PORTFOLIO

2025

by Beatrice Tartaglini

BEATRICE TARTAGLINI

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cv highlight

Work Experience
MOD PRO (Rome) – Freelance Architectural Visualiser (Oct 2024 - Present)
3C+T Capolei Cavalli Architetti Associati (Rome) – Architectural Intern (Sept 2021 - Sept 2022)
Modimar (Rome) – Freelance Architectural Visualiser (Oct 2021 - Sept 2023)
Modimar (Rome) – Internship (June 2019 - Sept 2020)

Education
Manchester School of Architecture – Master of Architecture (Sept 2022 - July 2024)
University of Sheffield – MSc Sustainable Architecture Studies (Oct 2020 - June 2021)
De Montfort University – BA (Hons) Architecture (Oct 2017 - June 2020)

Skills
Software: AutoCAD, Revit, SketchUp, Lumion, VRay, Photoshop, InDesign, Illustrator, MidJourney
Technical: 3D Model Making, Sustainable Design, Site Analysis, Construction Detailing
Knowledge: RIBA Plan of Work, UK Building Regulations, Material Specification

Achievements
Thesis Project Winner of Three Landscape Design Awards (2024)
Global Creative Graduate Showcase 2024 – Selected for Online Exhibition
Dezeen Featured – Dezeen School Shows 2024
Participant in the "Simulation of the United Nations" Project (New York, 2014-2015)

CONTENTS

extra links

1. Professional Studies- creation of a protopractice managing businesses, risk, cost, safety, and budgets

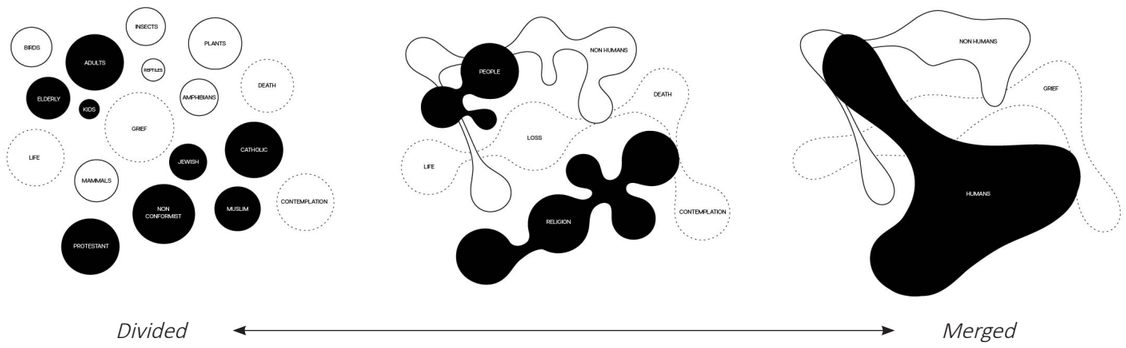
2. Terra Vitae Morte- concept development of my thesis explaining the design process behind the project

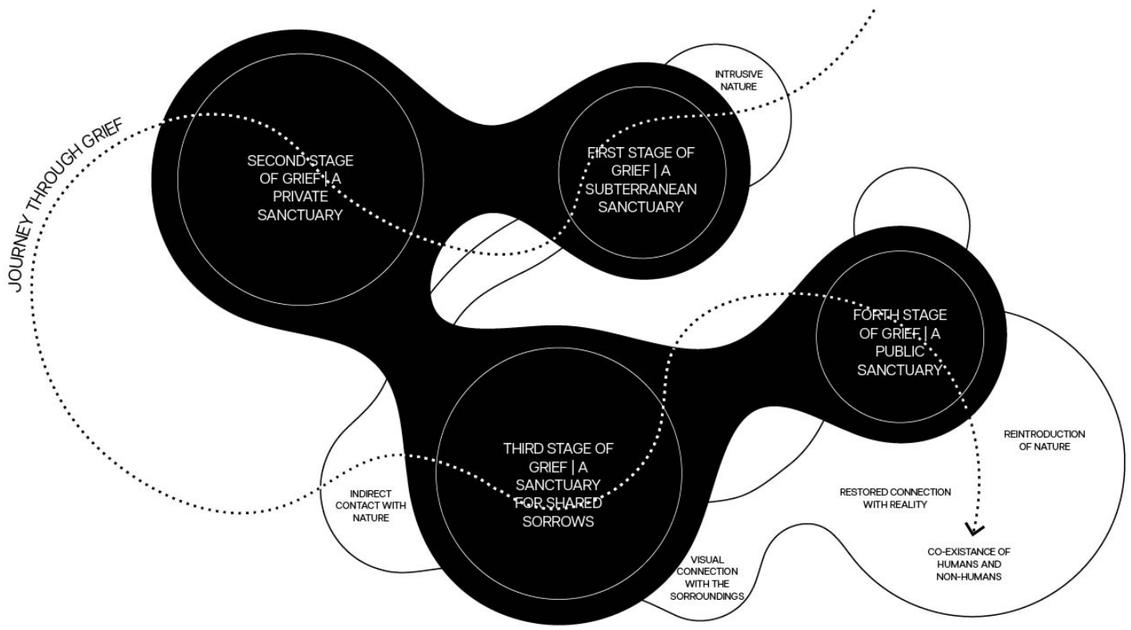
3. MSA LIVE- Acouskate Live Project for the Skatepark in Manchester.

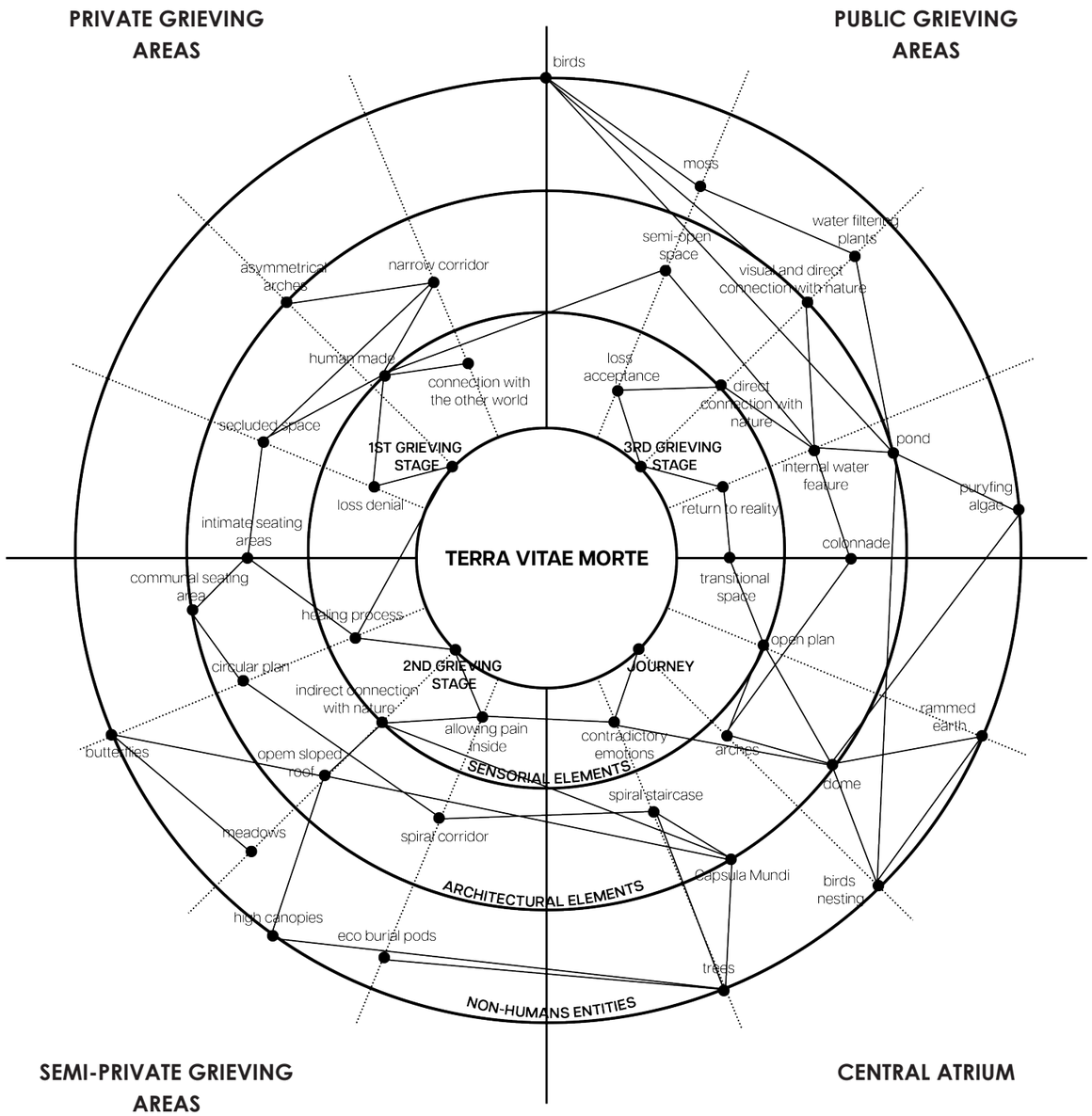
1 TERRA VITAE MORTE

'Unveiling the depths of human pain through to the echoes of nature', s darkness.

