

# Echoes of the Sea

The Calling from the Sea is Invisible yet Happening

by Gianna Tang

## What's Happening in Our Oceans?



Ocean Is Sinking, Collage

***"Now we are facing the consequences: the seas are warming, rising, and becoming more acidic. It's a sobering thought, that coral reefs may be lost within the next century" - David Attenborough***

Our ocean is under-stress, water temperature is rising and resources are depleting. What are the consequences that come with this catastrophe? Coral is bleached, drained out of its vivid colour when water temperature elevates and exposure to UV radiation increases. As an agent of change, what can we do to combat this ongoing climate emergency?

*Echoes of the Sea* aims to raise awareness of the ocean crisis. It is a place to experience

the catastrophe from the perspective of marine species. It is also a place to develop ocean regeneration by kelp farming and the principle of circular economy. Through *Echoes of the Sea*, individuals undergo a transformative journey, gaining a deeper understanding of the climate emergency affecting our oceans.

## Brief

Step into an immersive marine exhibition that foster an appreciation in preserving the imperiled ocean and a historical church. The exhibition unfolds a narrative about the current state and future prospects of our marine environments. Over the years, the ocean has been subjected to various pollutants, resulting in a transformative shift in its colour. This exhibition replicates the scenario, providing visitors with an opportunity to engage with the ongoing crisis in our oceans within the historical church.

The design spans across two floors, with spaces such as laboratory for kelp research, a lecture theatre, a coral-themed cafe and a souvenir shop. At its core, the project draws upon the ethos of ocean conservation, embraces regenerative design principles and the concept of adaptive reuse in the heritage church. *Echoes of the Sea* aspire to be the place that raise awareness for ocean conservation and inspire individuals to take action to protect marine life.



Conceptual Model

## Exhibition Brief

The exhibition aims to present a narrative and raise awareness for ocean conservation and inspire people to take proactive measures to protect marine life. It is catergared in five themes:



