Tre-Skåle Culture Centre

KernModul : N54°54'42" E9°48'39"
Semester : SoSe 2021
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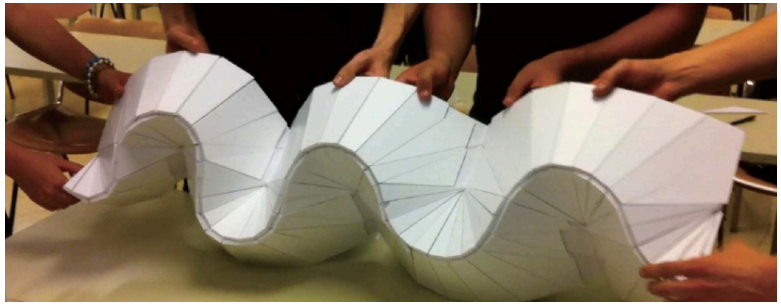
Betreuung : Prof. Kelfe Büttner, Laura Stroszeck, Daniel Guischard, Clemens Helmke

> What idea I could get from literature references

Since the main concept of structure was 'silence', I tried to find a lot of architectural structure which shows silence and tried to figure out what 'silence' actually means. I attempted to read as many literatures as I can, even I searched a lot of text on the internet. And some of them helped me to come up with idea. The most impressive literature is '*Designing One-DOF Mechanisms for Architecture by Rationalizing Curved Folding*' by Tomohiro Tachi and Gregory Epps in 2011, Japan. This literature was based on their idea, logic and experiment they did. First of all, they did a experiment with a paper. They tried a modeling method based on rationalizing curved folding in order to find the form variation of origami mechanism. They interacted with a physical paper model of curved folding and then discretized a curved folding by identifying and fixing the rulings. They also mentioned in the literature "*Kinetic design in architecture is very important for example dynamic solar shading, doors and openings, acoustic controllers, or portable furniture. Virtually any architecture has kinetic components to be functional. However, the design of such components is morphologically poorly investigated field*". It gave me strong impression because it was different with my thoughts. Many people may think architectural structures are undynamic structure. And I did as well. So, at first when I designed my own structure, I did in undynamic way. I designed a very static structure. But then, after I found this literature and some photos, I got some idea that I wanted to make something dynamic, but people can be silence and calm.

As I mentioned above, they had a experiment to fold a curve with paper. It had also motivated me because I was about to make a curved structure with poly panel. I had so many experiments with poly panel to make a curve, but every time it was failed because I was thinking in wrong way. And in the literature that I referred, there were some processes to make a curve with paper. Even though it was not same thing what I wanted, I got some idea from there, so I managed to make a proper curve structure with poly panel. But they tried experiment with paper, and my material that I used is poly panel, which is paper with styrofoam, so it was not that much curve as I wanted. So, I am finding more material to make proper curve structure which can show well what is my idea.



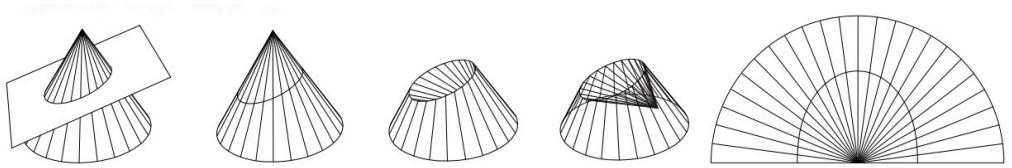


Image 1,2 : Experiment folding a cureve with paper / Source : Designing One-DOF Mechanisms for Architecture by Rationalizing Curved

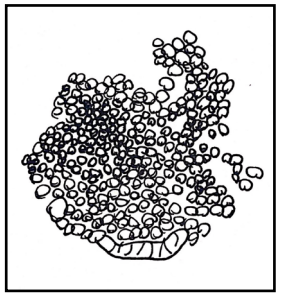
And there was one more impressive literature which I read. It is '*Curvilinearity in Architecture: Emotional Effect of Curvilinear Forms in Interior Design*' by Kayvan Madani Nejad. In the first chapter, he wrote about 'Recrilinear and Curvilinear Architectural Forms'. And there is a paragraph : *If we take a look around us, chances are we will not see a curved form in the built environment…This is experienced as much by an average person when confronted with a curved wall, as an architect when going through a set of drawings. On the other hand, if we take a walk in the natural environment, we would witness quite a different story. In that picture it would be hard to spot a rectilinear form. When in our history did we decide to eliminate curvature from the environments that we build? We look to nature as a source of our inspirations and ideas, from advances in science to inventing airplanes and finding cures to disease, but this muse seems absent in the development of architectural form.*

I agreed with his idea totally. Because I believed that curvilinear architectural form has an intrinsic quality that is very attractive to people. But many people seem like they do not feel same as the way I do. Also, I always thought every idea are came from nature by chance. But it also does not seem like that. However, I always think the structure or building should get along with surrounding environment, and that is one of the reason why I chose curve with ucture. Our site is around water, and even with our experiment of wax candle, I came up with idea that wavy(curvy) structure will get along well with our site.