This architectural project creates a contemplative space that fosters human and non-human interactions, supporting grief, reflection, and emotional healing. It comprises four zones—semi-private, private, public grieving spaces, and a central atrium—catering to different stages of grief. Sustainability is key, featuring natural ventilation, energy efficiency, rainwater harvesting, and a central water feature for biodiversity and climate control. Durable materials like reinforced concrete and corten steel ensure longevity, while green roofs and landscaping enhance well-being. A modular layout provides adaptability, balancing solitude and communal engagement.





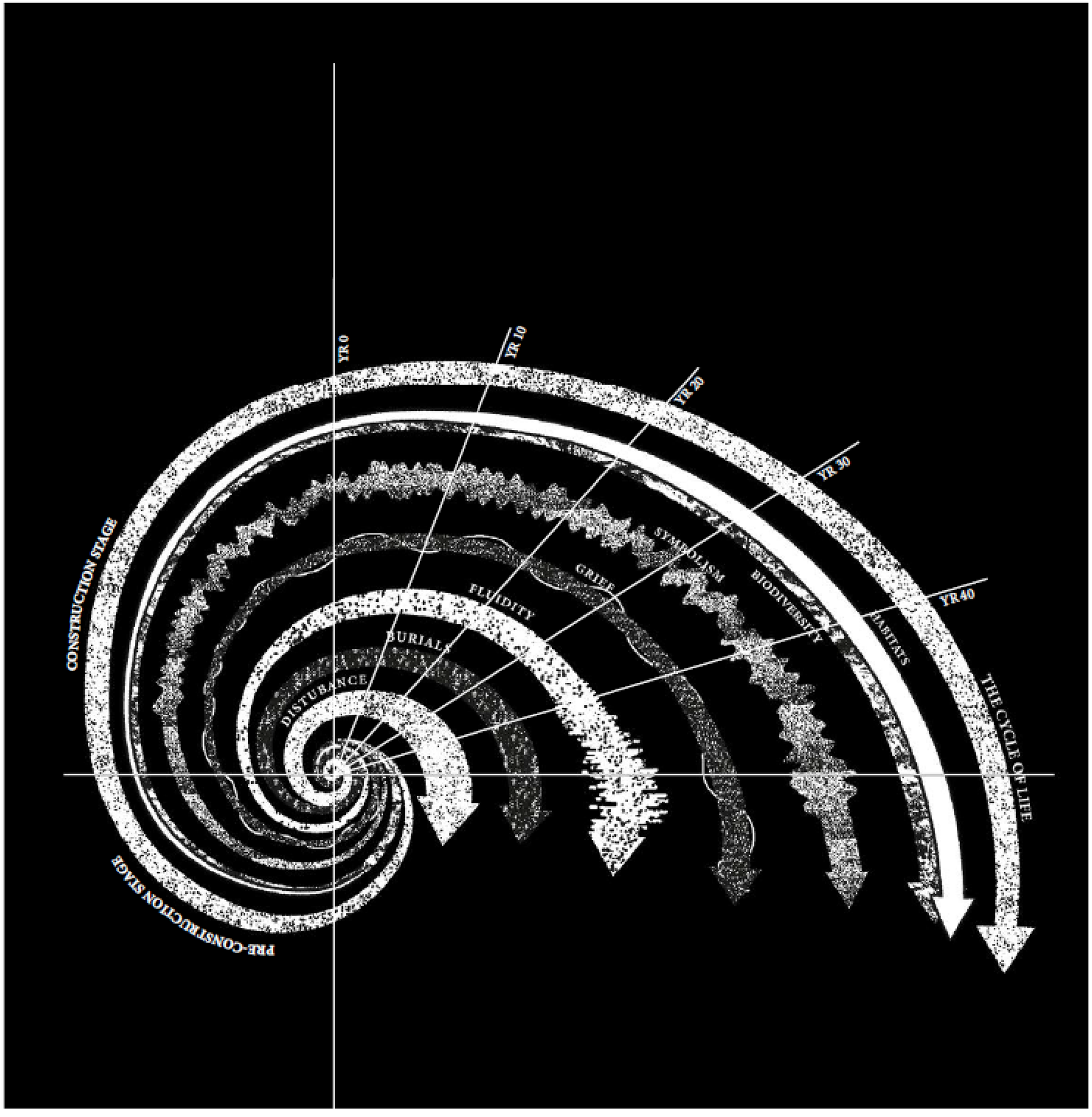


Users

This project envisions an inclusive space in Manchester for commemorating the deceased, welcoming people of all beliefs. It fosters reflection on life and death while integrating non-human entities into its materiality and ecosystem, creating a symbiotic bond between architecture and nature.

Concept

The diagram illustrates the early stages of design conceptualisation, showing the site's current segregation of humans and non-humans. It explores potential connections, leading to a proposal for an inclusive space where both coexist. The design fosters mourning, remembrance, and reflection on life and death.



Disturbance

The construction industry is shifting toward sustainable practices to reduce its environmental impact and support climate-conscious development.

Burials

Green burials offer eco-friendly alternatives to traditional methods, reconnecting burial practices with natural processes.

Fluidity

Posthumanism promotes inclusive relationships among humans, non-humans, and the environment, challenging anthropocentric worldviews.

Grief

Worden's Four Tasks of Grieving provide a framework that informs both emotional healing and responsive design strategies.

Symbolism

Cassirer's philosophy highlights how symbolic forms shape human understanding and cultural perception of reality.

Habitat and Biodiversity

Climate-focused policies enhance biodiversity through habitat protection and sustainable environmental practices.

The Cycle of Life

The cyclical view of life emphasizes continuous transformation, renewal, and interconnectedness with nature.

Theoretical frameworks into practice

This diagram summarizes the thesis research by showing how key theoretical concepts—such as sustainability, posthumanism, symbolism, and grief—are translated into practical architectural and landscape design strategies. It visually connects abstract frameworks to tangible outcomes, demonstrating a conceptually grounded and environmentally responsive approach.

Concept Development

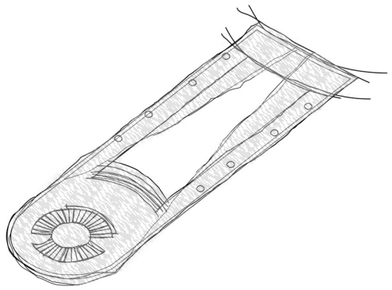
A Subterrean Sanctuary for Reflection and Renewal

