

SELECTED ACADEMIC WORK

ACADEMIC PORTFOLIO

CORNELL UNIVERSITY | 2015-2018
RHODE ISLAND SCHOOL OF DESIGN | 2018-2020

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RISD | 2020



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Providence, RI
RISD | 2019



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RISD | 2019



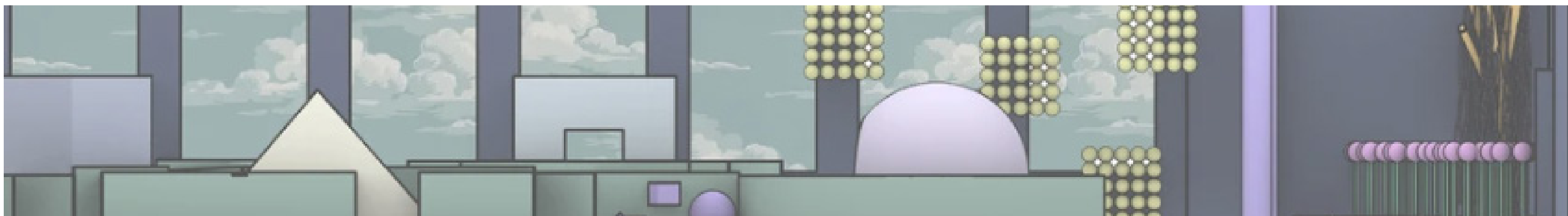
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CORNELL | 2018

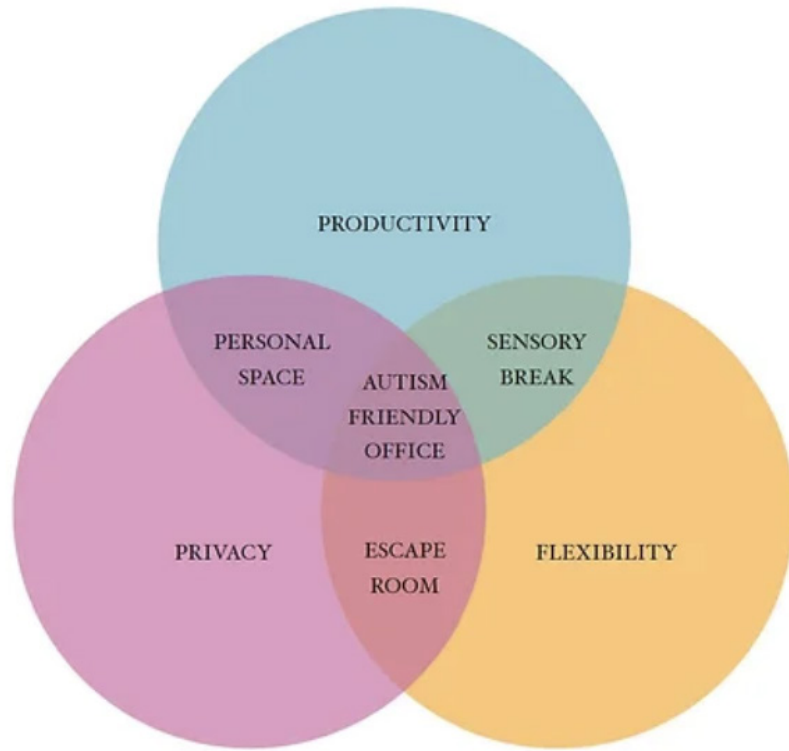


ENVISIONING WORK

An Autism Friendly and Anxiety Free Office

ANXIETY FREE OFFICE

There are a lot of people experiencing anxiety at work. According to Anxiety Disorders Association of America, 40% of employees experience persistent excessive anxiety in their daily lives, and people on the spectrum are being affected by anxiety the most. It is important to create a supportive office environment for both people on the spectrum and those who have other forms of anxiety at work. By using design strategies that were proven and experimental, I will create a system that can be apply to any type of buildings to make an office ASD friendly, and a set of toolkit focus on productivity, privacy, and flexibility.

