



GROWING

OUR

FUTURE

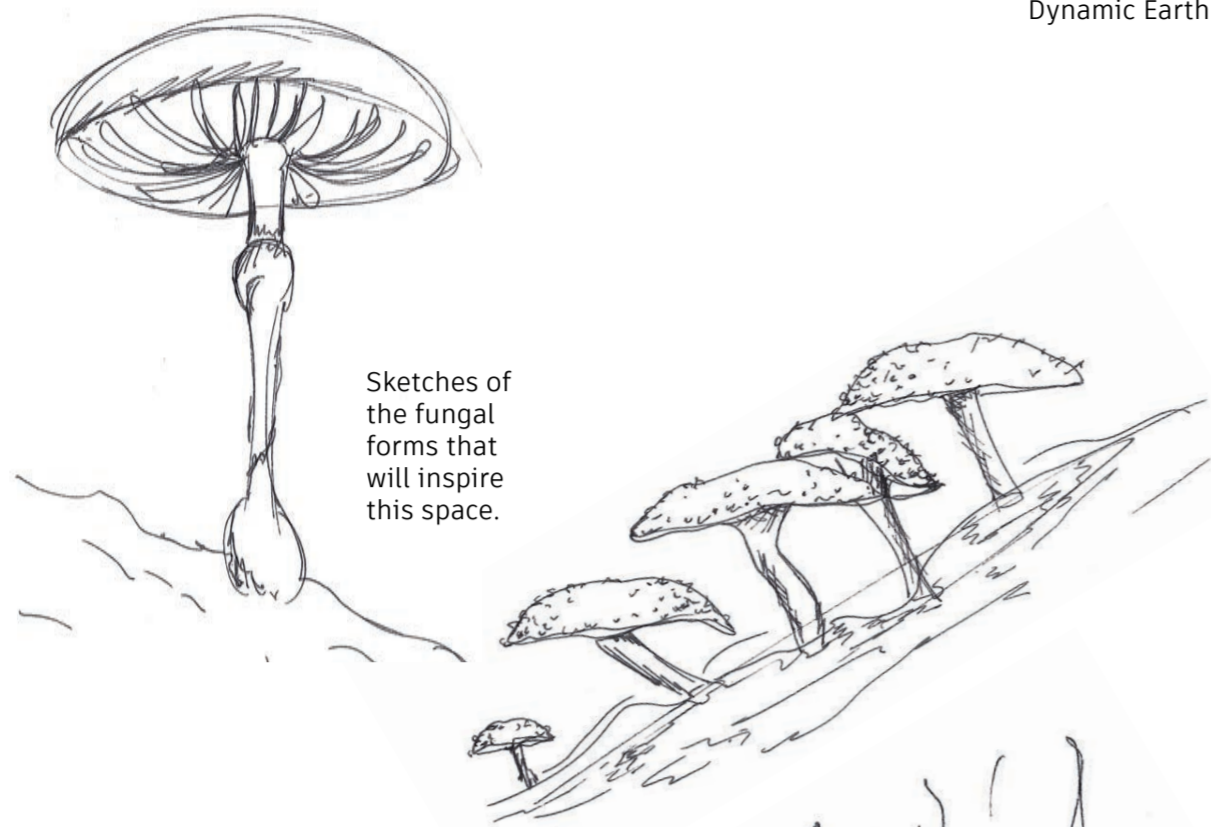
AN EXHIBITION OF A SUSTAINABLE FUTURE  
BY CATRIONA FRASER

**LOCATION:** Dynamic Earth, Edinburgh

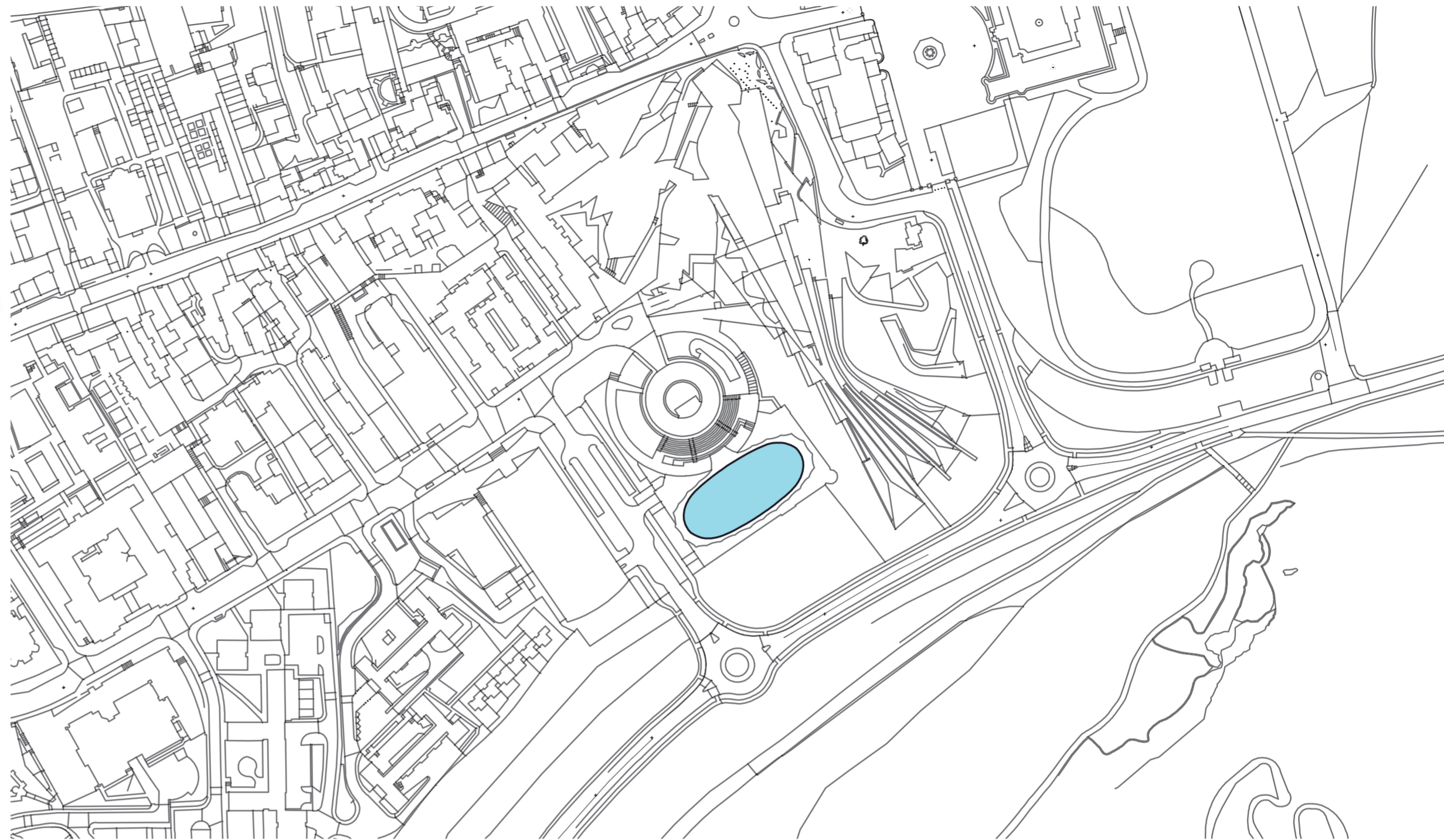
**BRIEF:** To design a temporary exhibition which will draw attention to the issue of global plastic waste, incorporating interactive elements to create an impressive environment which will help highlight the severity of this issue.

**FOCUS:** To raise awareness of the use of fungi in the fight against plastic waste. This exhibition embraces scientific advancement and uses it as a tool to reassess how we design spaces to reflect a sustainable