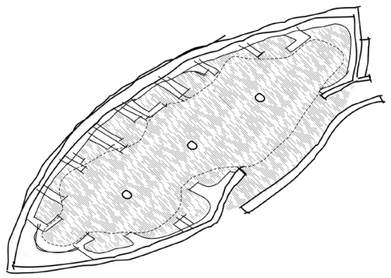
A Sanctuary for Silent Sorrows

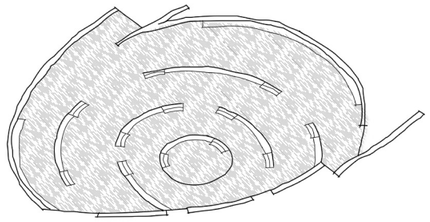
Thresholds of Shared Solitude

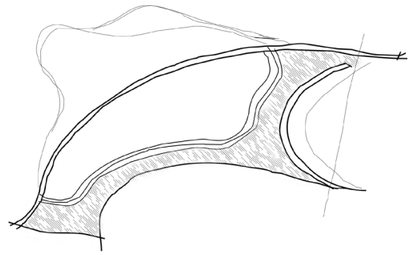
A Soul Serenade Sanctuary

First Design Stage

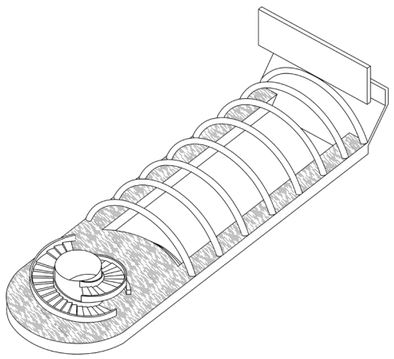


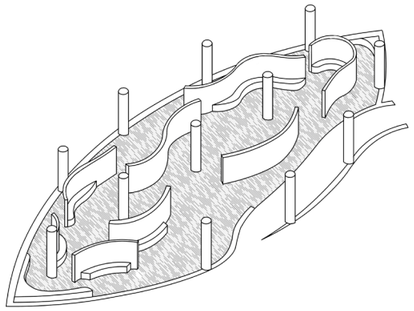


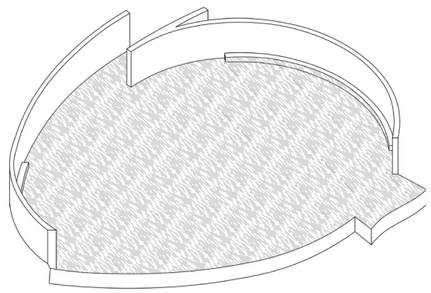


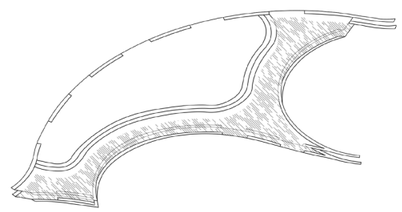


Second Design Stage

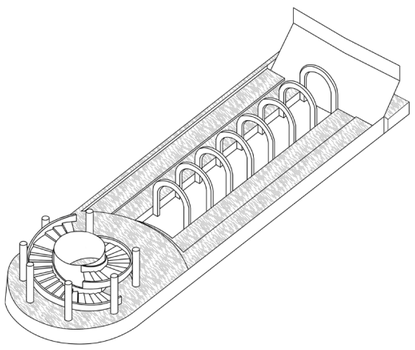


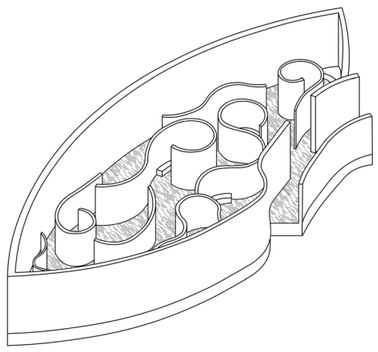


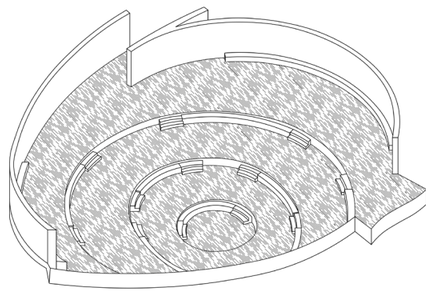


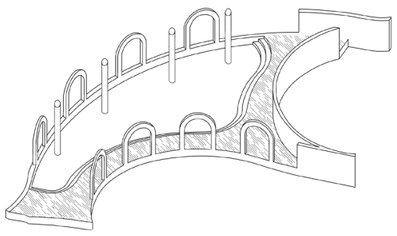


Third Design Stage





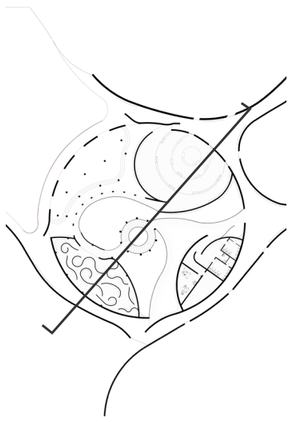




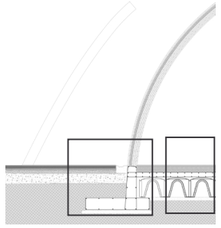
Concept

Terra Vitae Morte guides visitors through grief via architectural spaces reflecting its stages. The first sanctuary fosters introspection underground, with water and organic growth symbolising renewal. The second embraces solitude through minimalist design. The third encourages communal healing, inspired by amphitheatres and nature. The final sanctuary embodies resilience, where light, water, and vegetation merge in harmony. Together, they create a contemplative journey from sorrow to renewal.

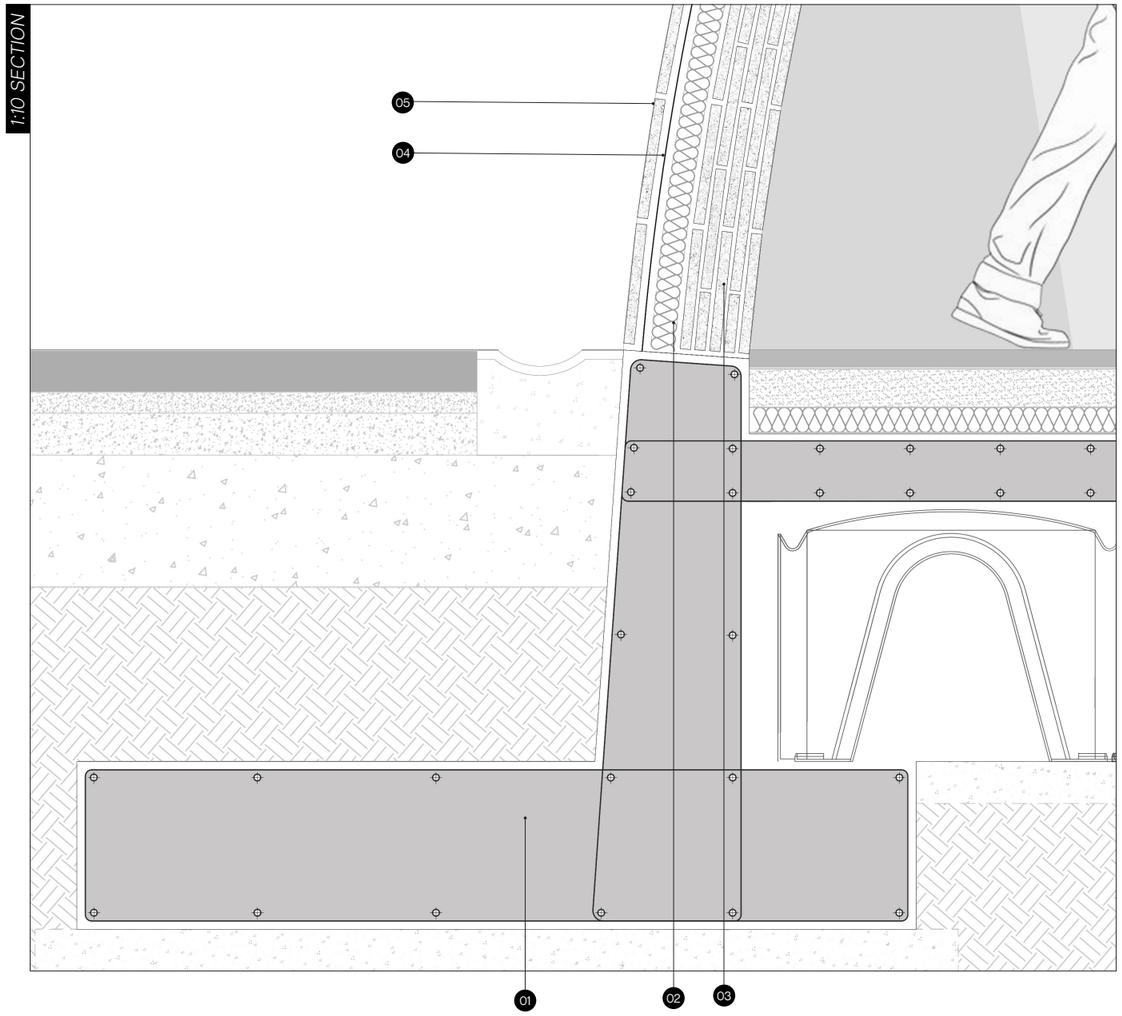
Section A-A



Technical Details

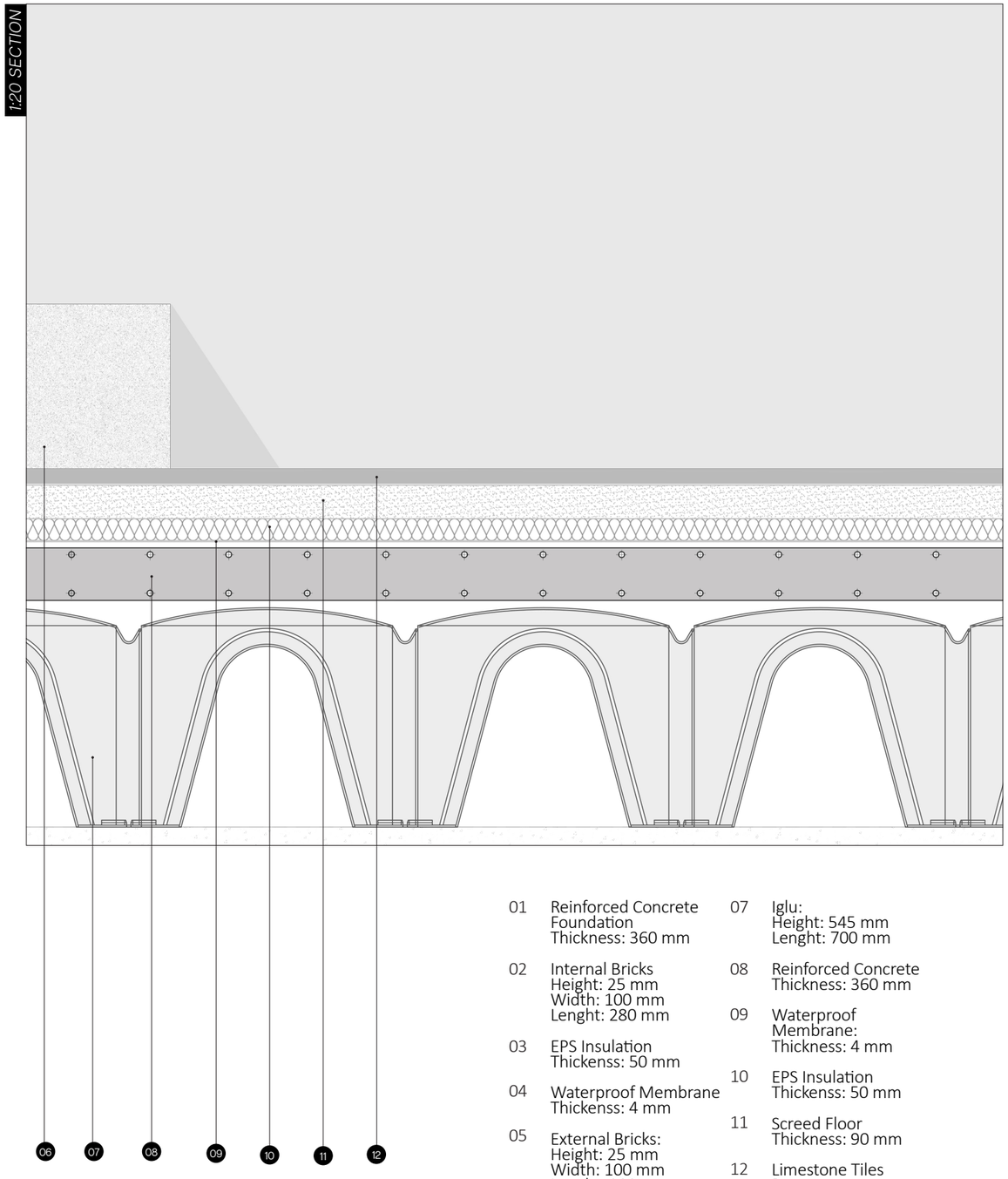


1:10 SECTION



Pavement U value= 1/(Rso+Rsi+R1+R2) = 1/(0 + 0.12 + 0.333 + 0.484 + .0119 + 1.429 + 0.333 + 0.043)= 1 / 2.861 = 0.349 W/m² K