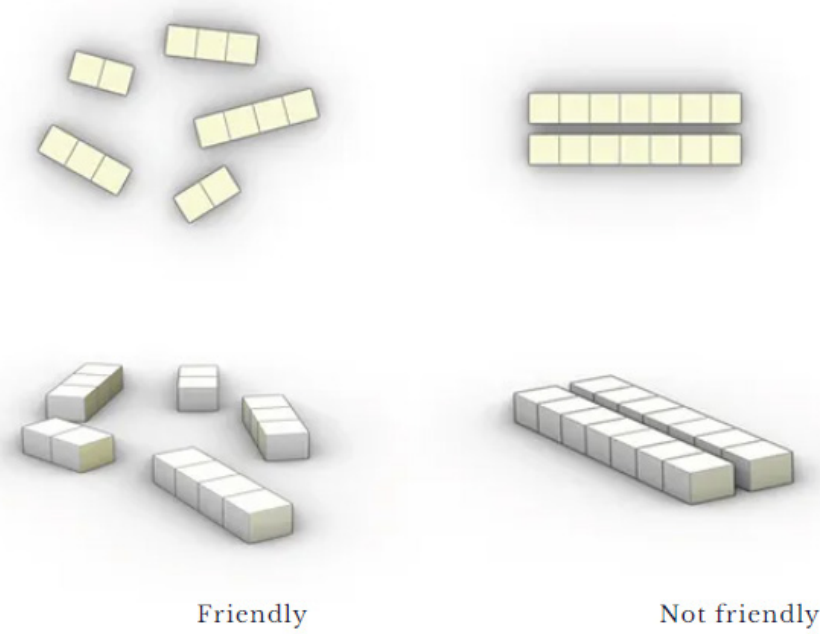
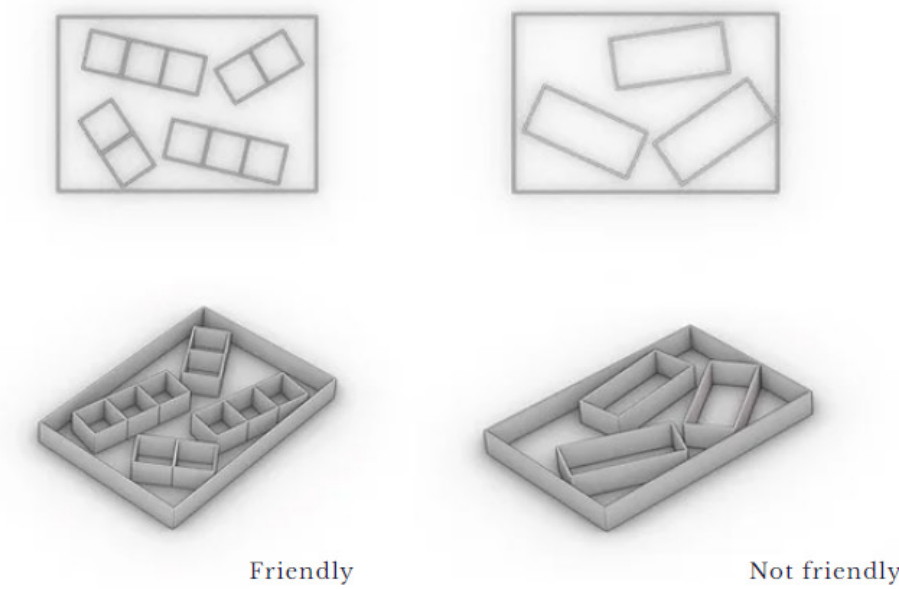


FRIENDLY DESIGN

When designing an ASD friendly office, it is important to provide what people on the spectrum needs. For instance, a lot of people on the spectrum need their private working space, so make sure there are rooms for private working. In addition, short corridors, simple circulations, curved walls, and opposite entrance are preferred for an ASD friendly office.

WORKSPACE

Personal space is very important for people on the spectrum. When there are a great number of people working in the same space, people on the spectrum tend to want to escape because they are losing their personal space. Noise is also an issue of having too much people working in one space. An autism friendly office should give people on the spectrum opportunities to be able to work by themselves in a closed space.