future, with the aim of creating a more positive outlook on the topic of sustainability within society. This exhibition will present the findings of this new tool in the fight against the climate crisis in a way that feels less daunting and more exciting, hopeful for a brighter future.

Location plan of Dynamic Earth.



Sketches of the fungal forms that will inspire this space.



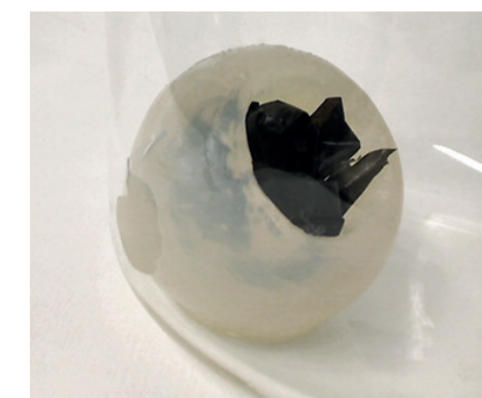
Sketches of the interior space.



Sketch of initial concept design.



Sketch of developing spatial concept.

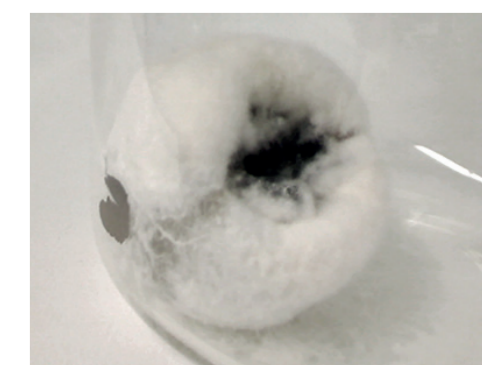
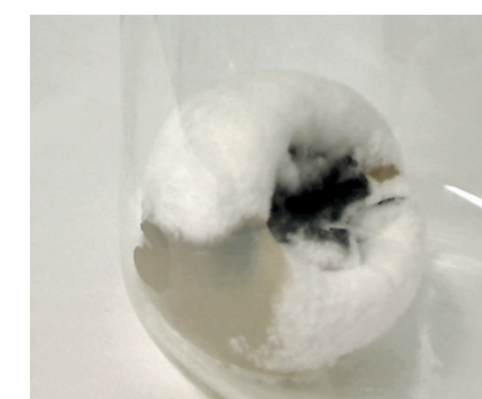
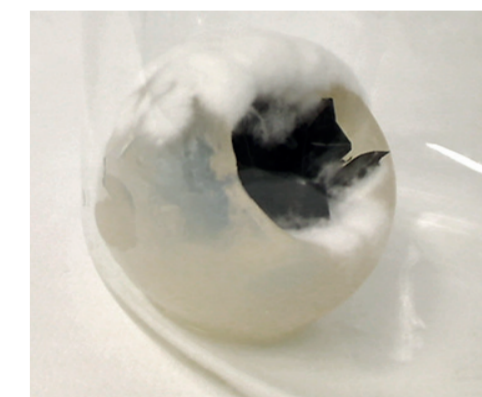