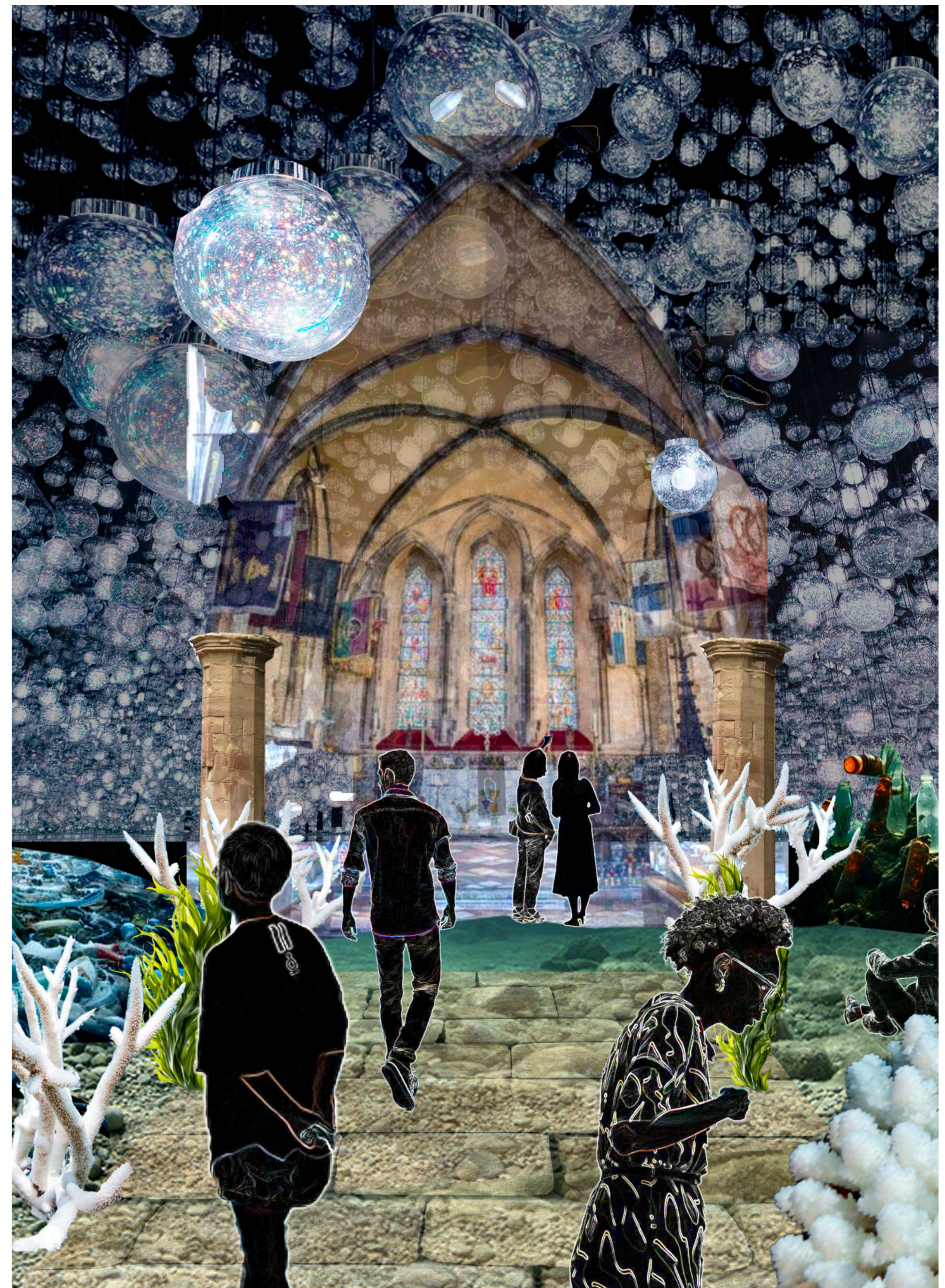
Future  
Ocean

Pollutions

Impacts

Regeneration

Alive



Project Brief Collage

# The Narrative

## Begin with a Story...

In the year **2100**, the ocean was transformed into a tableau of black and white. The once vibrant marine life had withered away, leaving behind a desolate, bleached expanse. The sea, now devoid of its myriad colors, had risen to engulf lands that were once bustling with life. Humanity, in its desperation, had fled, seeking refuge on a distant planet. Yet, in our collective memory, we clung to the image of the ocean's former glory—alive with color and teeming with life.

But in our absence, something remarkable was happening beneath the waves. Unseen and unheard, a silent transformation began, as the ocean started to reclaim its lost vibrancy.

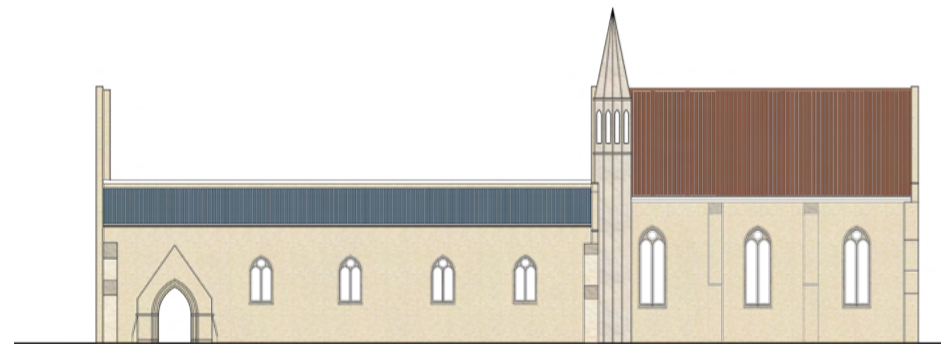
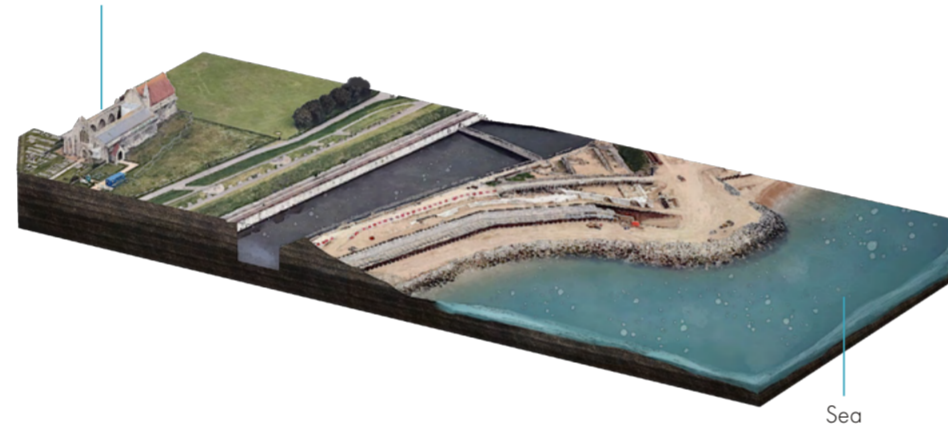


Monochrome Ocean, Collage

## Located in a Historical Church

Located on the coast of Portsmouth, the Royal Garrison Church was constructed in the early 1200s. Initially serving as a hospital, it later evolved into an armoury storehouse and the Governor's House. Despite the destruction of the nave's roof in 1941, the original structure was carefully preserved. The church has a close geographical relationship to the sea. Projections indicate that, with rising sea levels, the Royal Garrison Church could be submerged by 2100.

Royal Garrison Church



Interior of Royal Garrison Church

## Marine Matters

The extensive use of plastic poses a significant threat to marine, freshwater, and land ecosystems. Nearly **80%** of such waste is either directed to landfills or disseminated into the environment, particularly the oceans.

A mass coral bleaching event occurred in **2022**, impacting numerous reefs across various regions.



Plastic Waste, Collage



Ocean Threats, Collage



Project Narrative Collage

# The Journey of Marine Immersive

*Echoes of the Sea*, an immersive exhibition designed to offer an experiential journey into the underwater world. Visitors will embark on a narrative that explores the phenomenon of ocean bleaching and its potential recovery. This journey is characterised by a dynamic interplay of colors, textures, and emotional engagement, guiding visitors through an evocative experience.