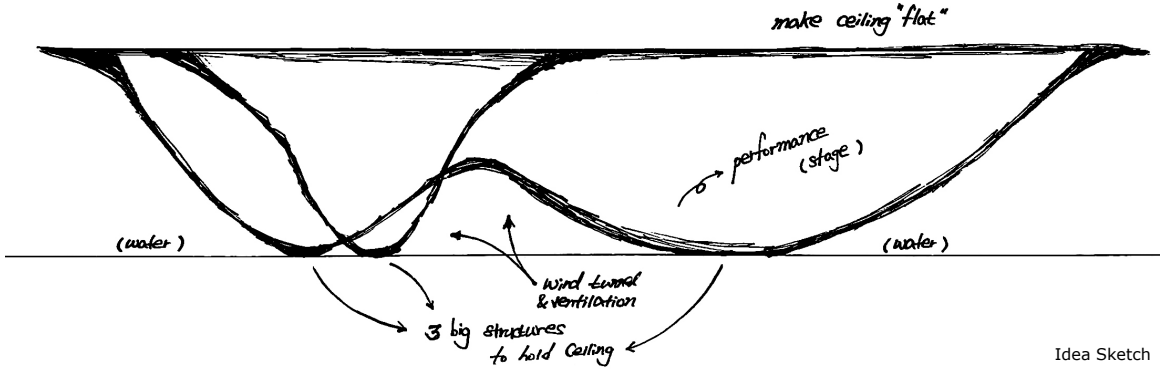
> Tre-Skåle Culture Centre

Sønderborg is a Danish town in the Region of Southern Denmark. It is the main town and adminstrative seat of Sønderborg Municipality(Kommune). The town has population of 27.702, in a municipality of 74.561. In recent times, Sønderborg (Kommune) is centre of trade, tourism, industry, and education in the region of Southern Denmark. Even though Sønderborg has many various important roles as the main town of Sønderborg Municipality(Kimmune), it is looked hard to be a cultural hub because there is only few cultural facilities -Musical institutions of Sønderjyllands Symfoniorkester and Sønderborg museum for museum about history of Southern Denmark- compared to other failities. So it was the biggest motivation of designing 'Tre-Skåle Culture Centre'. Moreover, there are a lot of tourists in the city as well, it can be able to not only enrich the city but also help attract more various tourists.

When we think of architectural structures in general, we think of a walls of various shapes on a flat floor, and various kind of ceiling on the walls. Many architectural structures have various types of walls and ceilings, but consequently they are all looked like they have similar forms. But this is a structure that is a little out of our ordinary architectural thinking. The general idea of the architectural structure we have is that the floor is flat and there are various forms of walls and ceilings on top of the flat floor. But in this project, I wanted to try something new which is changing the general architectural thinking we usually have. The resulting architectural structures are as follows ; Unlike our usual architectural thinking, this structure consists of curved floor walls and floors under 'flat ceilings' instead of flat floors and walls and ceilings surrounding the floor. Also, I got an idea from the previous experiment that our group conducted, and I tried to put idea when I looked at this structure from top. As a result of the experiment with overlapping images of various circles, I could think of a ceiling structure that connects three circles, and it is a three large cone-shaped structure under a ceiling structure which is three circles are connected.

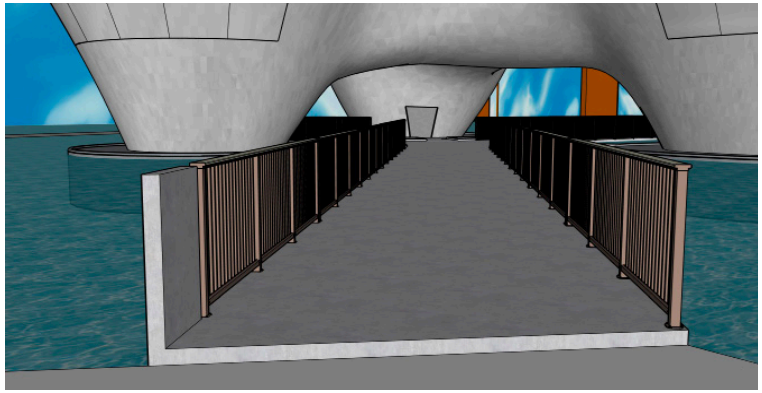


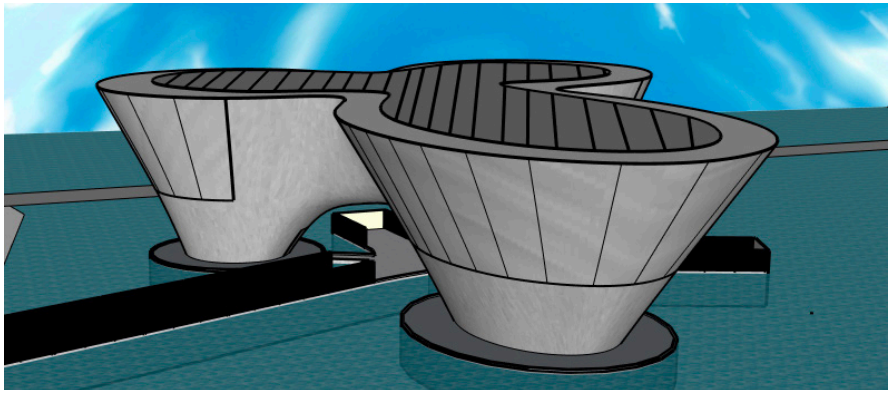
After our experiment of wax candle, I tried to draw with tracing paper. And I came up with the shape of 'Overlapping of three circles'



Idea Sketch

The structure is 24 meter high and can make people around it feel overwhelmed. But the three large structures are cone-shaped, so the walls are curved, which can create a soft, enveloping atmosphere, unlike the overwhelming feeling of the height. In addition, by creating a path underneath each structure, people can not only look under the structure but also pass directly through the area under the structure, so that people can approach the structure a little more, feel it with their bodies physically, and feel more friendly. In addition, the focus was on allowing as many people as possible to use the structure, even people who do not enter the structure can take a walk or take a rest. Because in my opinion, structure should have not only role of specific goals but also role of socialization. So it was important motivation to make structure be used by many people.