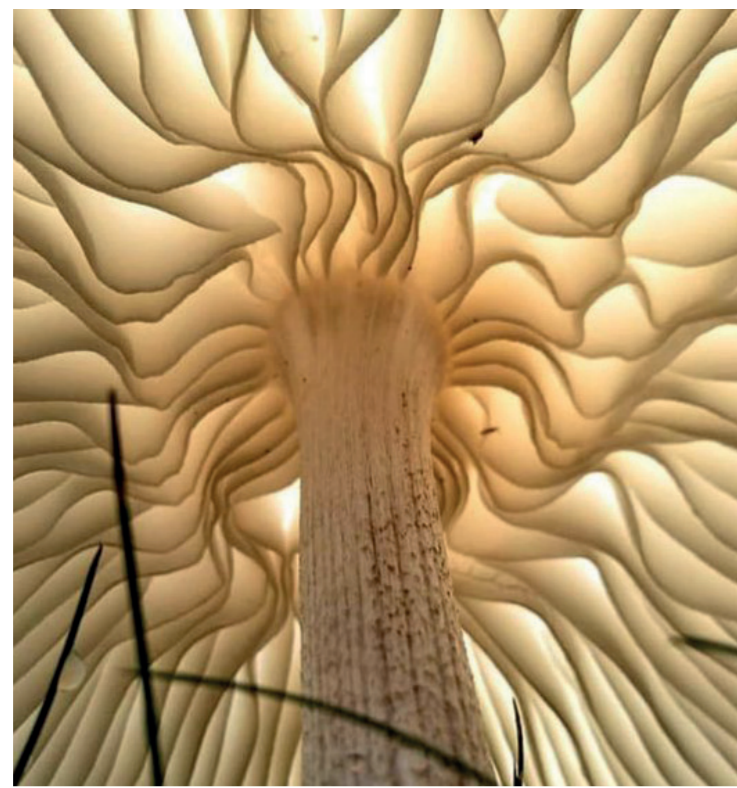
**TOPIC:** This exhibition will focus on a new innovation which harnesses certain enzymes in types of fungi which can break down plastic into organic compounds. This tackles the reduction of existing plastic waste while also providing a new food source for a growing population.

**RESEARCH:** In my research I looked closely at the work of designers and researchers from Livin Studio and Utrecht University who have developed a 'Fungi Mutarium' which allows for the process of breaking down plastics in one facility. There are currently four known strains of fungal enzyme that are capable of degrading plastic compounds, with research ongoing into more, so we can now consider a very real future wherein this technology could be as common as a microwave in any kitchen. This exciting new innovation raises the possibility of being able to turn our plastic waste into food in a domestic setting. This system is, as yet, however, not in use in the public domain, however, bears exciting possibilities as to the application of this type of technology in both large and small scale settings.

**SOLUTION:** Through my exhibition, I hope to prove the validity of this process, and create a sense of trust in it, as a way to manage plastic waste whilst feeding a global population of 8 billion.