## A. Fading Away

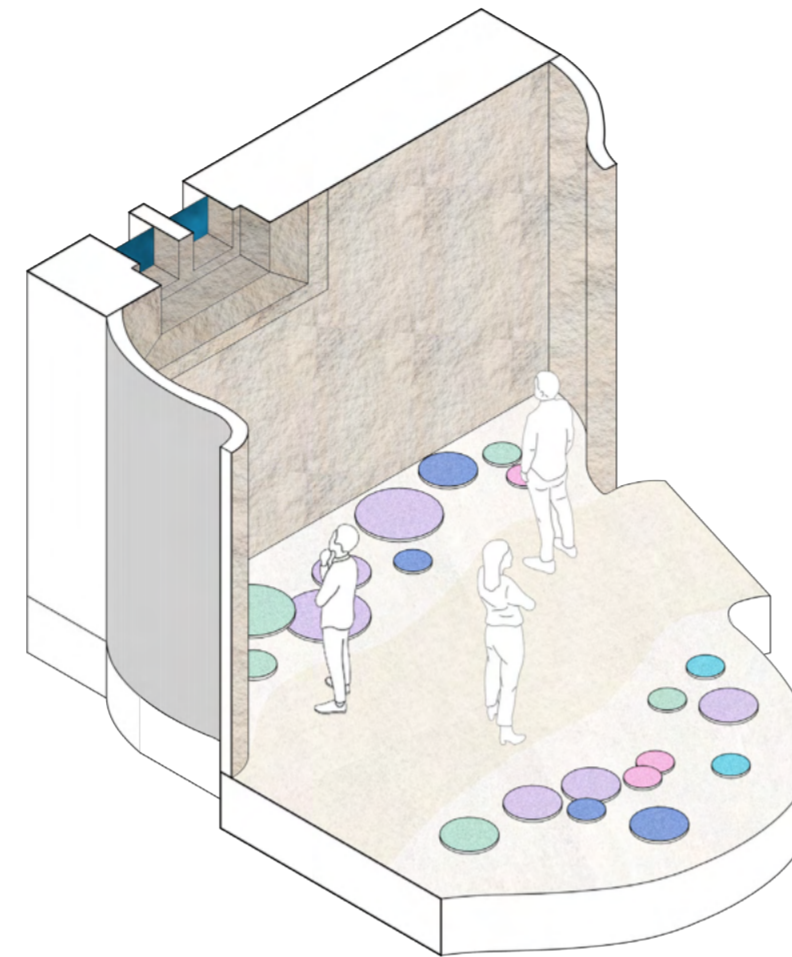
It is the first installation of the exhibition, commencing with a narrative set in the year 2100. The ocean, deeply affected by human activities, has succumbed to heavy pollution. Once vibrant marine ecosystems have faded away, leaving behind a bleached expanse. In this depiction, the ocean has lost its vibrant colours. The colourful mirrors positioned on the ground symbolise the disappearing hues of the ocean, while reflections of these fading colors emerge on the ceiling.

## B. Touching the Sand

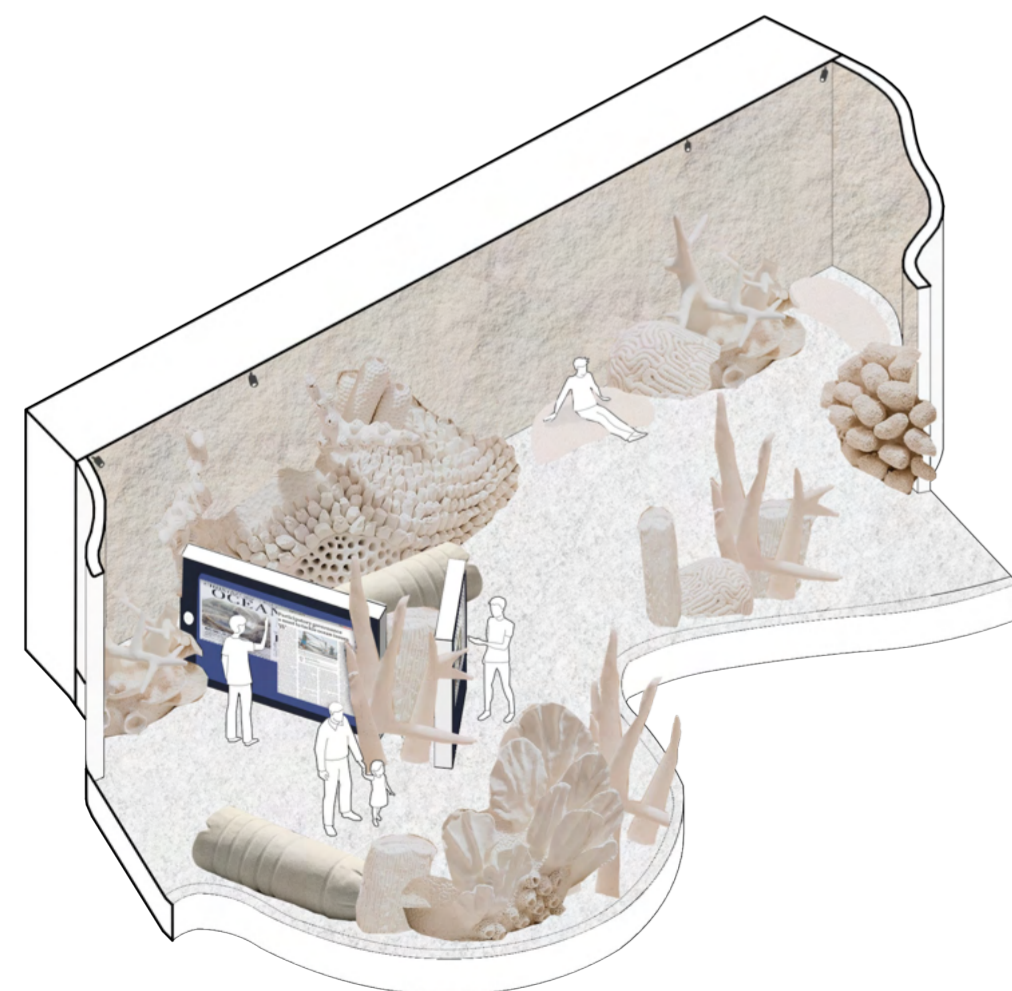
A large-scale coral installation has been positioned within the Room of Touching the Sand. This design was influenced by the work of Carcass and was intended to amplify awareness of coral bleaching. Additionally, digital screens have been incorporated to provide supplementary informative content and news related to coral bleaching.

