Theatre; Urban Planning and Soil Research; Clay and Wood Workshops.

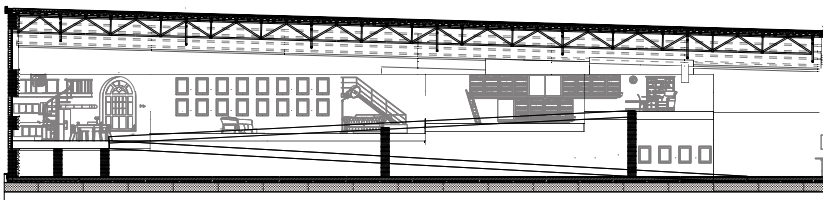
08D

THE GRANTON MEMORY MUSEUM

JOE YAN

The Granton Memory Museum integrates sustainable technologies with traditional materials. The use of raw earth is complemented by modern design techniques such as green roofs, energy-efficient lighting, and climate control systems that mitigate the effects of humidity and temperature fluctuations caused by flooding. The museum is designed with interactive spaces that actively involve the community in the preservation of their heritage. These spaces include multimedia installations that allow visitors to explore historical events through virtual reality, bringing the past to life in a compelling and immersive manner.

Additionally, the museum hosts workshops and seminars on environmental awareness and cultural preservation, acting as a hub for community education and engagement. Beyond physical artifacts, the Granton Memory Museum also focuses on the preservation of intangible heritage, such as local folklore, music, and oral histories. Special audio stations and recording booths are set up within the museum for visitors to listen to and record their stories, ensuring that these oral traditions continue to be passed down through generations. The Granton Memory Museum not only serves as a custodian of the past but also as a pioneer in the sustainable preservation of culture, demonstrating a proactive approach to the challenges posed by a changing climate.



Previous. **The Granton Memory Museum.** 1:200 Model.
Above. **The Granton Memory Museum.** Aerial Rendering.
Below. **The Granton Memory Museum.** Long Section.

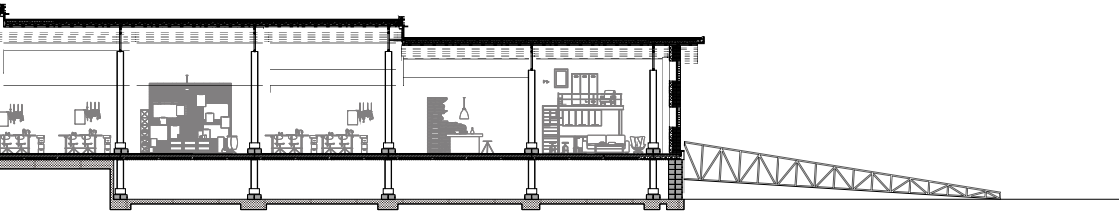


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IMAGE REFERENCES

Cover

- Lauriston Community Kitchen. Myles Albon-Crouch, Harriet Johnson and Nicholas Levendis.

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- Instrumental Earth Building. Coll Drury, Peter Brewser and James Melville.
VIII-IX Hand Interactions: Understanding Earth. Coll Drury, Peter Brewser and James Melville.
X-XI Inhabiting West Shore Road: Testing Earth Technologies. Coll Drury, Peter Brewser and James Melville.
XII-XIII Documenting Processes. Holly Ng, Jemima Harrison.

Radical Harvest: Earth/Care/Reuse

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4 Surfacing Identity. Eleanor Hyde, Jess Gardner, Nat Mikulska.
6 Recording Time and Labour Required to Make Mass Earth Mixture. Sonakshi Pandit, Alice Reed.
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Noticing [The Ripple]
Mhairi Welsh

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Taxonomy of Prefabricated Earth Rods
Sonakshi Pandit, Alice Reed


I'm strong and sturdy

ESALA

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