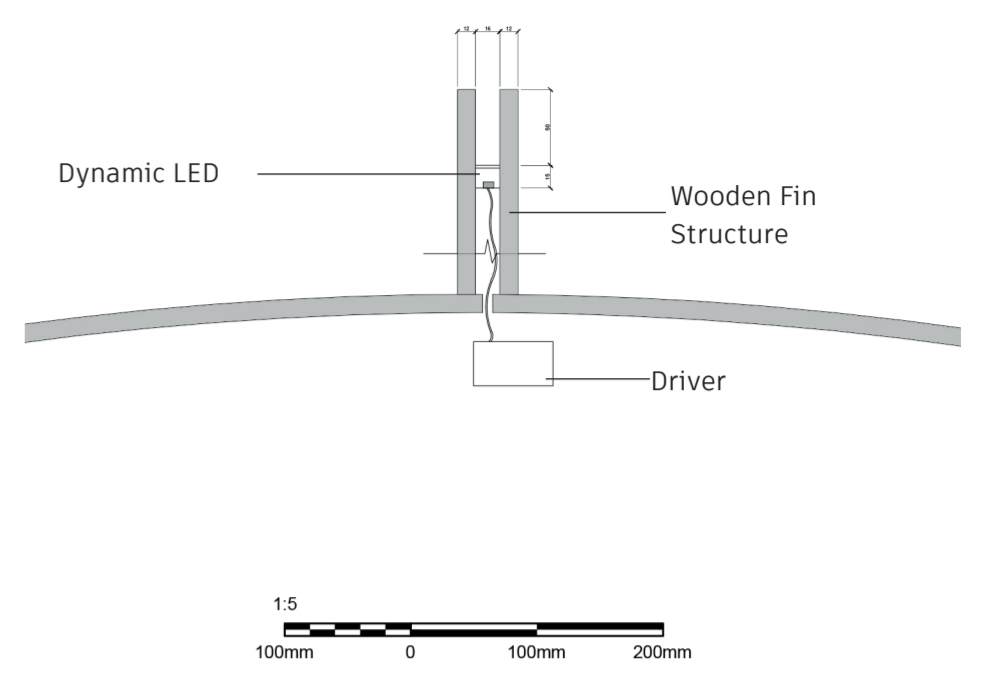
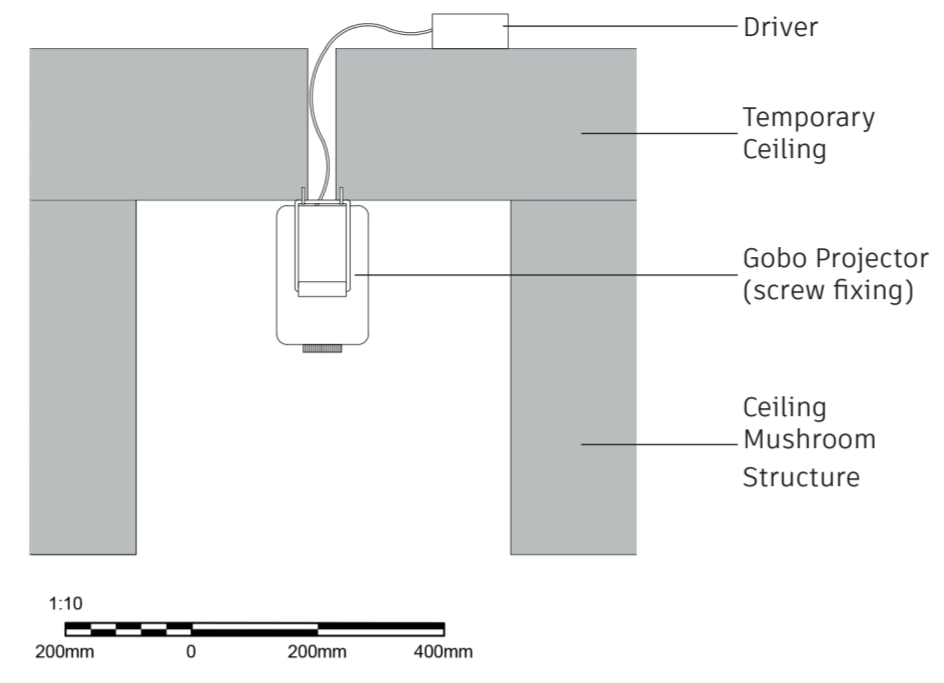
Images (left) courtesy of Livin Studio.





**GOBO PROJECTOR DETAIL:** I have included a construction detail of how the gobo projectors will be concealed within the centre of the ceiling mushroom pieces. The Gobo will be fitted with a leaf-like lens to further highlight the feeling of walking through an other-worldly forest.

**MUSHROOM DISPLAY TREE LED FINS DETAIL:** The second detail shows how the dynamic LED strips will be recessed into the fins of the display mushrooms to create a distinct patternation on the ground.