## C. Floating Bubbles

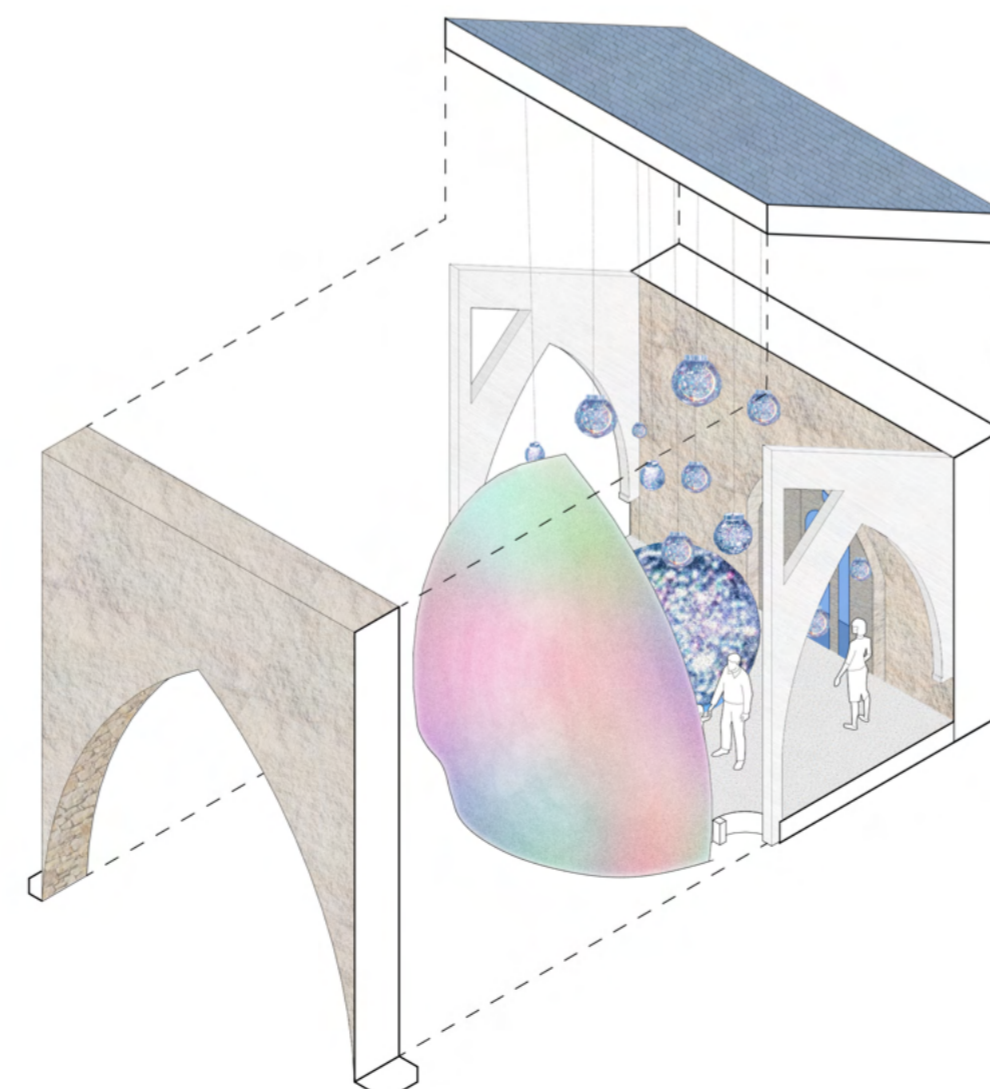
It is a space that reveals the issue of marine plastic pollution. Each bubble is crafted from recycled plastic and contains waste plastic within, symbolizing the vast quantities of plastic accumulating in the ocean and its detrimental effects on marine animals. The aim is to immerse guests in a sea of plastic, fostering understanding of the ongoing crisis.