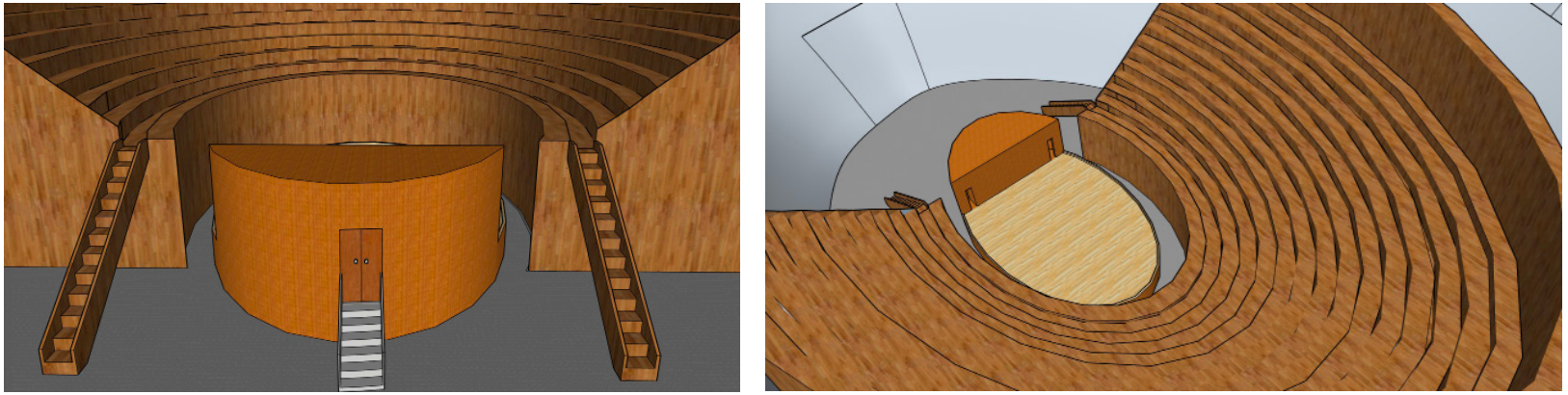




Path underneath the structure / Sketch Up Model

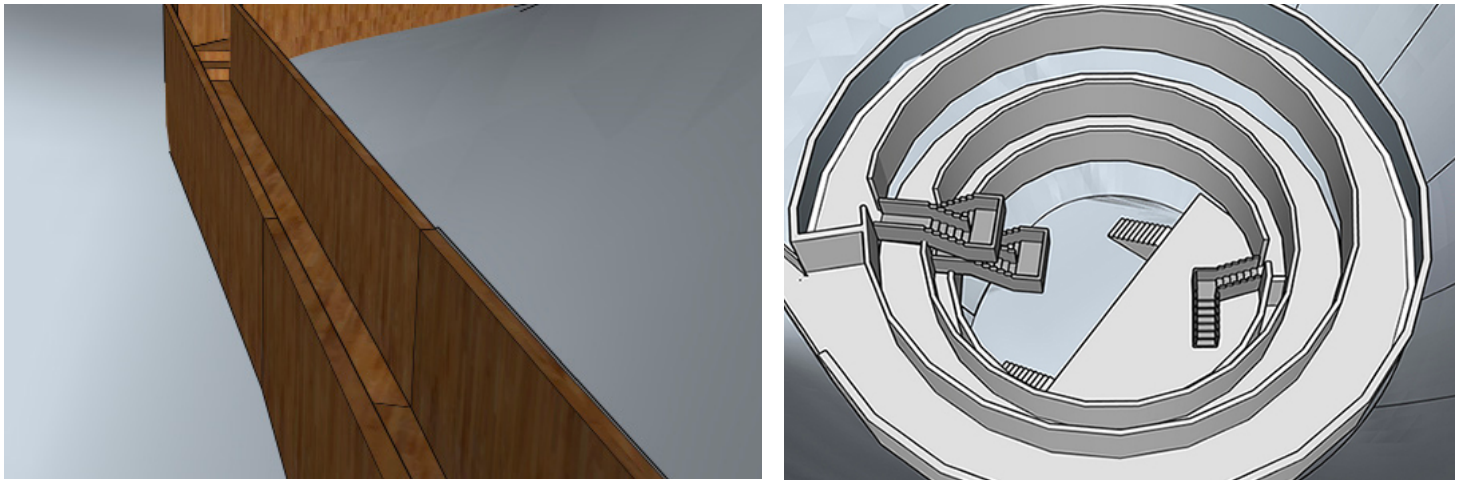
Inside part of the big structure, there are 3 big spaces ; 1) Performance Stage, 2) Art Gallery, and 3) Café for Resting.

Firstly, Performance Stage, it is motivated by shape of ancient greek theater. In the middle, there is an oval-shaped stage. And around the stage, there are a spectators' seats with stair shape, so that we do not need to create extra spaces for stairs to go up and down. And basically, since the structure and spectators' seats are shaped inverted cone shape, the end point of the view from everywhere inside of structure is focused in the middle of the stage.