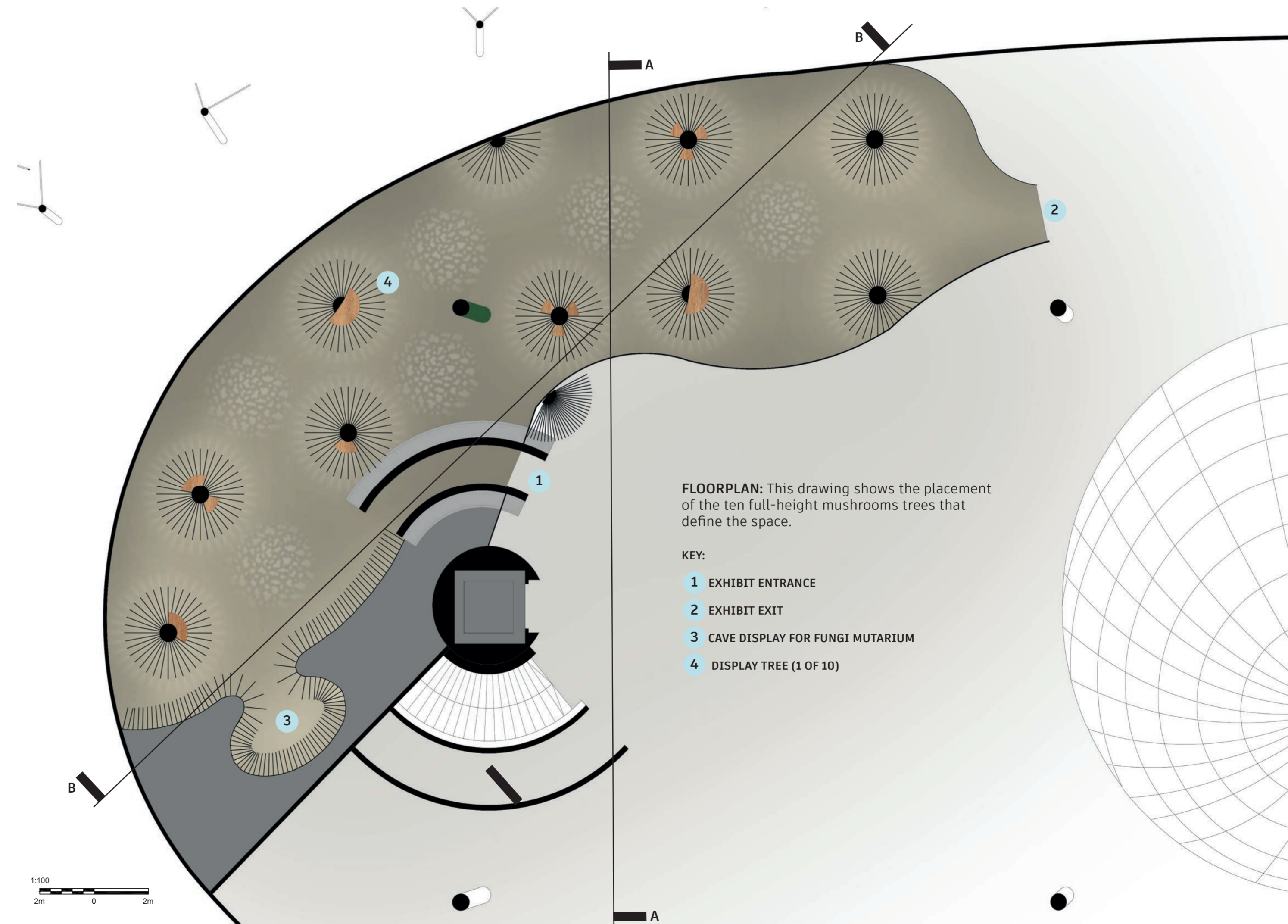


**THE STORY:** In this exhibition I wanted to create the impression of walking into another world where the future of plastic waste is a captivating, hopeful place. Visitors will have the experience of walking through their salvation, a forest of mushrooms that have the potential to eliminate plastic waste whilst creating a new food source.

**REFERENCES:** I was inspired by images that showed a significant contrast between light and dark, that gave the impression of a ray of hope in the dark. I also looked for ways to use light to create the impression of layers. I felt that this could be a perfect element of the space in which to reflect the repeating nature of the polymer strands of plastic as well as the structure of mushrooms themselves.

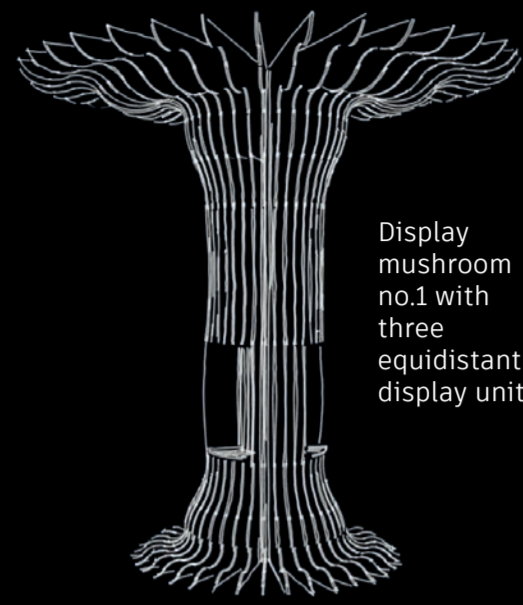


**MODEL PHOTOGRAPHY:** These images give a perspective of the exhibition space which is more grounded in reality and, alongside the floorplan and section, provide a more practical viewpoint.