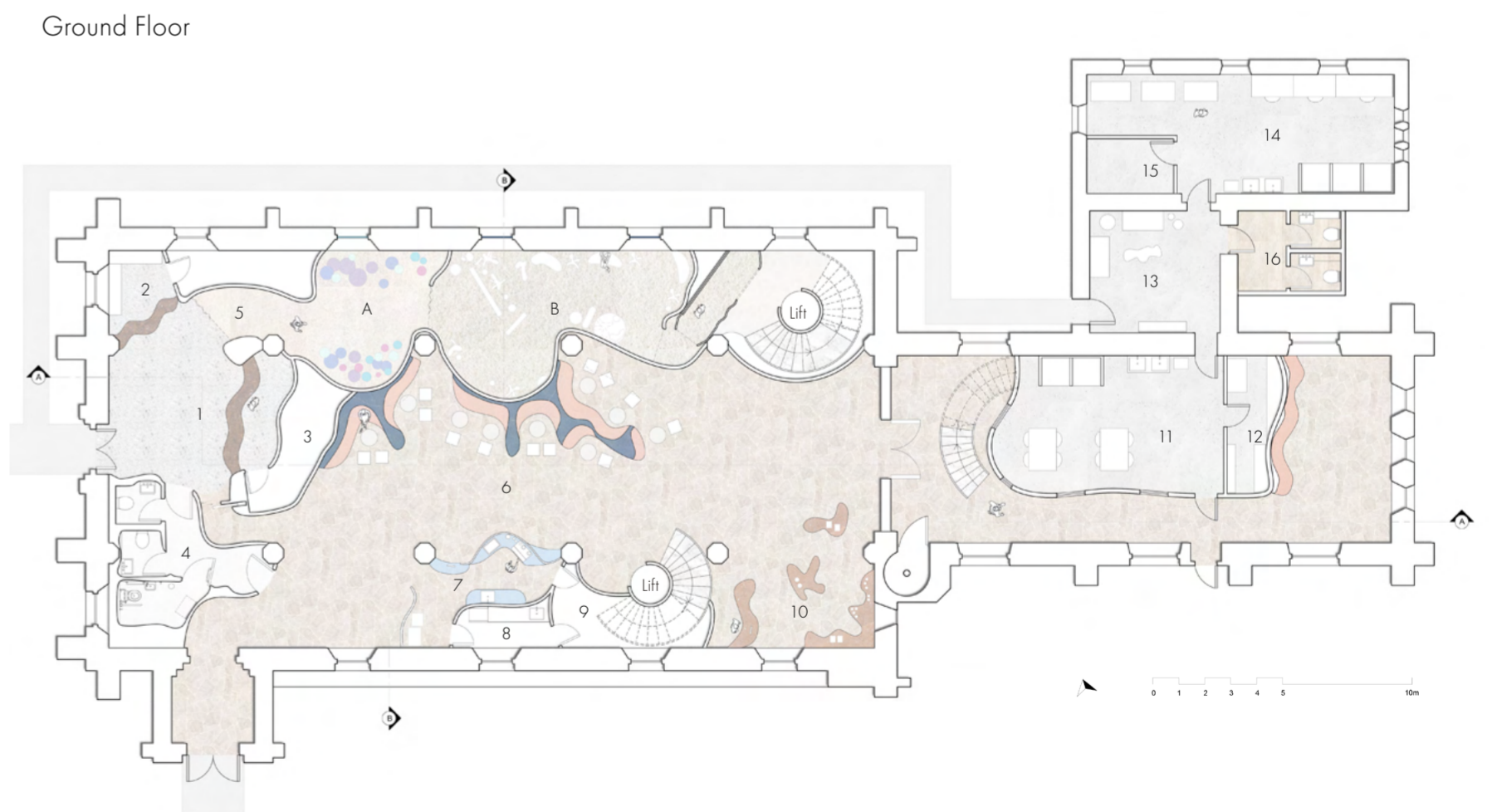
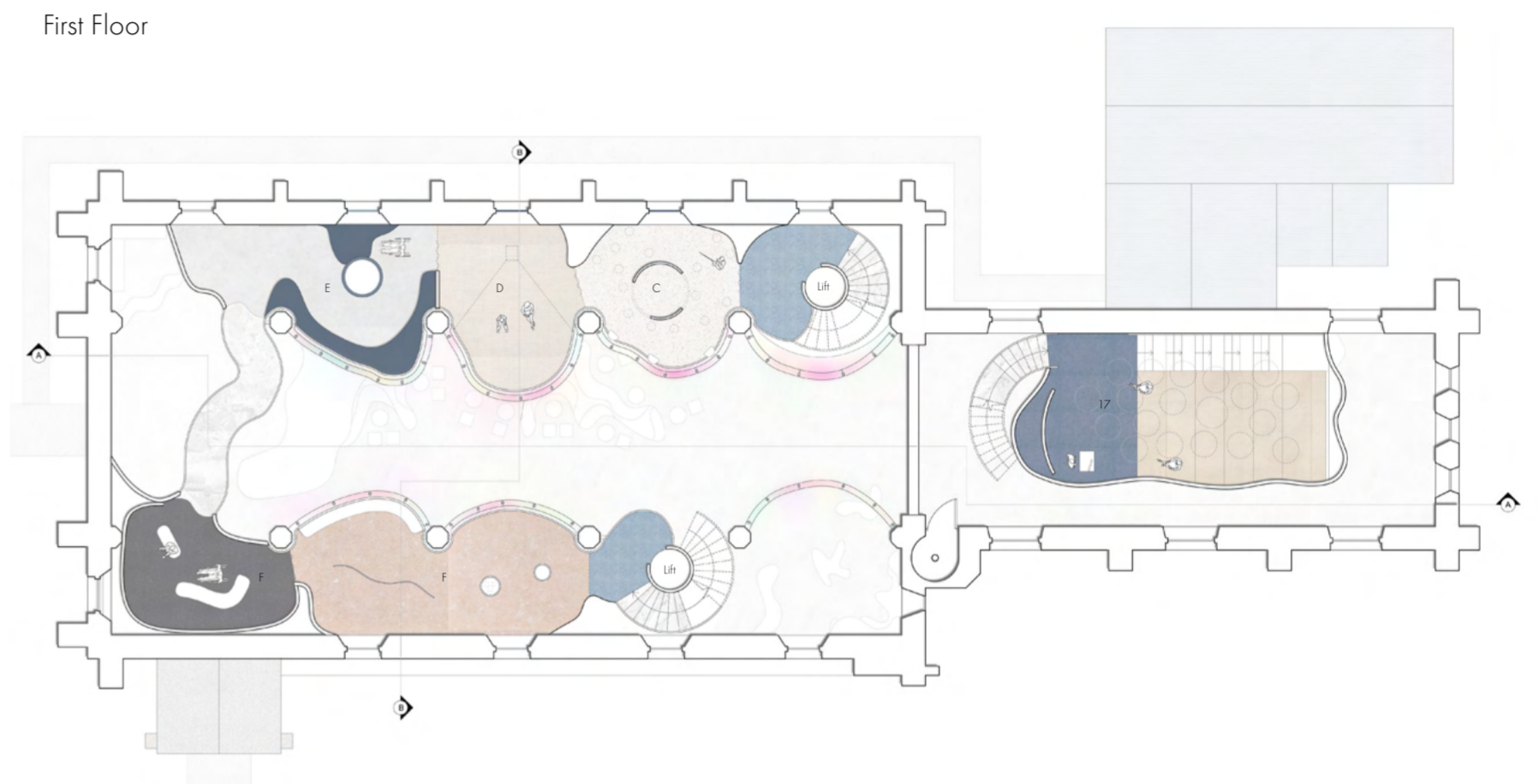
Fading Away