1:20 SECTION



01 Reinforced Concrete Foundation
Thickness: 360 mm

02 Internal Bricks
Height: 25 mm
Width: 100 mm
Lenght: 280 mm

03 EPS Insulation
Thickenss: 50 mm

04 Waterproof Membrane
Thickenss: 4 mm

05 External Bricks:
Height: 25 mm
Width: 100 mm
Lenght: 280 mm

06 Lean Concrete
Thickness: 100 mm

07 Iglu:
Height: 545 mm
Lenght: 700 mm

08 Reinforced Concrete
Thickness: 360 mm

09 Waterproof Membrane:
Thickness: 4 mm

10 EPS Insulation
Thickenss: 50 mm

11 Screed Floor
Thickness: 90 mm

12 Limestone Tiles Pavement:
Thickness: 40 mm

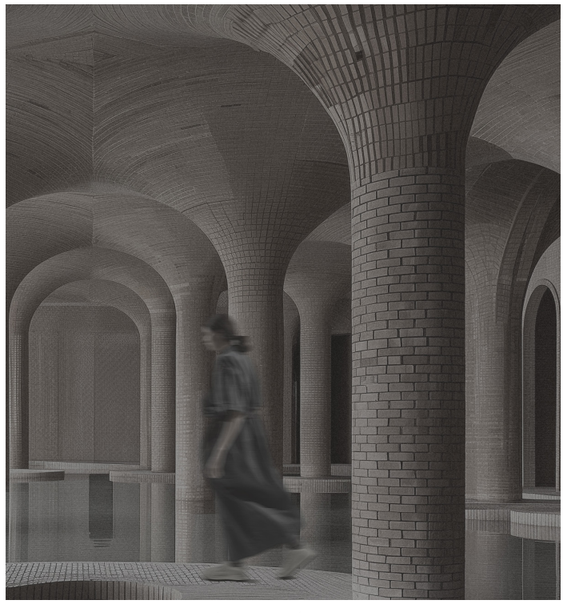
Software used: SketchUp Mid-Journey Photoshop

Internal Spaces Renders

A Subterrean Sanctuary for Reflection and Renewal

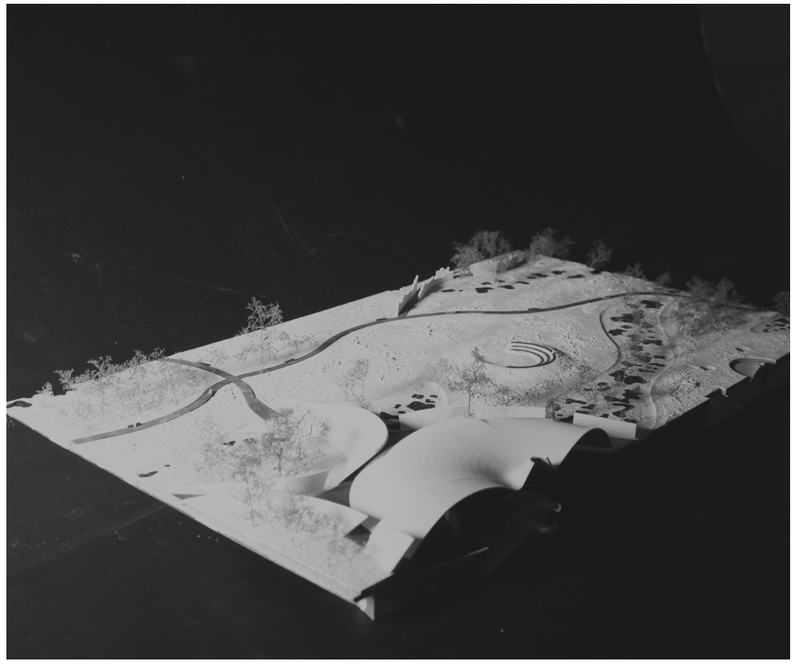
A Threshold Sanctuary of Shared

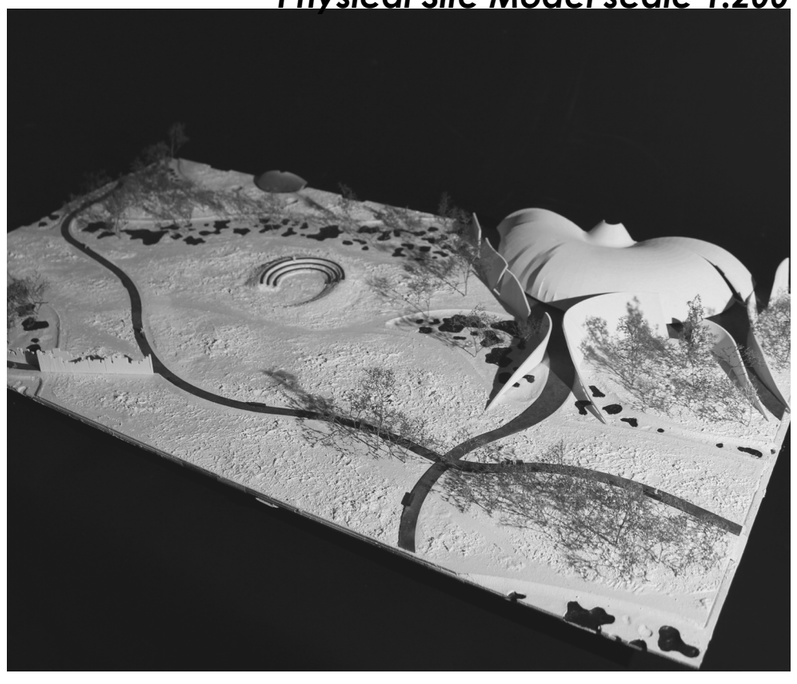
A Threshold Sanctuary of Shared Solitude