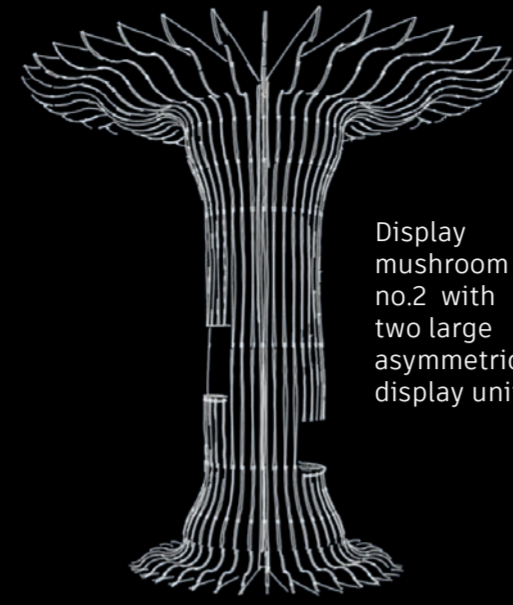


**FLOORPLAN:** This drawing shows the placement of the ten full-height mushrooms trees that define the space.

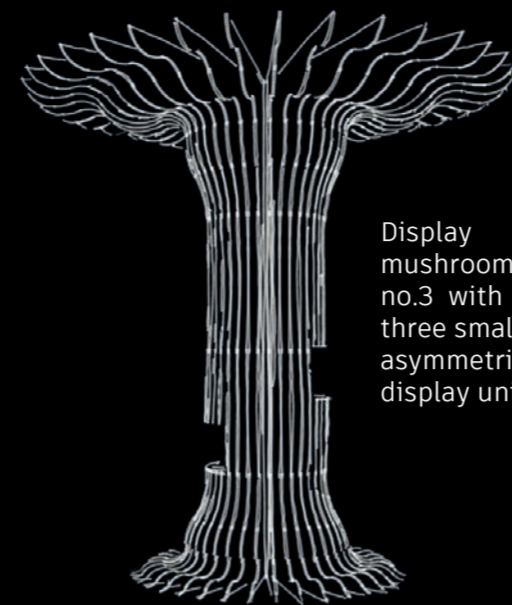
- KEY:**
- 1 EXHIBIT ENTRANCE
  - 2 EXHIBIT EXIT
  - 3 CAVE DISPLAY FOR FUNGI MUTARIUM
  - 4 DISPLAY TREE (1 OF 10)



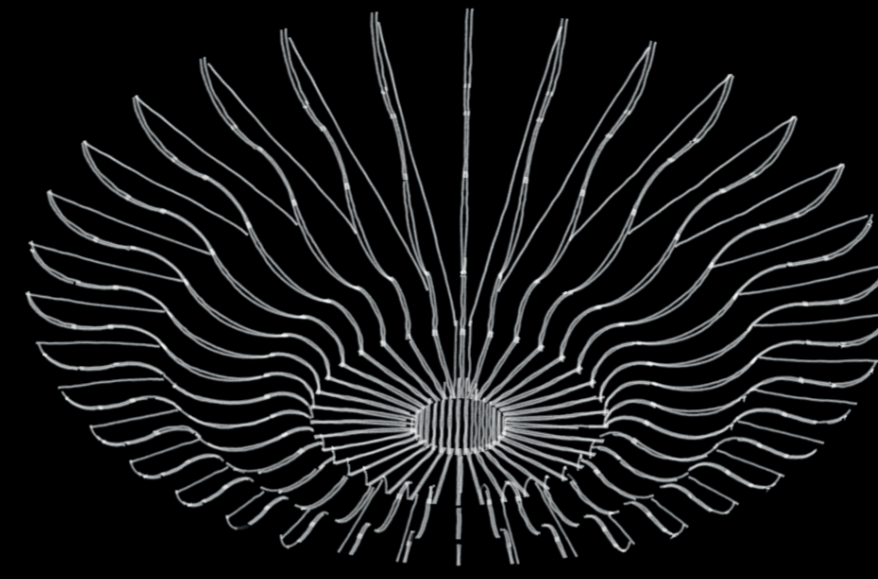
Display mushroom no.1 with three equidistant display units.



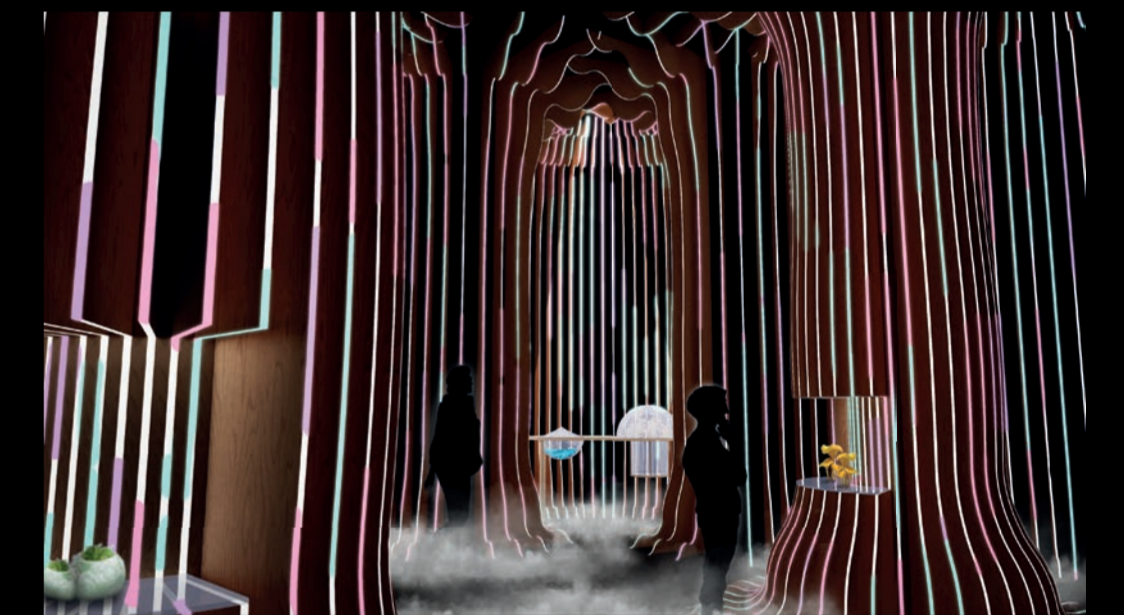
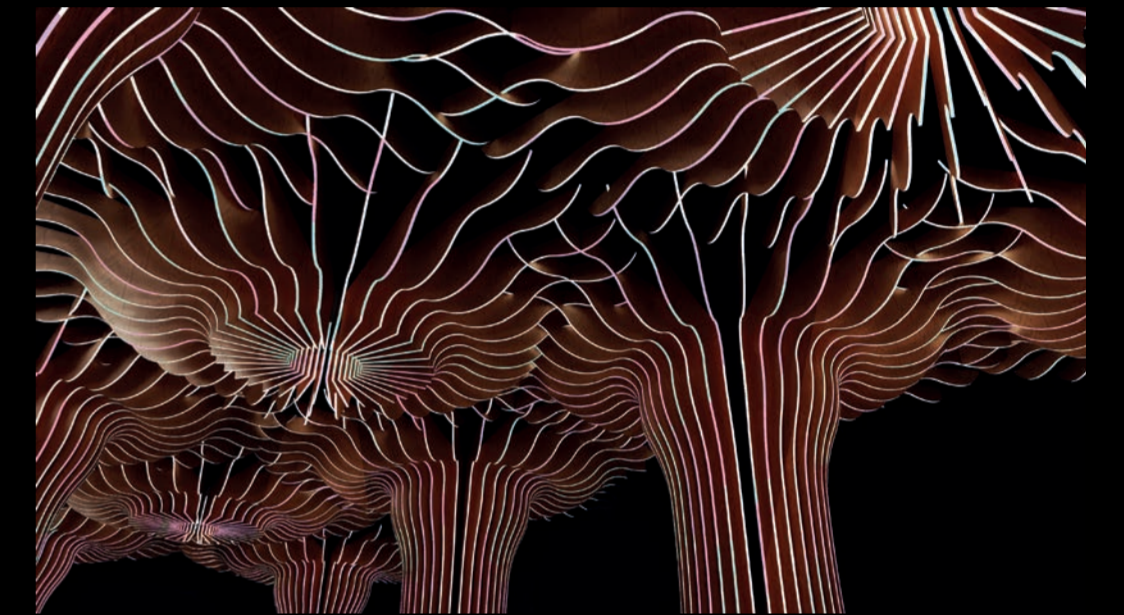
Display mushroom no.2 with two large asymmetrical display units.