Touching the Sand



Floating Bubbles



- |                      |                       |                        |                    |
|----------------------|-----------------------|------------------------|--------------------|
| 1. Reception         | 6. Cafe               | 13. Lounge             | F. Regen & Restore |
| 2. Cloakroom         | 7. Cafe Counter       | 14. Kelp Laboratory II | 17. Lecture Room   |
| 3. Staff Room        | 8. Kitchen            | 15. Storage            |                    |
| 4. W.C.              | 9. Storage            | 16. W.C.               |                    |
| 5. Exhibition        | 10. Souvenir Shop     | C. Floating Bubbles    |                    |
| A. Fading Away       | 11. Kelp Laboratory I | D. Dive into Peace     |                    |
| B. Touching the Sand | 12. Storage           | E. Step into the Water |                    |

**D. Dive into Peace**

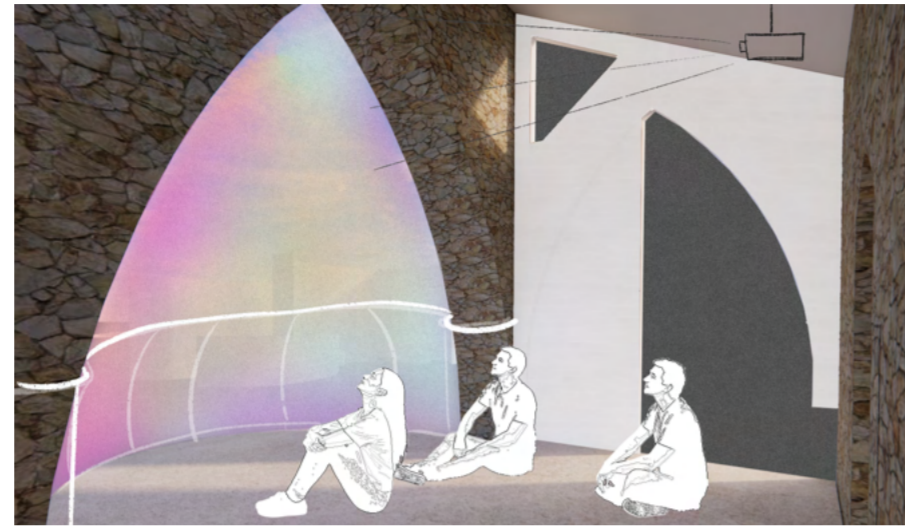
It offers individuals an opportunity to immerse themselves under the peaceful sea, experiencing life from within a jellyfish. This unique perspective allows visitors to gain an understanding of the oceanic world through the lens of a jellyfish.