A Soul Serenade Sanctuary

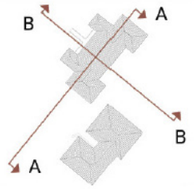
Physical Site Model scale 1:200



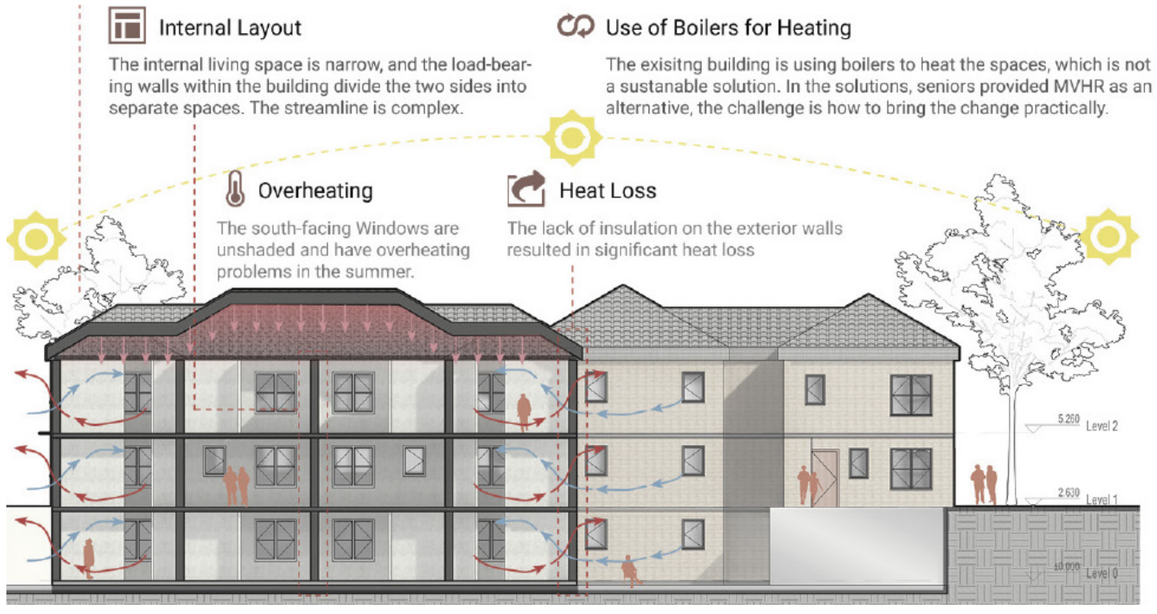


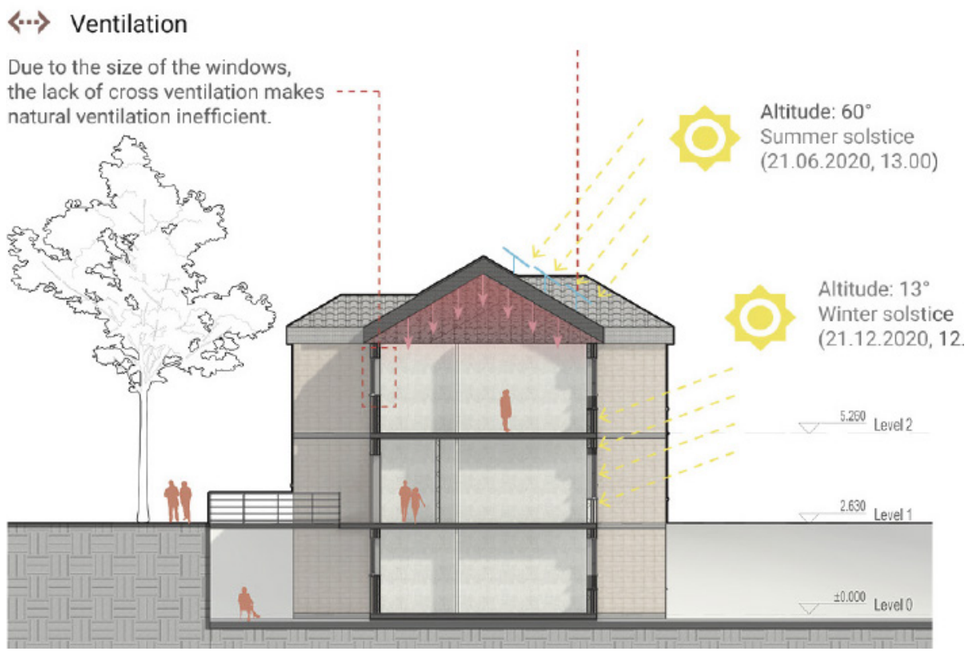
2 THE BEAUFORT PROJECT

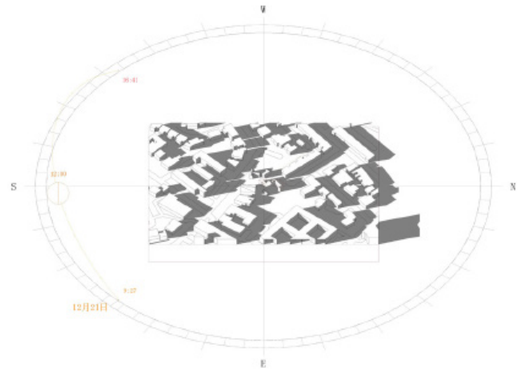
'We shape our building; thereafter they shape us.'



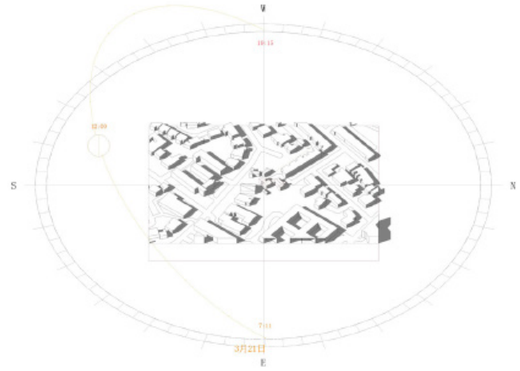
Climate change poses a significant threat on both global and national scales. In the UK, the 2008 Climate Change Act initially aimed to reduce CO_2 emissions by 80% by 2050 (compared to 1990 levels), but in 2019, this target was updated to achieving net zero emissions by the same year. The government has focused on the electricity sector, with 42% of electricity generated from renewables last year, marking the start of the transition. This report critically evaluates renewable energy technologies and their application to the Beaufort Project.



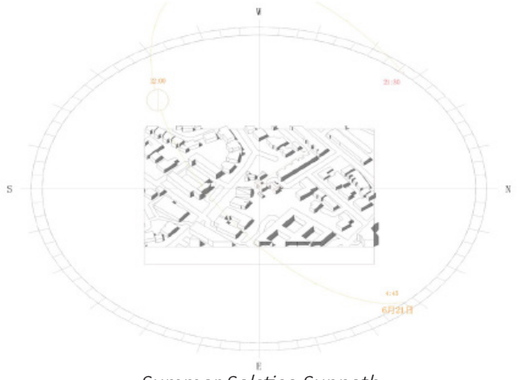




Winter Solstice Sunpath



Spring Solstice Sunpath



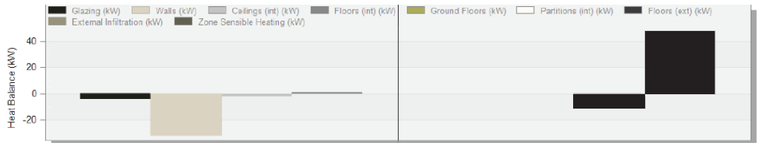
Summer Solstice Sunpath

The proposed design enhances insulation to reduce heat loss in the existing brick masonry structure. Sustainable, locally sourced materials like cross-laminated timber, OSB, and thermopine improve performance, act as carbon sinks, and lower CO_2 emissions during construction.

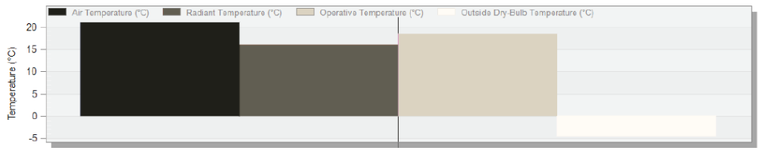
Energy Demand and Carbon Emissions

The building's energy demand was analysed using Design Builder, identifying walls as the main source of heat loss. The simulation evaluated energy use for lighting, heating, hot water, and equipment, categorising it into regulated and unregulated energy. Carbon emissions were calculated using SAP10 and SAP2012 conversion factors.

Building Area: 465.14 sqm → **Overall Energy Consumption:** 173.97 kWh/sqm → **Total Energy Demand:** 117077.533 kWh/sqm

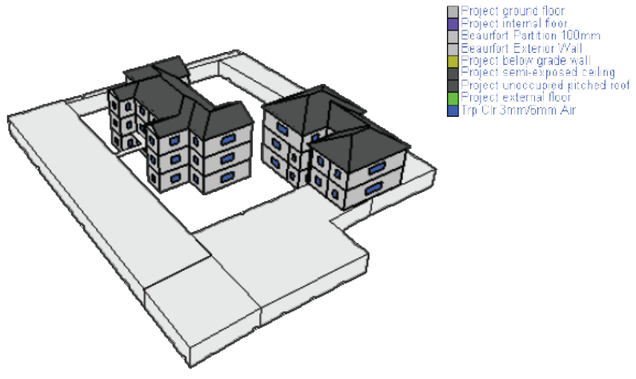


Heat Balance of Existing Building

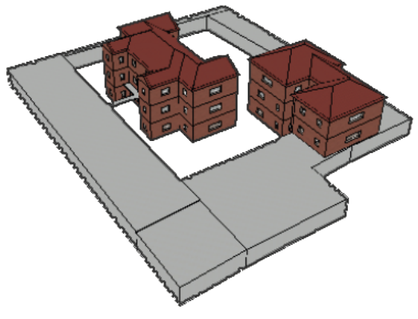


Temperature of the Heating Design of the Existing Building

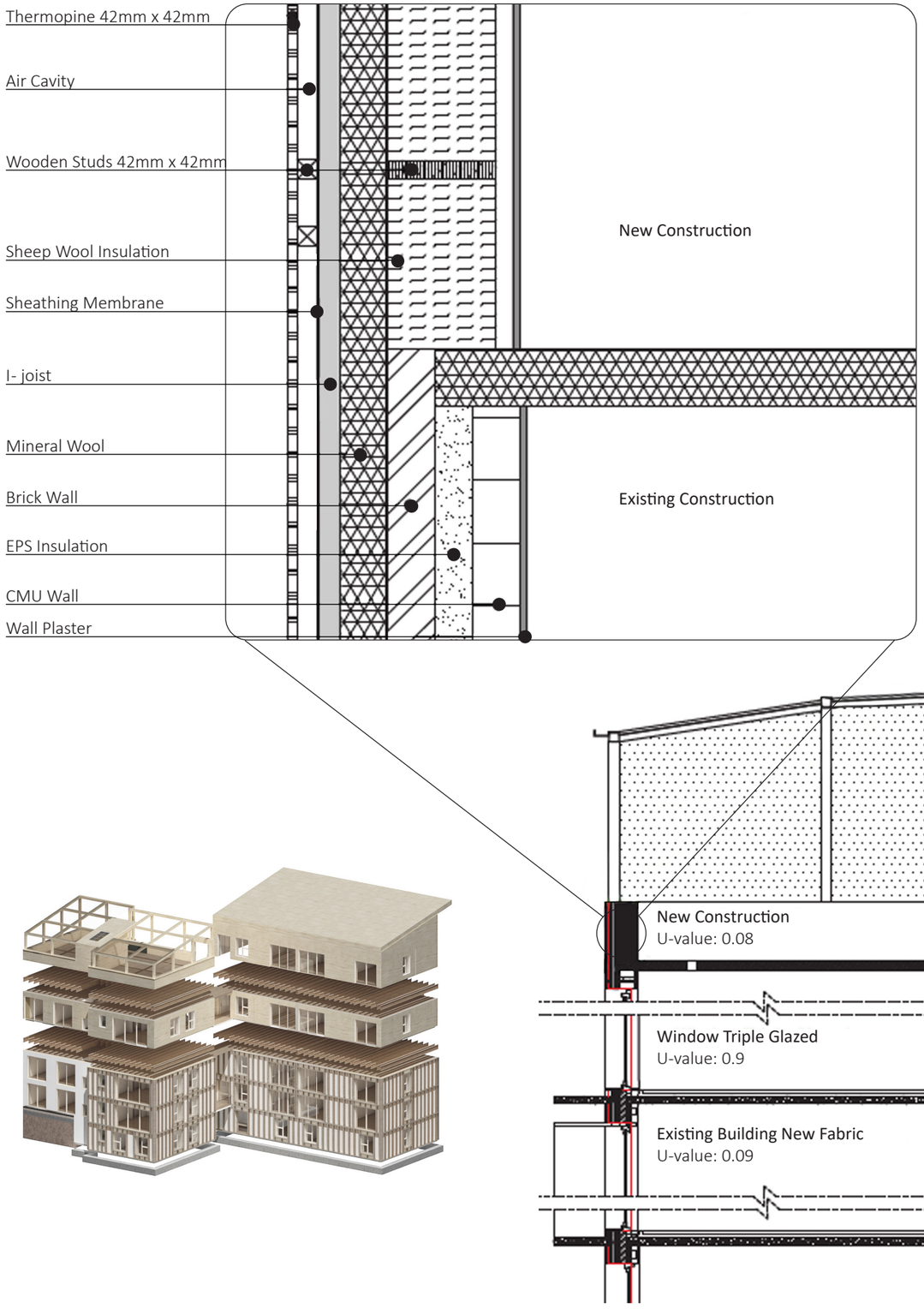
Fuel Breakdown, Energy Simulation of the Existing Building