1) Performance Stage space / Sketch Up Model

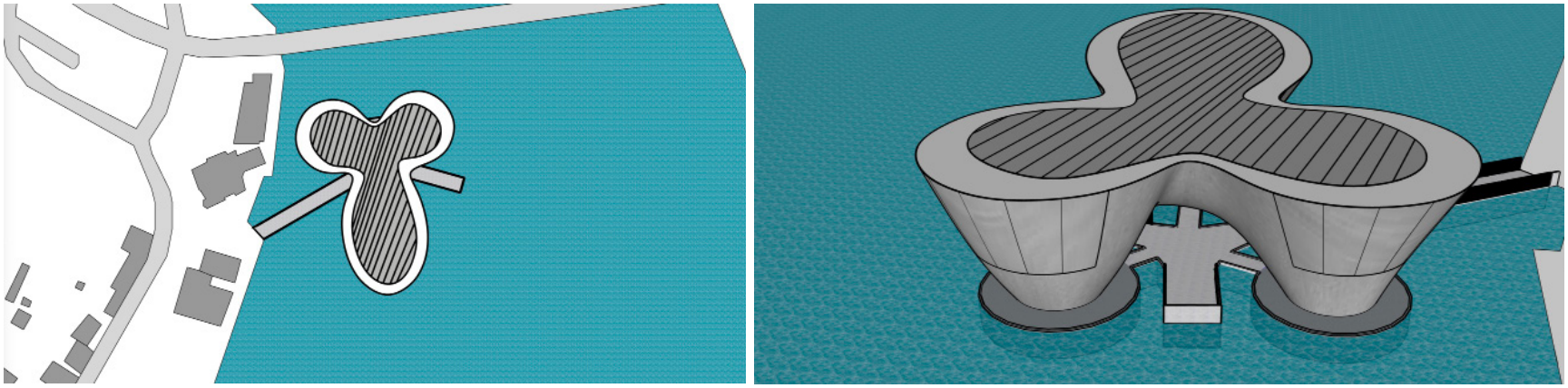
Secondly, Art Gallery is connected with Performance Stage. People can move from Performance Stage space to Art Gallery space. At the top side of the spectators' seats, there is a route to Art Gallery 3rd floor. In Art Gallery, the basic shape is circle way. So that people can go through the circle-shaped route to see the works. With this space, I want many people to feel the shape of the structure physically. And there are stairs to go down level, which is 2,5 meter lower. There are three level - 1st floor, 2nd floor, and 3rd floor - and every level has 2,5 meter difference.



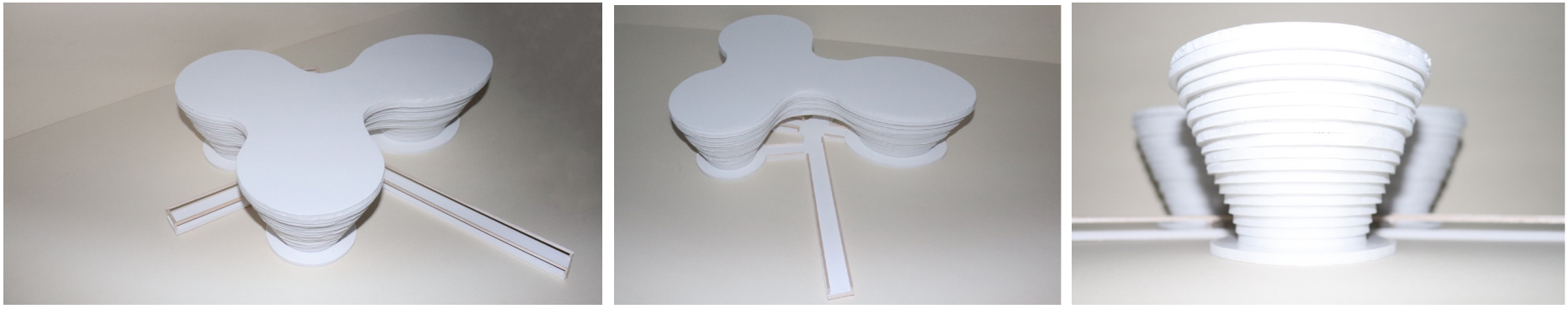
2) Art Gallery space / Sketch Up Model

Lastly, there is a resting space with café. All people can use this space for resting, although they are not using other facilities. This is the only space that is not connected to another spaces. The reason what I intended is to make independent resting space. They has low ceiling compared to other spaces so that people can feel calm and cozy atmosphere as well.

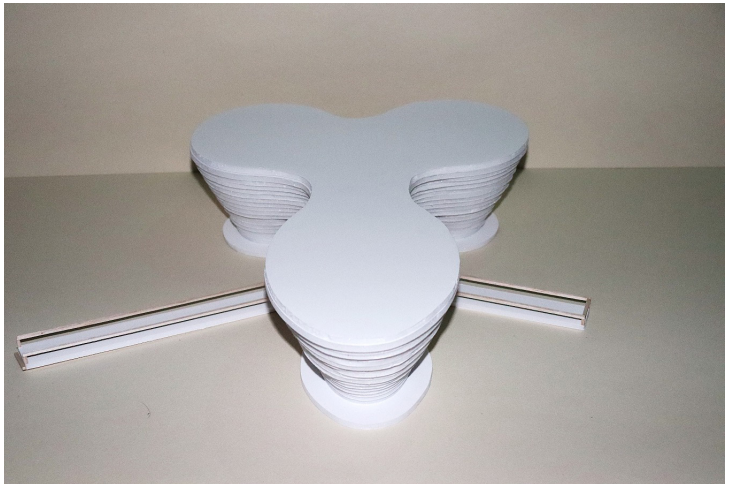
Outside of the structure, as mentioned, there is a route underneath the structure. And although the Performance Stage space and Are Gallery space is connected inside of the building, there are 3 entrances to each others'. Also, the underneath the structure, there is 9 meter space, so people can walk through and can use as a shelter as well.