**E. Step into the Water**

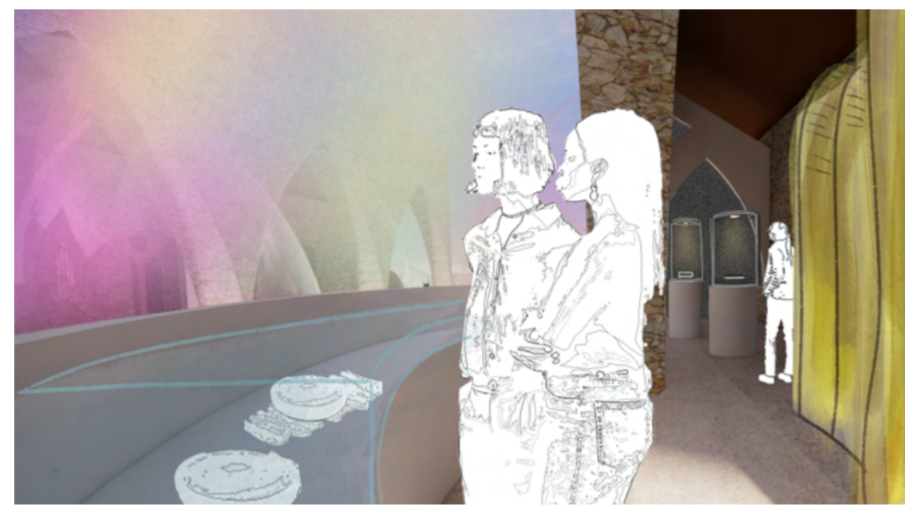
The wall, designed to mimic the surface of water, has been elevated to waist height, allowing individuals to engage with the phenomenon of rising sea levels. This exhibit specifically focuses on Portsmouth, featuring a central scale model that illustrates the localised impacts of sea level rise.

**F. Regen & Restore**

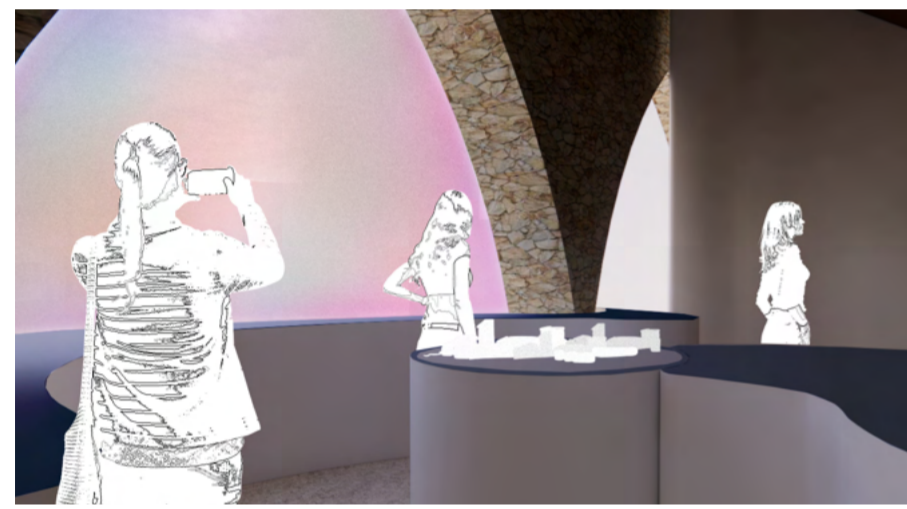
This room showcases the potential of regenerative materials, including kelp, recycled shells, and other recycled materials. It aims to broaden perspectives on material usage, encouraging individuals to use materials wisely and think innovatively.



Dive into Peace



Regen & Restore



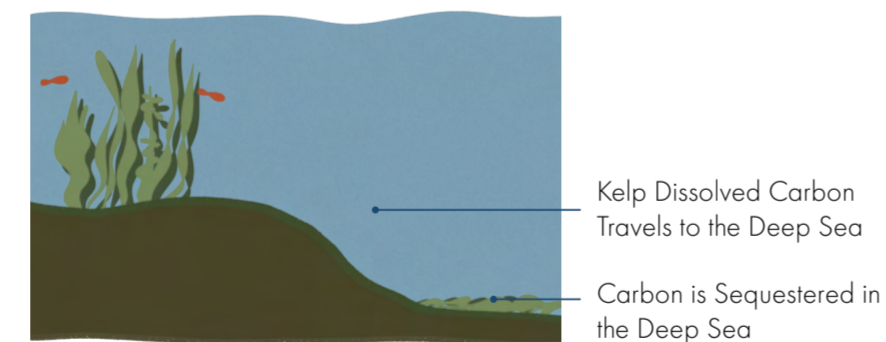
Step into the Water

# Coral Garden

Coral Garden, a cafe, marks the final destination of the marine immersive journey, symbolizing the ocean's revival through regeneration. It is where visitors immerse in the vibrant underwater world, experiencing its dynamic energy. It aims to present the ocean beauty and raise awareness of its protection.