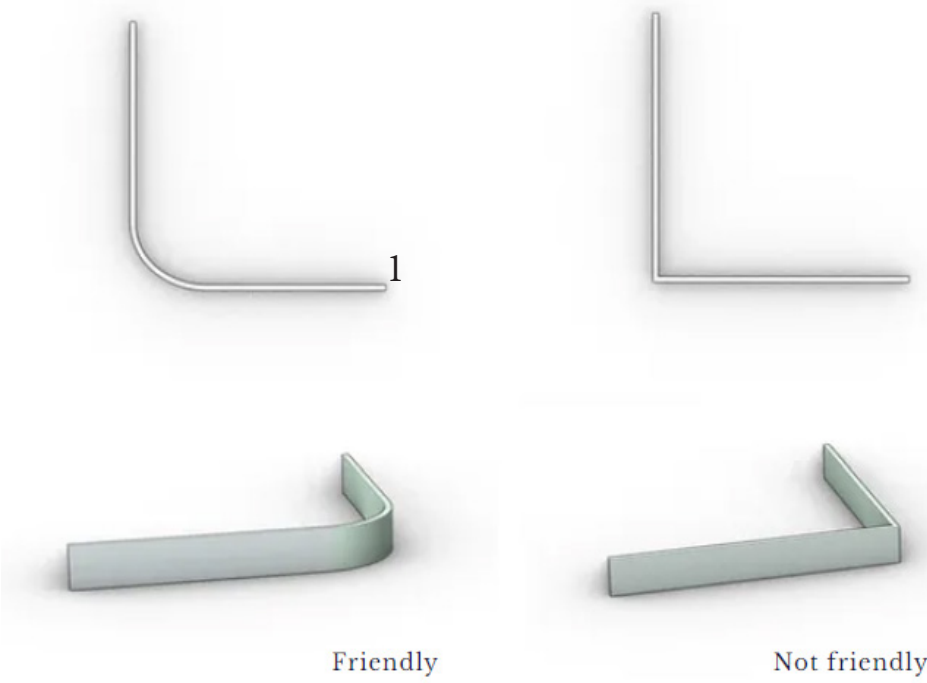
CORRIDOR

It is important to avoid long, narrow corridors because people on the spectrum don't feel secured when they are walking through long corridors. Instead of having rooms placed by walls, place them in different directions to avoid long corridors. Be careful when designing short corridors, as sometimes too much corridors may make the room look like a puzzle and people will get confused.



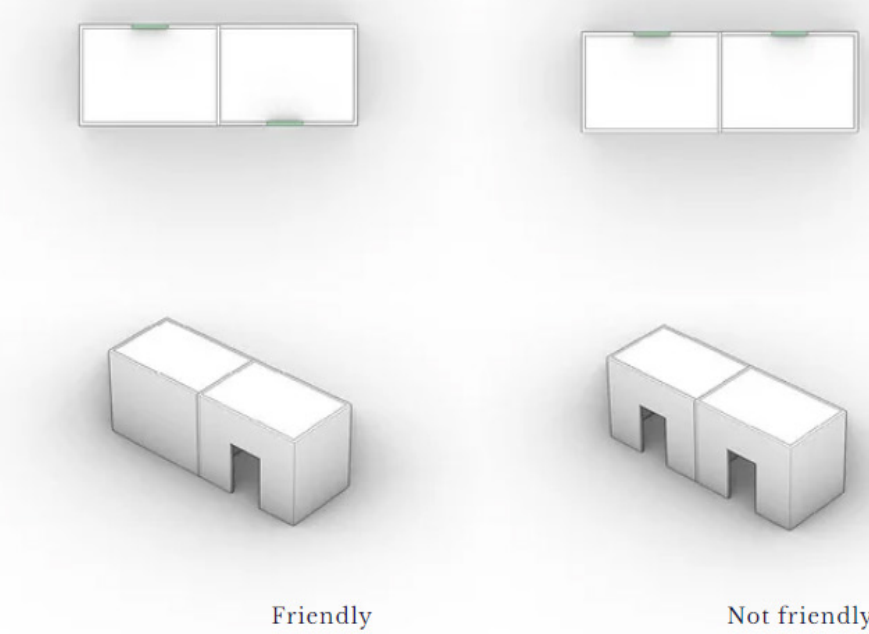
CIRCULATION

Circulation needs to be simple. Complicated circulation and make people on the spectrum feel puzzled. The circulation system should be clear and organic, making people feel comfortable without getting lost.



WALL

Avoid sharp corners. People on the spectrum prefer smooth and curvy corners. Sharp corners will be unpredictable for them and make them feel unsafe because they might jump into someone on the other side of the wall.