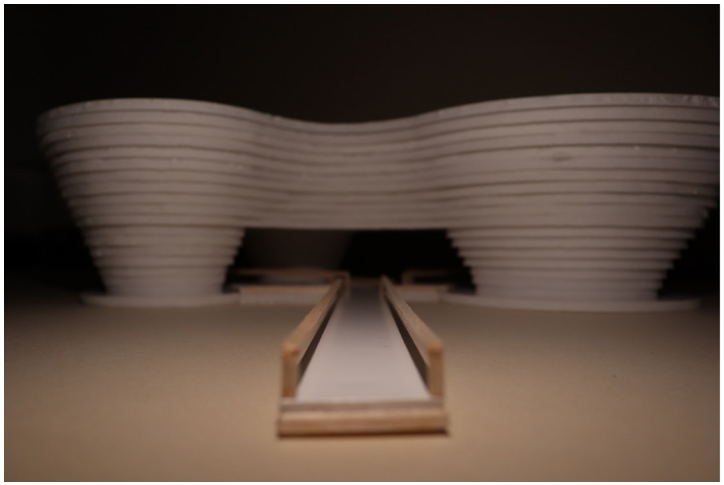


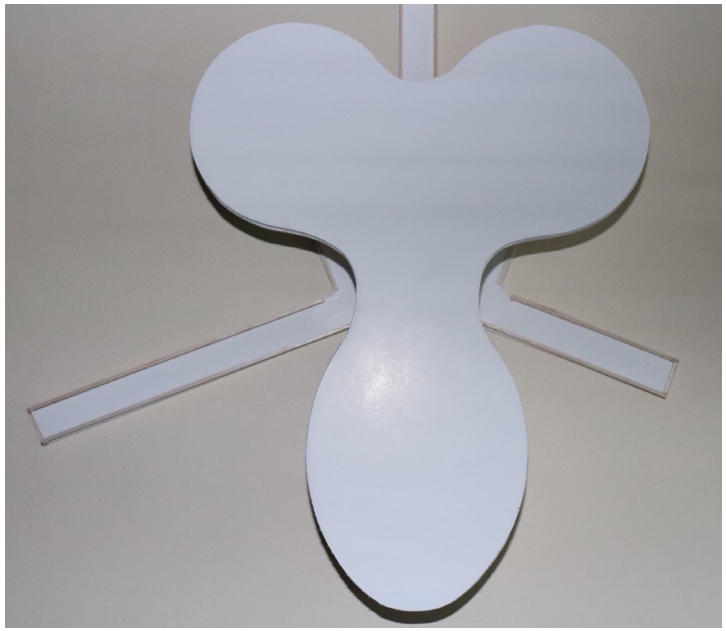
Sketch Up Model



Model - Scale : 1/250







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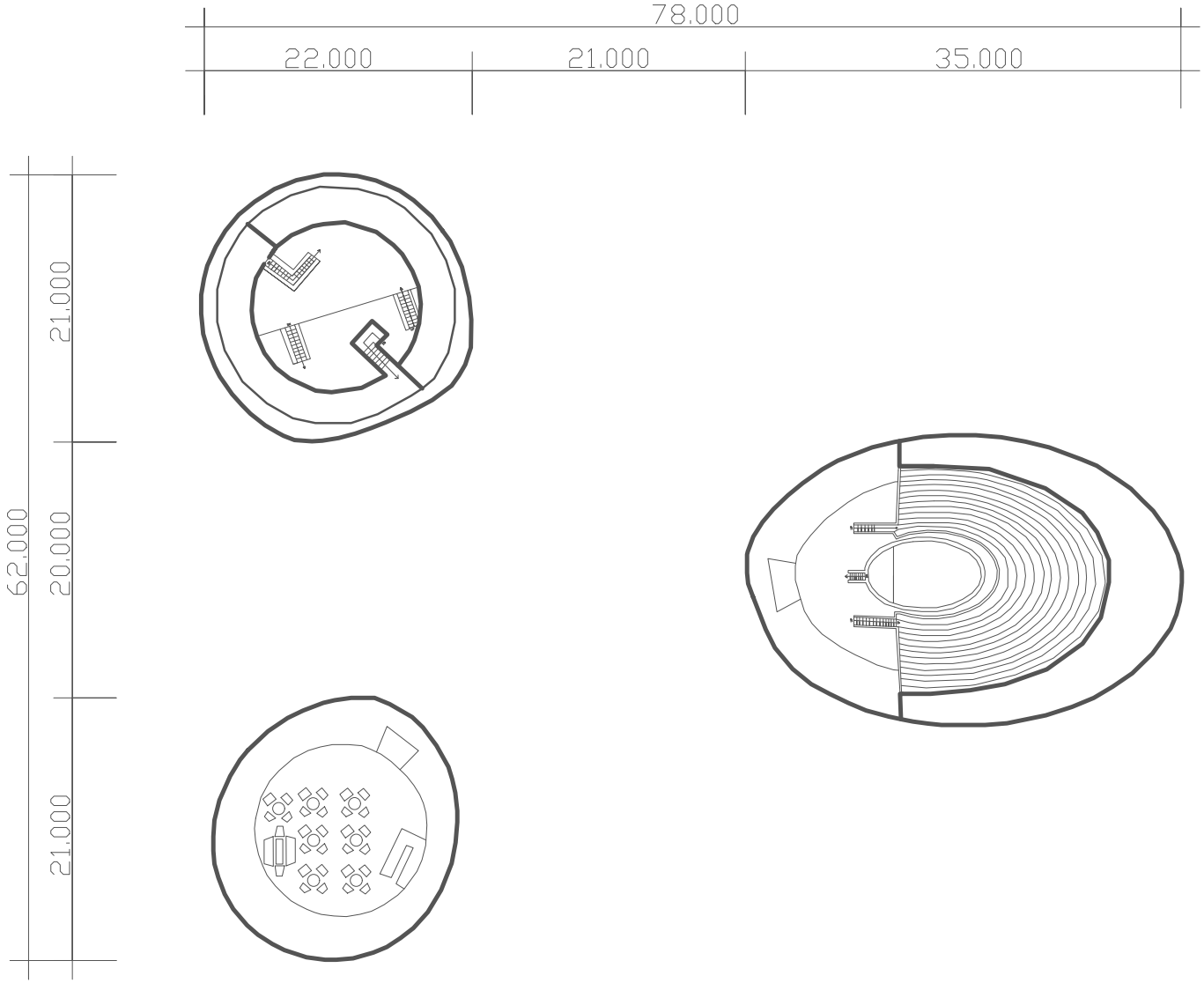