Model Data of the Existing Building



Rendered View of the Existing Building

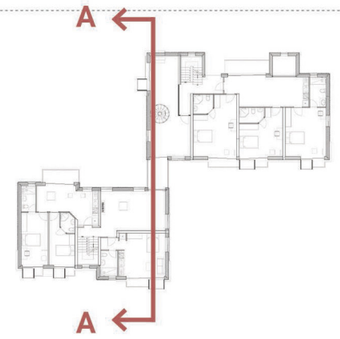


Proposed Wall Construction

The Beaufort Project retrofit prioritised improving fabric energy efficiency through insulation upgrades, including walls, floors, roofs, and glazing. With the existing 280mm cavity wall containing an 80mm cavity, enhancing insulation was essential to improve thermal performance.

Environmental Strategy

Section A-A



Indoor Activity

Indoor activity area for individual and group activities such as games and reading

Low Impact/Carbon

Use of low impact material (timber) for positive carbon capture

Tripple Glazing

Tripple glazed to minimize heat loss and ensure airtight fabric

Large Openings

Large openings on SE façade to maximise on winter solar gain, shading to control gain in summer

Daylighting

Large windows for quality daylighting no NW façade

Insulation

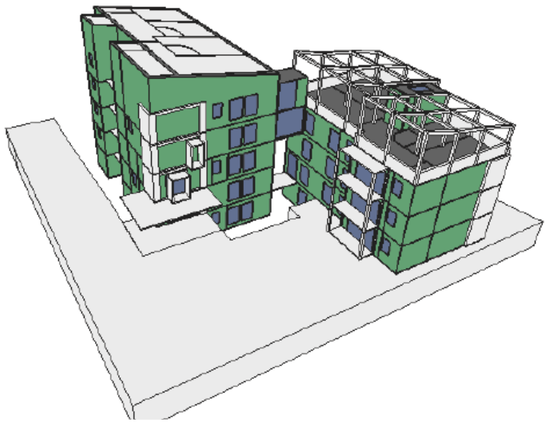
Well insulated and highly airtight fabric to minimise heatloss and reduce energy demand

GSHP

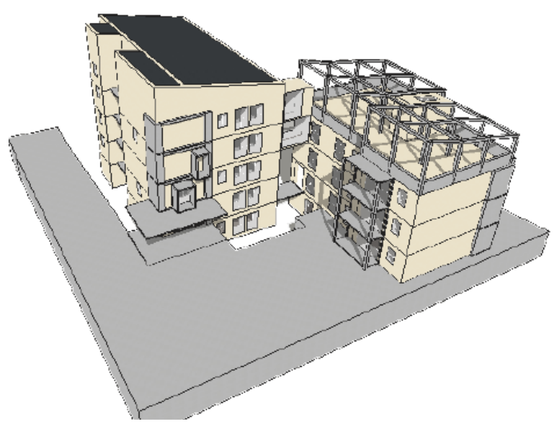
Supplementary source of renewable energy for space heating

Energy Simulation of the Proposed Building

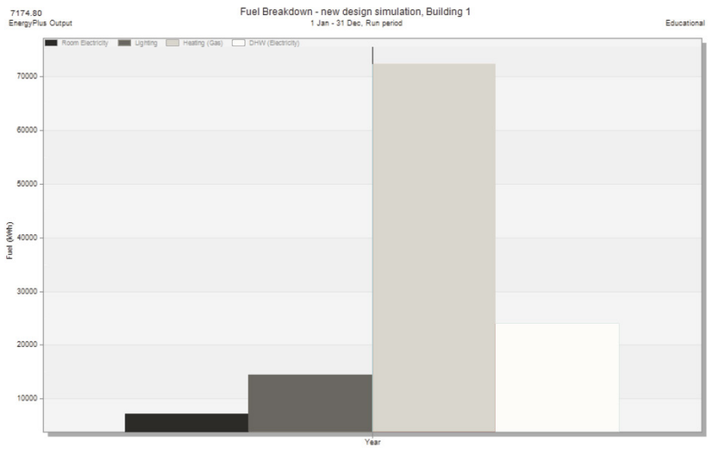
The improvements in the new design have led to a significant reduction in the building's energy demand and, consequently, its carbon emissions. Following the same process outlined in the previous pages, the new energy demand and carbon emissions were calculated using Building Designer.



Model Data of the Proposed Building

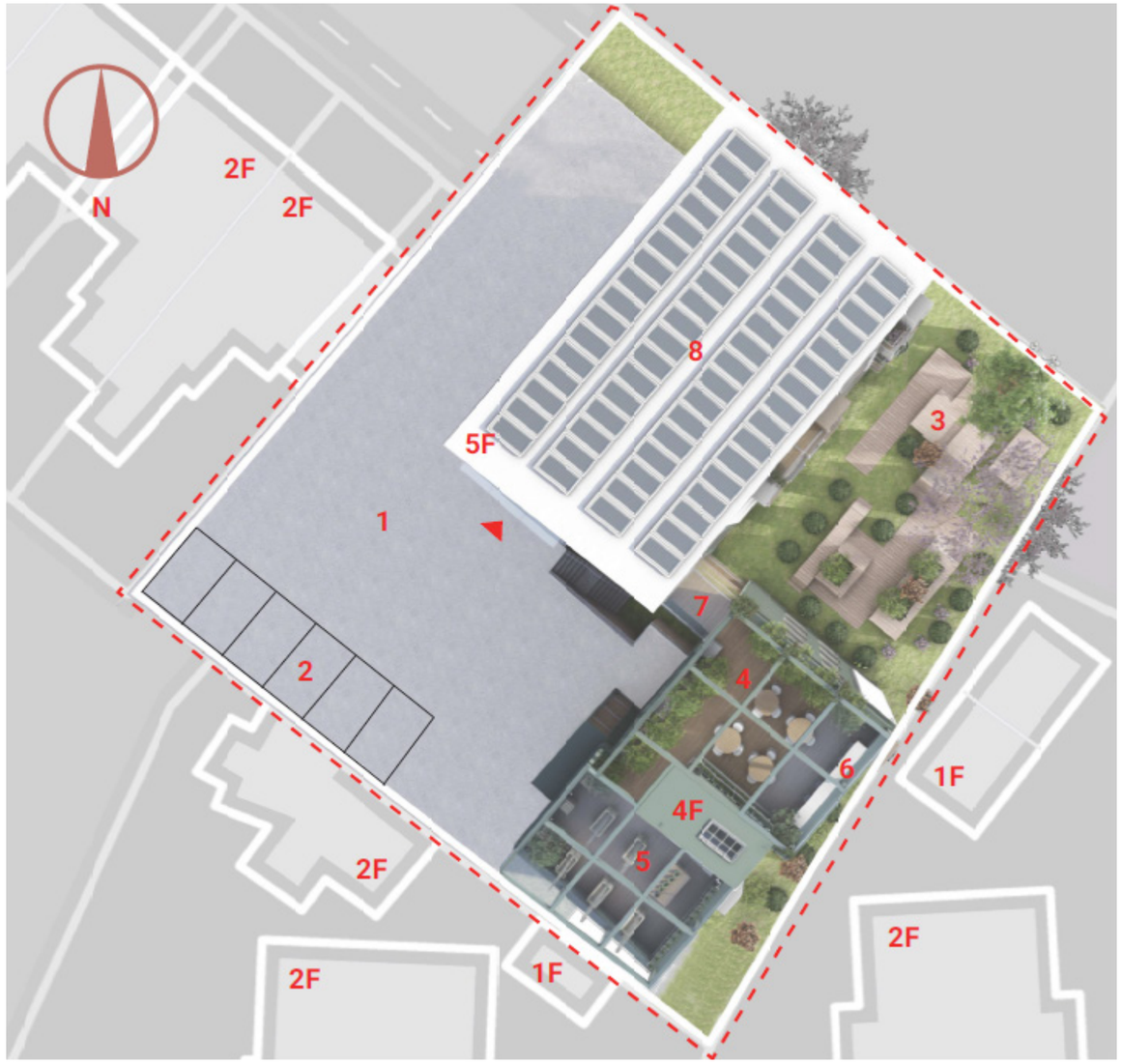


Rendered View of the Proposed Building



Fuel Breakdown, Energy Simulation of the Proposed Building

A comparison of the energy simulation results between the existing and new buildings shows a 17.7% reduction in gas energy demand and an 8.83% decrease in total carbon emissions. However, there is a 69.6% increase in electricity demand.