Display mushroom no.3 with three small asymmetrical display units.



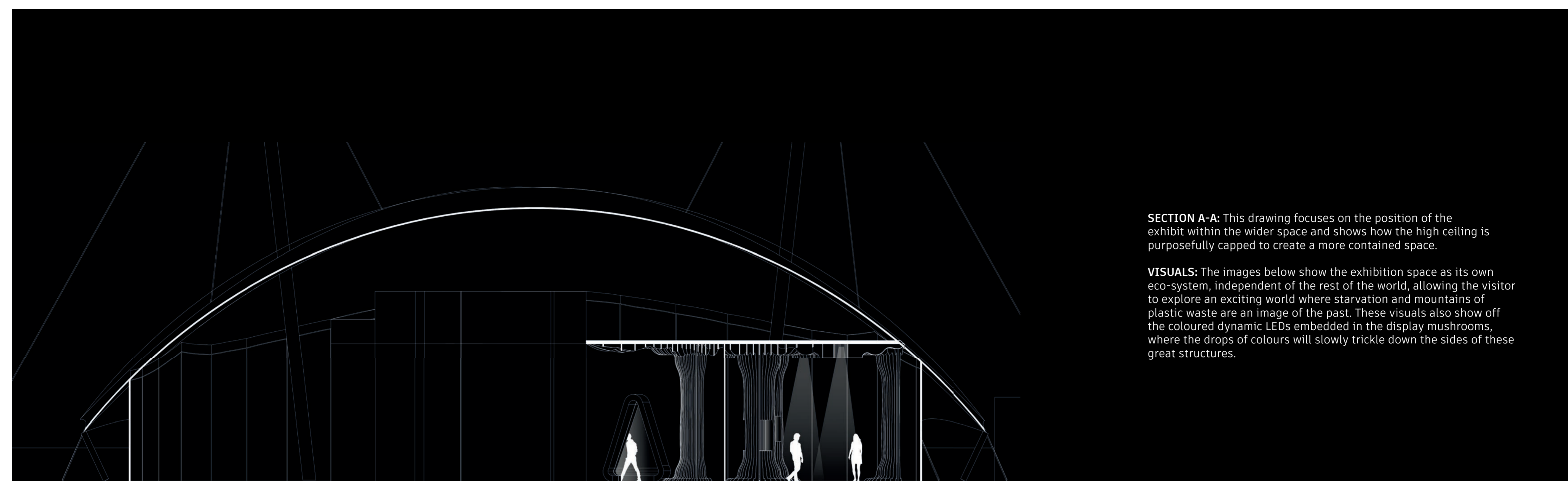
**ATMOSPHERE:** To create the feeling of walking through a fungi forest, I created three different types of trees which act as display cases throughout the space. Decorative installations that mimic the underside of a mushroom cap were added across the ceiling to create the sense of walking through an independent, all-encompassing environment.