GL+6,000 FLOOR PLAN

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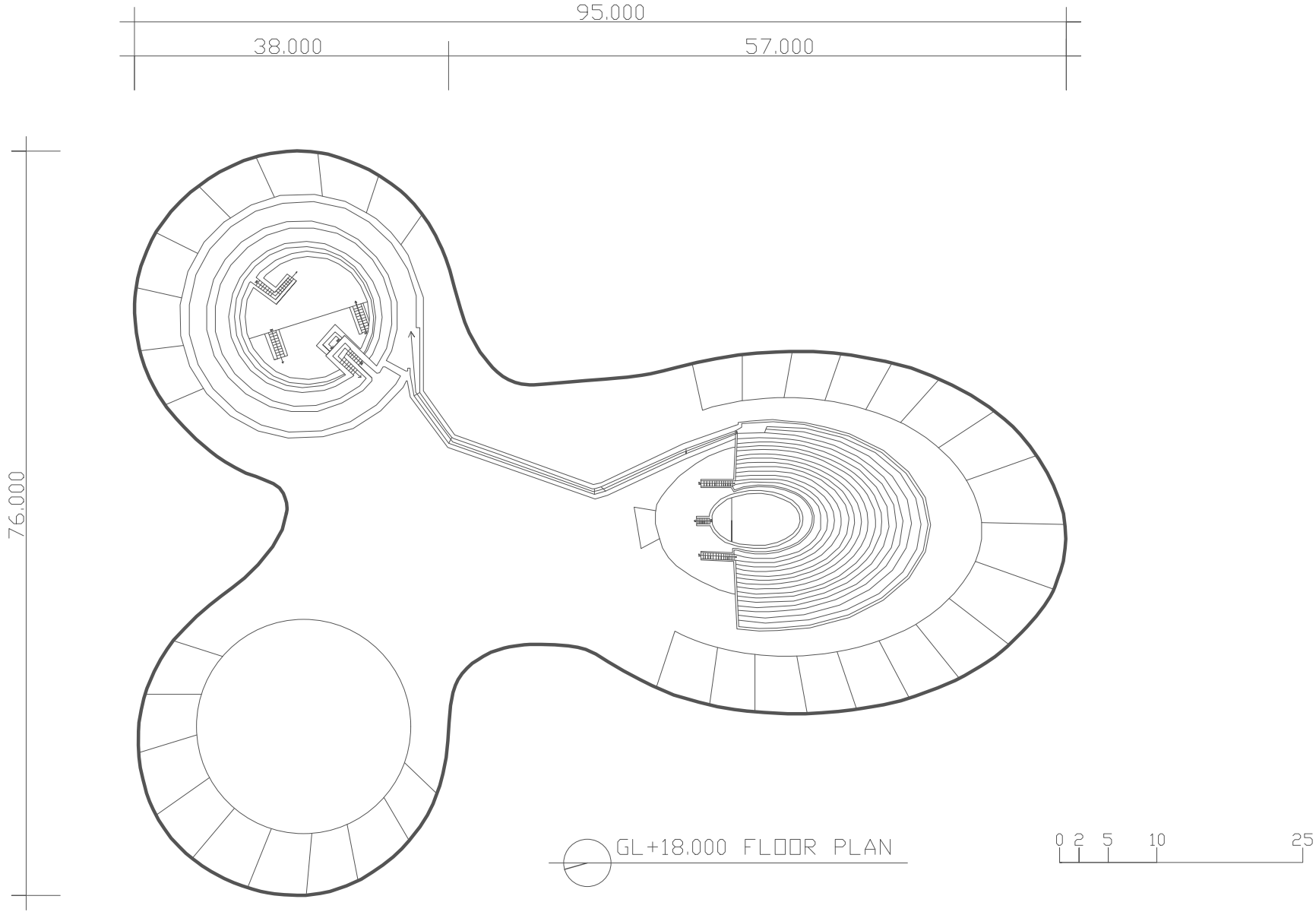
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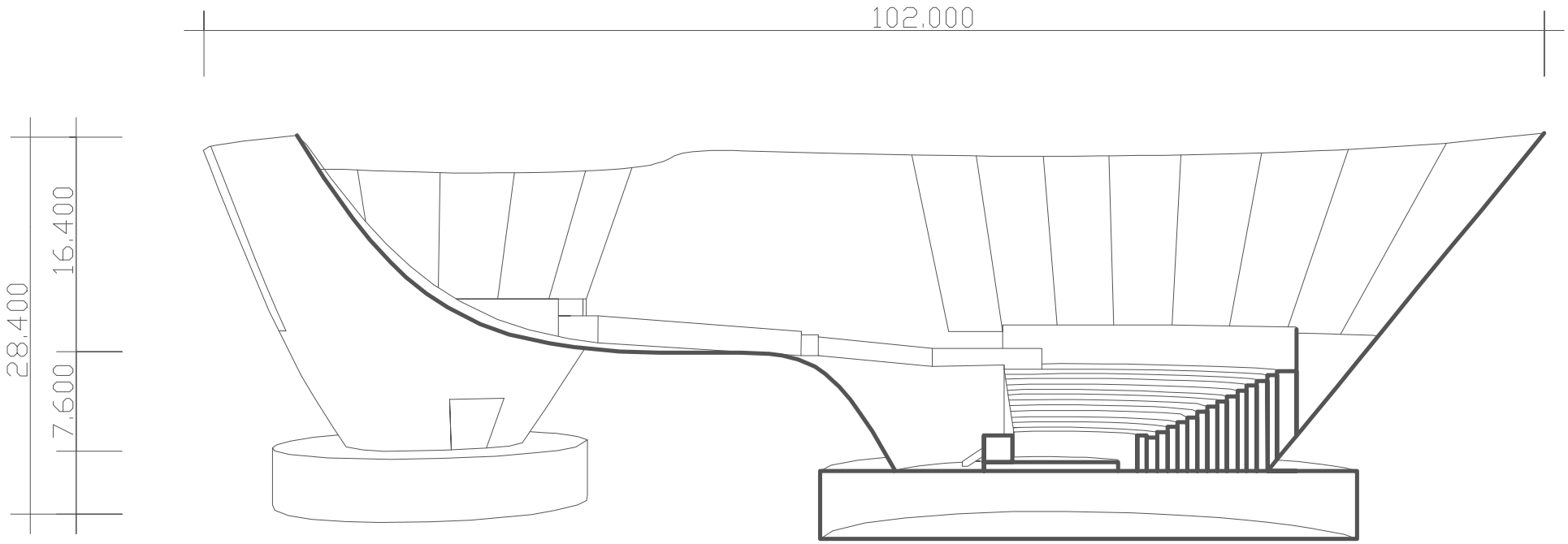