The cafe serves food sourced from regenerative ocean farming, such as shellfish aquaculture and kelp farming. The main source is the kelp farm associated with Echoes of the Sea, located in Langstone Harbour. Kelp is a carbon sequester that reduces greenhouse gas emissions and combats climate change. It could make people aware the advantages of ocean farming as it could be a solution to the climate emergency.

Kelp Sequestration



**Circular Economy**

A system where materials never become waste and nature is regenerated. Within this framework, the kelp farm of Echoes of the Sea can provide various kelp-derived products, such as food and skincare items, which are subsequently available for purchase at the shop and used as key ingredients in the cafe. Following their use, these products can be returned to the environment, decomposes soil and water resources, thus perpetuating the cycle. In this circulation, it maximises the continuity of kelp products while supporting both human and environmental health by seaweed farming.



Circular Diagram

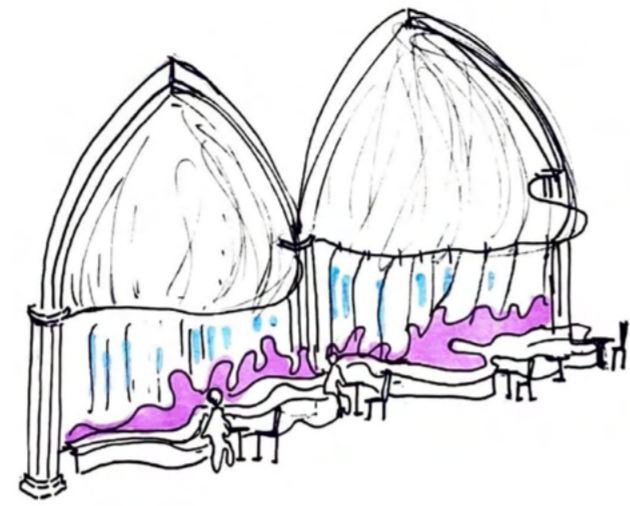


Coral Garden Perspective

# The Underwater Garden

Coral Garden is a cafe inspired by the ocean's biodiversity. Drawing from the aesthetic of coral reefs, jellyfish, and water, it immerses visitors in an underwater atmosphere. The organic seating design provides privacy and creates an intimate environment surrounded by coral-inspired furniture. Jellyfish motifs emerge from the archways, representing their dynamic movement while respecting the historical integrity of the site's structure. A new glass roof with a clear blue hue has been added to the church, with hanging structures casting shadows reminiscent of ocean surface water patterns within the Coral Garden.

The material selection for Coral Garden is centered around sustainability and regeneration. ETFE, a fluoropolymer comprising carbon, hydrogen, and fluorine atoms, is chosen for its exceptional stability and serves as the primary material for the Bubble Jellyfish structure. Its lightweight nature requires minimal structural support. In addition, some of the furniture is crafted from recycled plastic by Smile Plastics, transforming waste plastic into unique, patterned pieces.

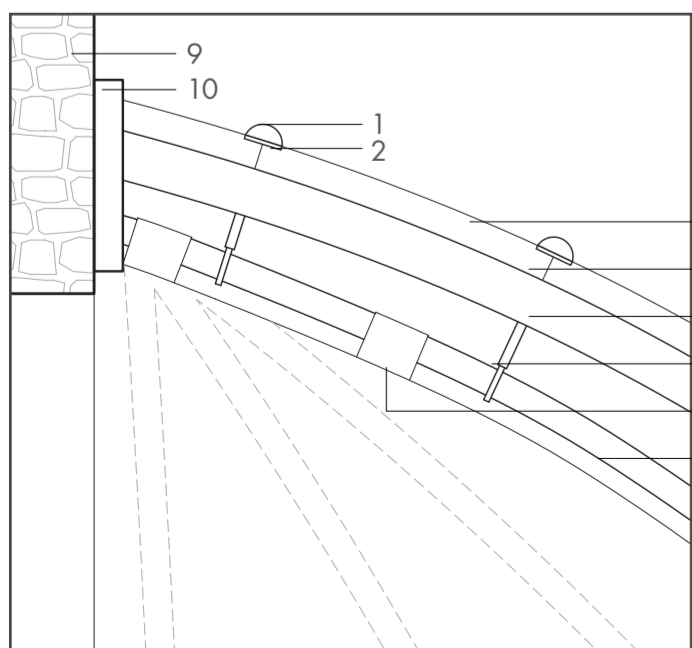


Conceptual Sketch of Coral Garden

## Finely Crafted Model 1:50



## Detail



- 1 - Copper Cap
- 2 - Metal Plate Fixing 4mm
- 3 - ETFE
- 4 - Metal Rod 3.5mm
- 5 - Steel Tube 50mm x 4mm
- 6 - Steel Hook
- 7 - ETFE
- 8 - Steel Tube 30mm x 4mm
- 9 - Original Stone Wall
- 10 - Metal Plate

## Material Board