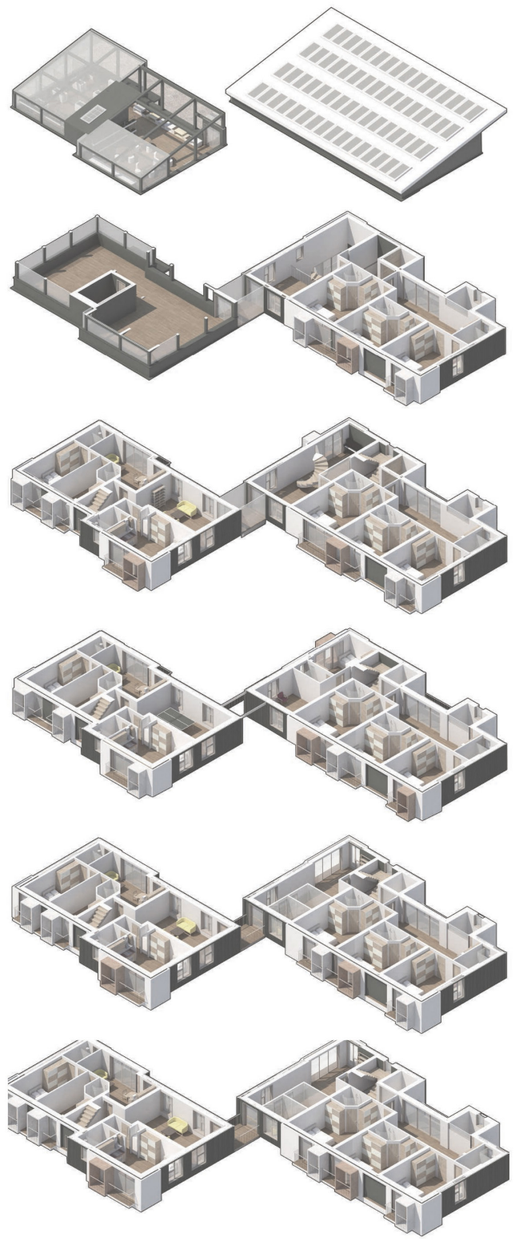


Proposed Site Plan

The redesigned building successfully enhances energy efficiency while maintaining its architectural integrity. Simulations and research confirm its potential to achieve carbon positivity, though real-world challenges may impact performance.

Key sustainable solutions, including PV-T panels and a ground source heat pump, improve energy efficiency without altering the building's design. This project demonstrates how sustainability and architecture can be effectively integrated, achieving a balance between efficiency, functionality, and aesthetics.

The project developed a comprehensive set of sustainable design guidelines tailored to the Beaufort community, with a focus on promoting healing and supporting independent living. Emphasising well-being, comfort, and stress reduction, the architectural approach centred on adaptable, user-controlled spaces that foster a sense of ownership and belonging.



Key design strategies included passive design techniques to enhance therapeutic experiences and a reconfigured internal layout to improve residents' quality of life. Flexible communal spaces were introduced on each floor to encourage social interaction and reduce isolation.

The southern façade's increased window-to-wall ratio improved natural lighting and thermal comfort, boosting energy efficiency and creating uplifting interiors. Structurally, a lightweight timber framework and external exoskeleton provided both sustainability and symbolic openness.

Outdoor and rooftop gardens offered residents calming green spaces for relaxation, designed to enhance visual appeal, reduce stress, and support indoor thermal comfort throughout the seasons.

Overall, the project delivered a holistic, sustainable environment that prioritises the physical, mental, and emotional well-being of residents while fostering a strong sense of community and independence.

The Vision

Software used:

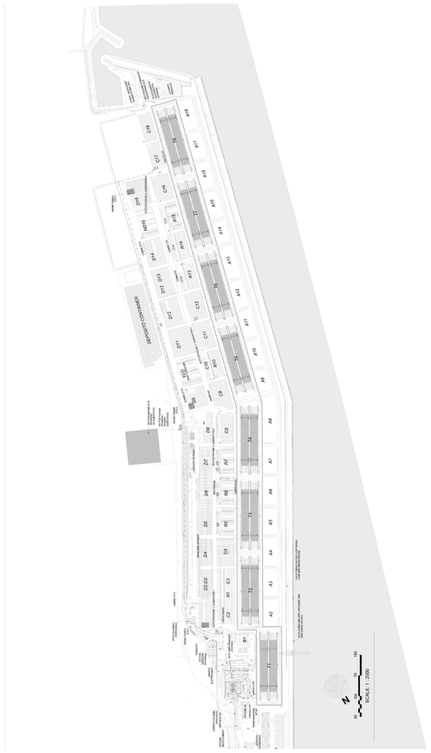
SketchUp Mid-Journey Photoshop

3 GIOIA TAURO REGENERATION

'Gioia Tauro is the largest terminal for transhipment in Italy and the most important hubs of the container traffic in the basin of the Mediterranean Sea.'

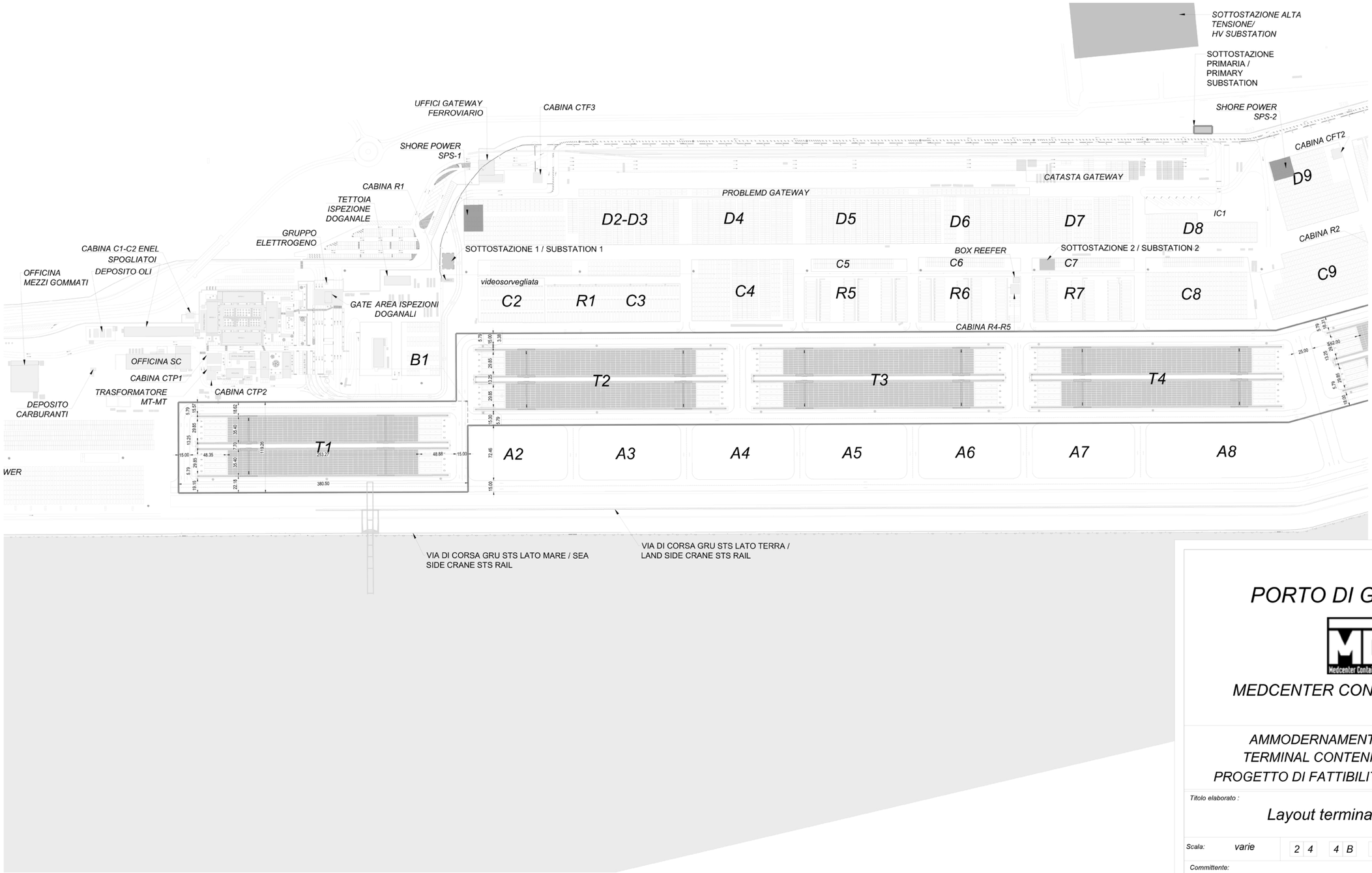
The project is a comprehensive redevelopment initiative aimed at enhancing the operational efficiency of the Gioia Tauro Container Terminal, managed by Medcenter Container Terminal (MTC). The primary goal is to modernise the terminal's infrastructure while ensuring compliance with landscape compatibility regulations as stipulated by the Italian Cultural Heritage and Landscape Code (Legislative Decree 42/2004).