SECTION PLAN

LONGITUDINAL SECTION

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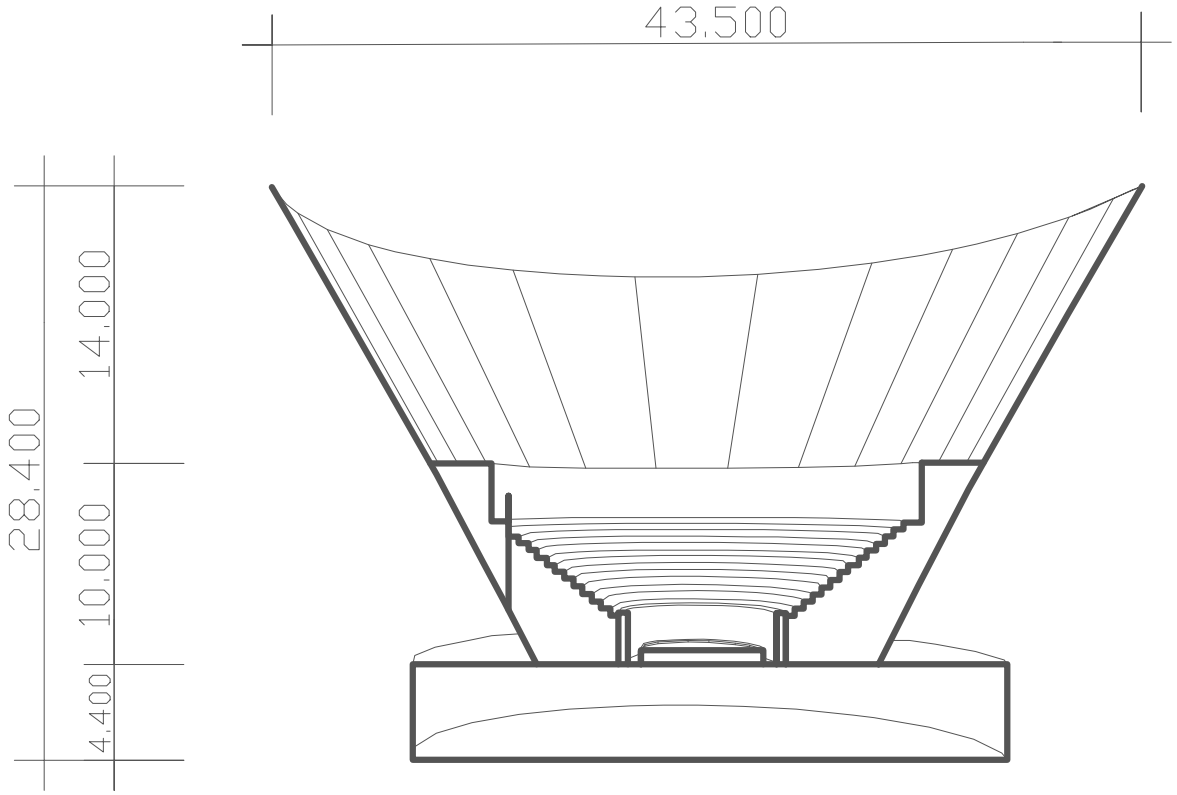