**SPATIAL FORM:** The ceiling of this exhibit is used to define and enclose the space to allow visitors to feel a sense of inferiority towards the power of the nature around them. These ceiling sculptures also blend into the curve of the back wall panels which creates a cave-like space in which the Fungi Mutarium, and subject of this exhibit, is displayed as a focal point of the space.



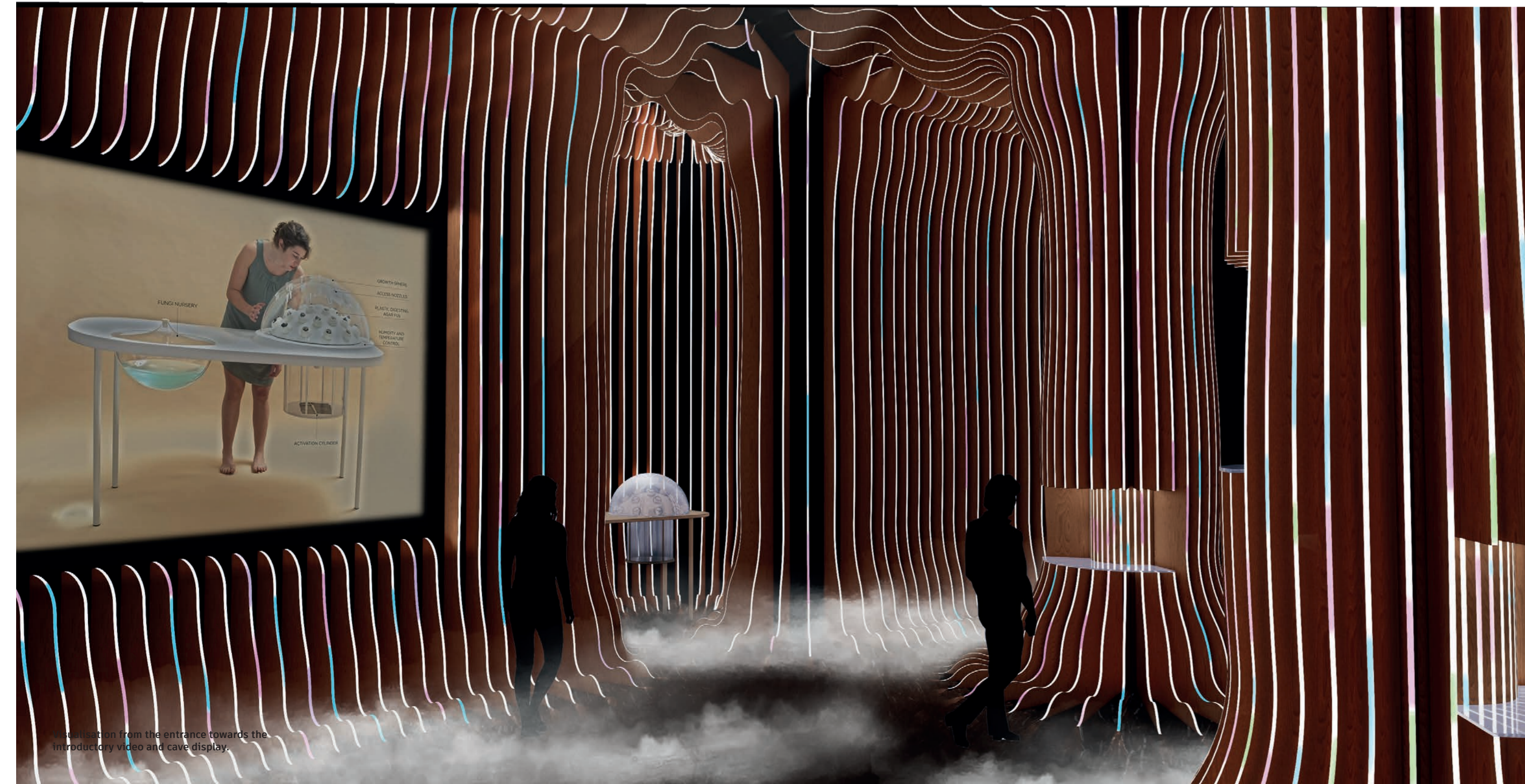
**SECTION B-B:** This drawing shows the exhibit in all its glory, drawing attention to the main forms and features of the space and giving a subtle impression to the lighting effects used. This section also further highlights the theatrical effects, such as smoke-machines concealed within the central columns of the display mushrooms, that add to the enveloping eco-system of this exhibition.



**SECTION A-A:** This drawing focuses on the position of the exhibit within the wider space and shows how the high ceiling is purposefully capped to create a more contained space.

**VISUALS:** The images below show the exhibition space as its own eco-system, independent of the rest of the world, allowing the visitor to explore an exciting world where starvation and mountains of plastic waste are an image of the past. These visuals also show off the coloured dynamic LEDs embedded in the display mushrooms, where the drops of colours will slowly trickle down the sides of these great structures.

1:100  
2m 0 2m  
Section A-A: Through Entire Building



Visualization from the entrance towards the introductory video and cave display.



Visualization showing the different types of displays within the exhibition structure.



Visualization showing the view through the exhibition space towards the end, arranged to be witnessed in a heavenly glow, a symbol of hope for the future moving forward from the earth.