The initiative involves the introduction of eight container storage parks equipped with automated electric cranes (ASC) to optimise space utilisation and improve container handling efficiency. These parks will feature innovative layouts and advanced structural elements tailored to accommodate future operational demands. The design prioritises sustainability, adhering to economic feasibility, environmental standards, and landscape preservation principles.



Visual:
Crafted through a process of layered rendering.

Software used:
SketchUp Mid-Journey Photoshop



LEGENDA / LEGEND:

- AREA DI INTERVENTO / LIMIT AREA
- VIA DI CORSA GRU ASC / ASC CRANE FOUNDATION
- TORRE FARO / LIGHT TOWER FOUNDATION
- CONTAINER NELL'AREA DI STOCCAGGIO CON GRU ASC / CONTAINER INTO STORAGE AREA WITH ASC CRANE
- CONTAINER NELL'AREA DI STOCCAGGIO SENZA GRU / CONTAINER INTO STORAGE AREA WITHOUT CRANE
- CABINA DI PROPRIETA' DELL'AUTORITA' PORTUALE / CABIN OWNED BY THE PORT AUTHORITY
- CABINA DI PROPRIETA' DI MCT / CABIN OWNED BY MCT

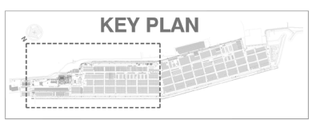
B1 - LAYOUT TERMINAL - FOGLIO 1 di 2 / TERMINAL GENERAL ARRANGEMENT - SHEET 1 of 2
SCALE: 1:2500

N

50 0m 50 100

SCALE: 1 : 2500

KEY PLAN



Technical Layout Terminal Regeneration

PORTO DI GIOIA TAURO

MCT Medcenter Container Terminal

MEDCENTER CONTAINER TERMINAL

AMMODERNAMENTO FUNZIONALE DEL TERMINAL CONTENITORI DI GIOIA TAURO
PROGETTO DI FATTIBILITA'TECNICA ECONOMICA

Titolo elaborato :

Layout terminal - Foglio 1 di 2

Scala: varie

2 4 4 B P F T 0 0 3 0

Committente:
MEDCENTER CONTAINER TERMINAL S.p.A.

Progettista:
MODIMAR PROJECT srl
Dott. Ing. Marco Tartaglini
AGIS INGEGNERIA srl
Dott. Ing. Giuseppe Iorio
REACT STUDIO srl
Dott. Ing. Davide Presta

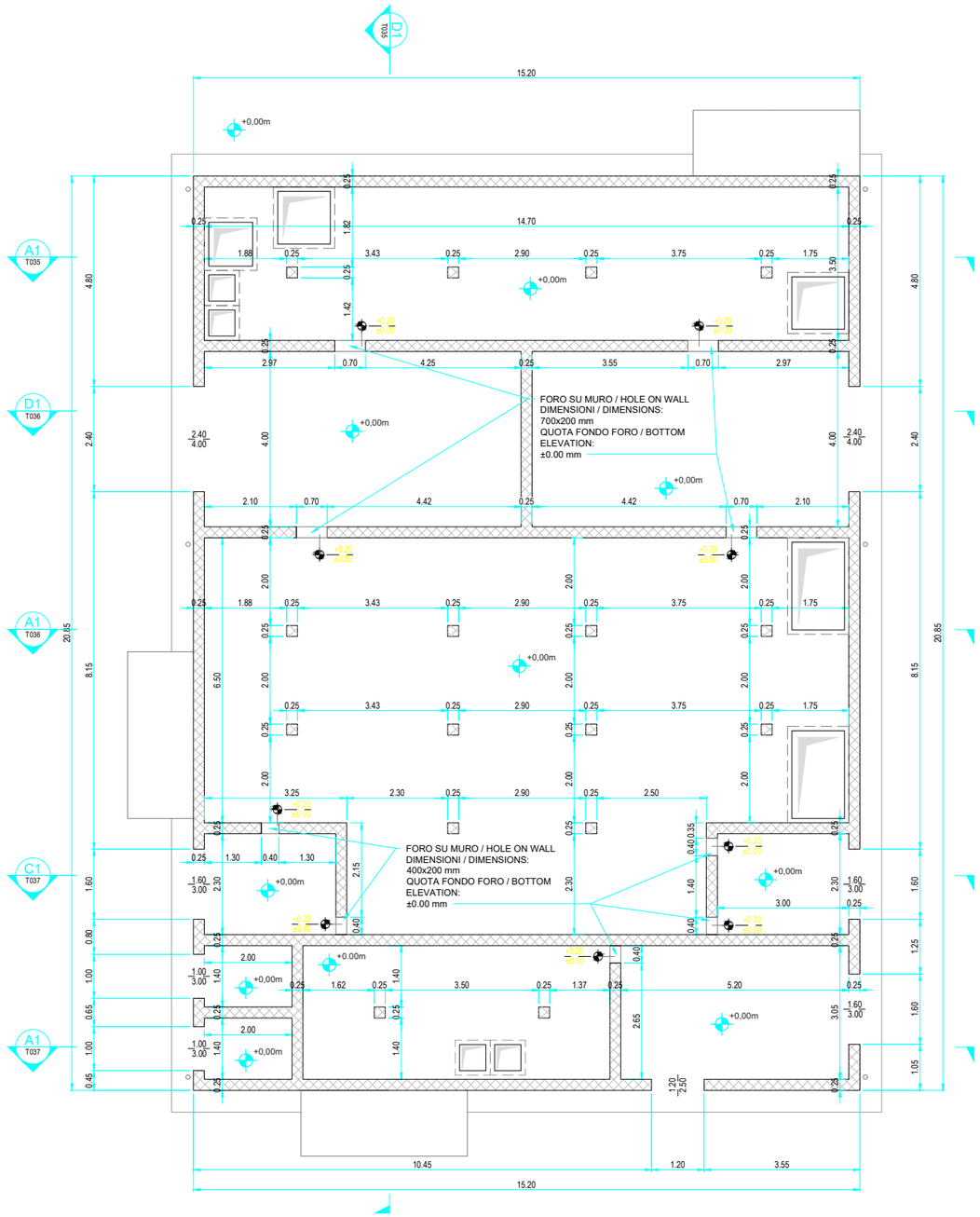
Rif. Dis.	Data	Rev.	DESCRIZIONE	Disegnato:	Controllato:	Validato:
	23/12/24	0	Emissione	Toci	Capozzi	Tartaglini

Dimensioni foglio: A1

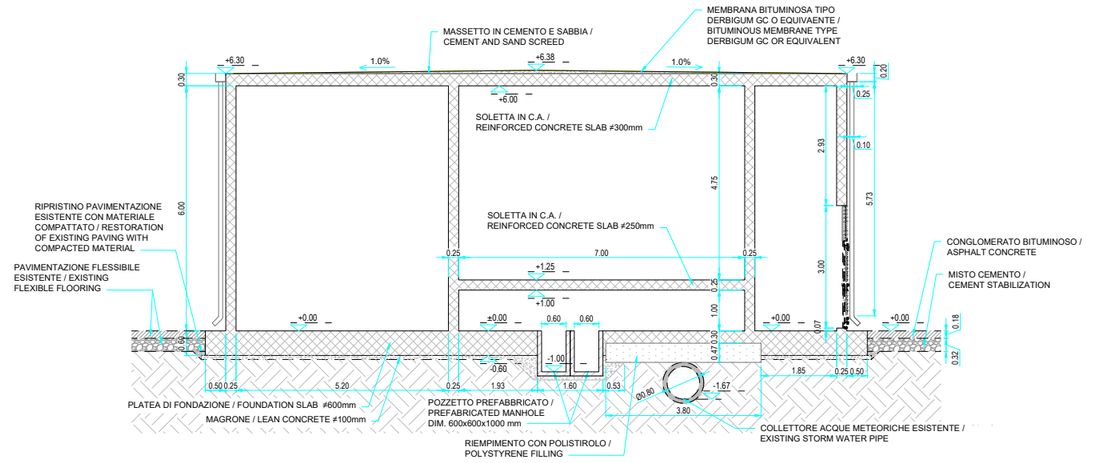
Visto del Committente:

Electrical Cabin Design

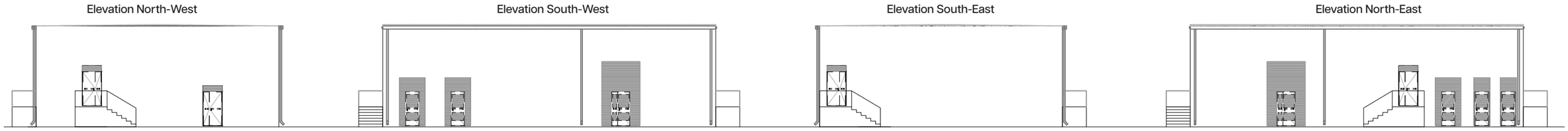
Planimetry



The modernisation project includes the implementation of a state-of-the-art electrical system to support the enhanced operational needs of the Gioia Tauro Container Terminal. A new primary electrical substation will be constructed, alongside four secondary substations (ST1 to ST4), which will power the automated rail-mounted cranes (ASC) and other essential systems. These substations will be equipped with medium-voltage panels, transformers, and backup generators to ensure reliable power distribution. Additionally, an energy-efficient lighting system will illuminate the storage areas and operational zones, enhancing safety and functionality while maintaining sustainability.



Prototype Section



Visual:
Crafted through a process of layered rendering.

Software used:
SketchUp Mid-Journey Photoshop