SECTION PLAN

SPACE 1. PERFORMANCE STAGE

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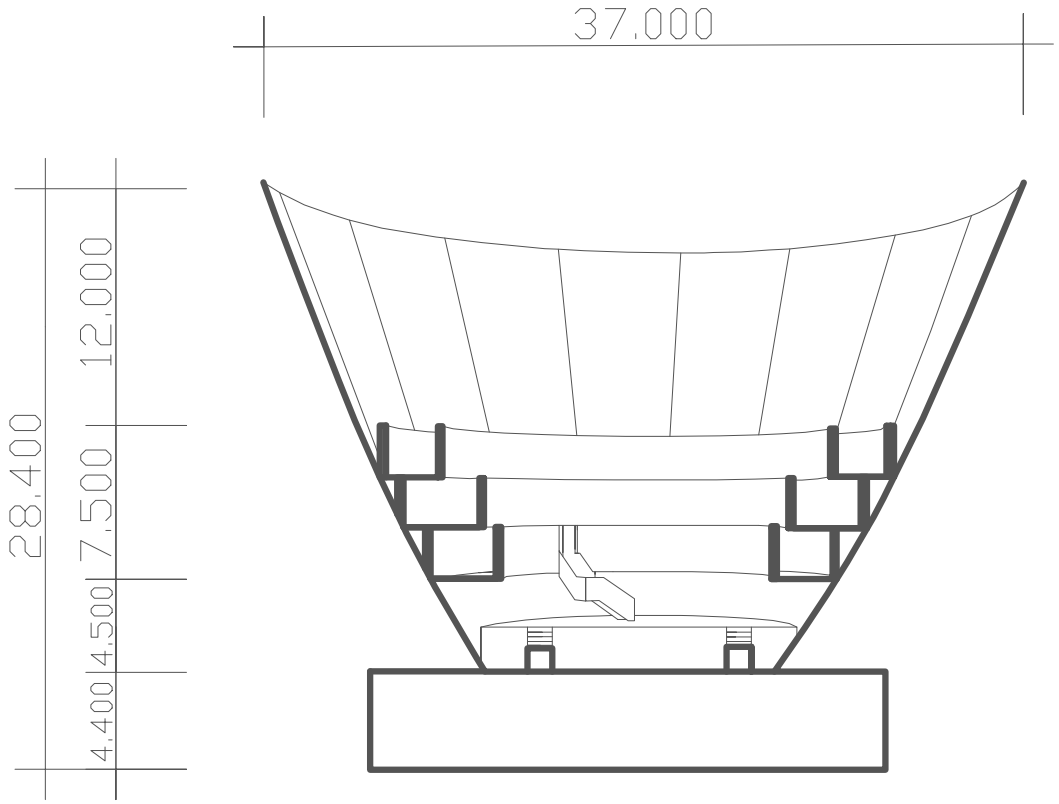

SECTION PLAN

SPACE 2. ART GALLERY

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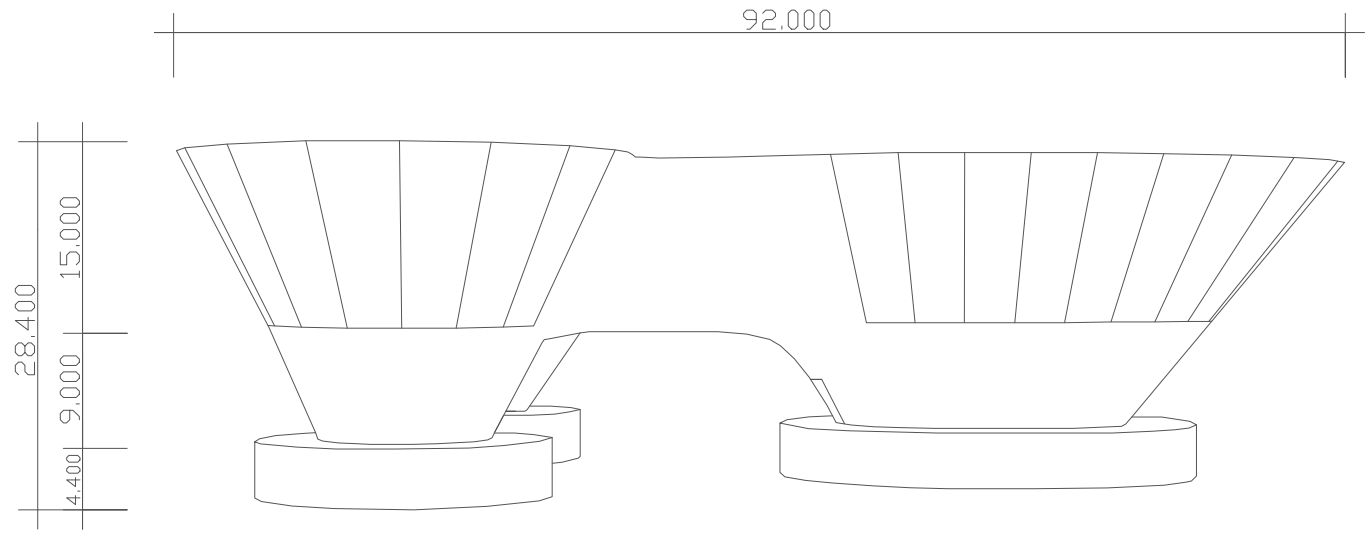

LEFT ELEVATION

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References

Designing One-DOF Mechanisms for Architecture by Rationalizing Curved Folding, Tomohiro Tachi and Gregory Epps, 2011, Japan

Curvilinearity in Architecture: Emotional Effect of Curvilinear Forms in Interior Design, Kayvan Madani Nejad, 2007, Tehran