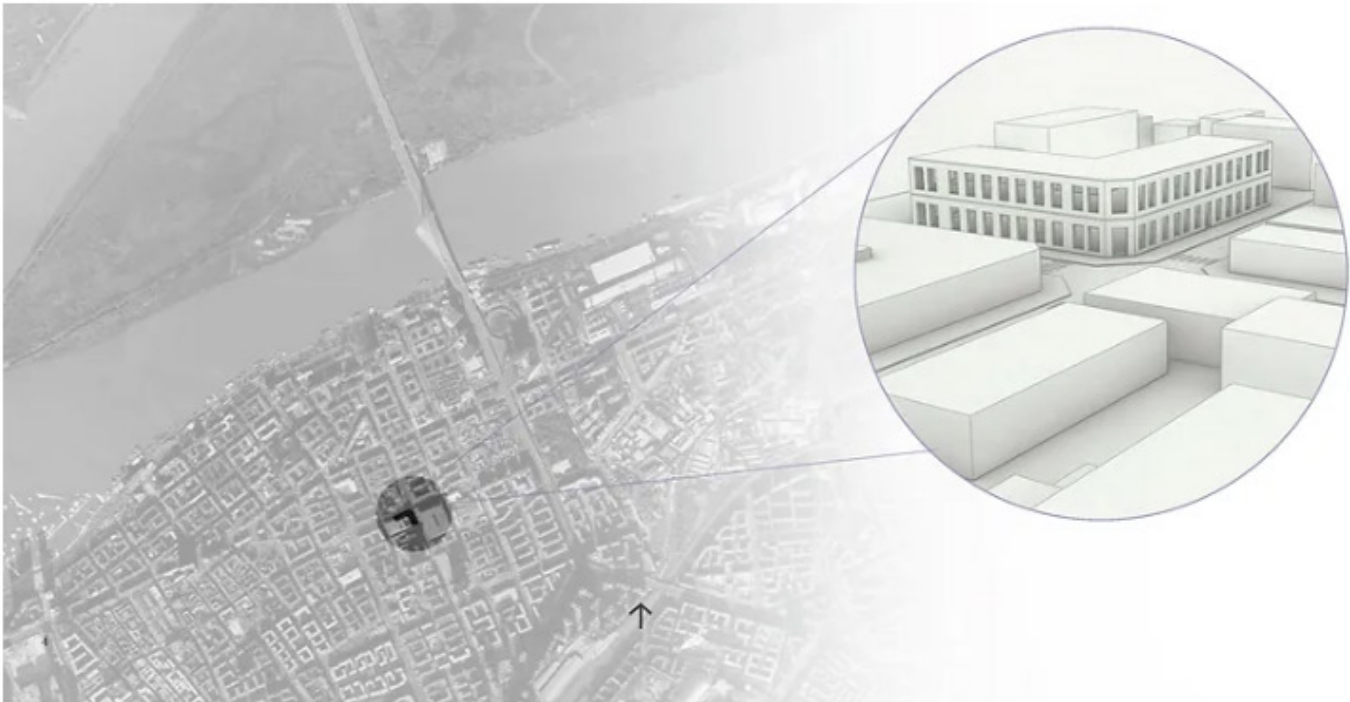
ENTRANCE

Put entrance on two different sides of rooms so people will not feel that they are working next to a room that someone else is working in. This will also avoid any accident of jumping into other people when they come out of the room at the same time.



SITE

The building was constructed in 1903. It used to be the glass shop of Heng De Li glasses. Heng De Li has its first shop in Shanghai, it was one of the most popular brand for luxury watches and glasses in China. In 1923, Heng De Li decided to open a glass shop in Harbin. In 1925 they decided to use the commercial building on the busiest business street of that time- Jingyu St. In 2016, the Heng De Li glass shop moved again, the building became abandoned again. Later the boards, screens, and everything about the shop were removed from the building.



BUILDING CONDITION

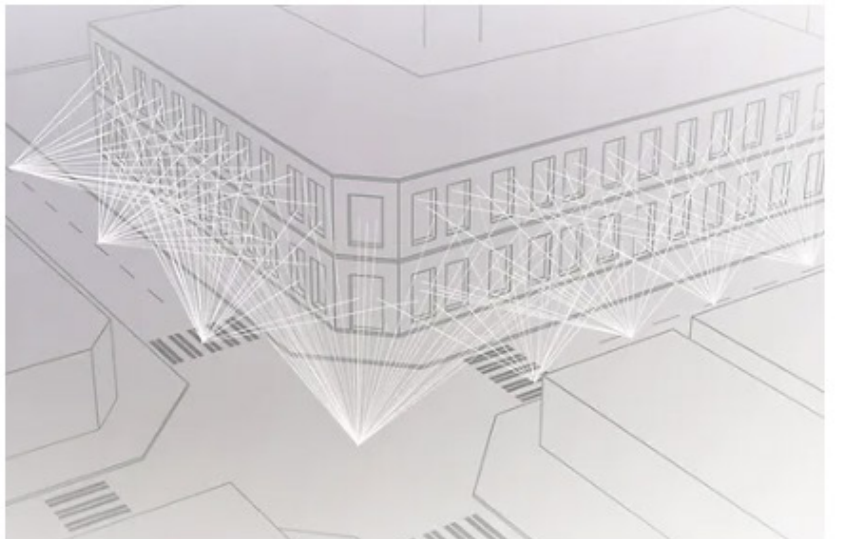
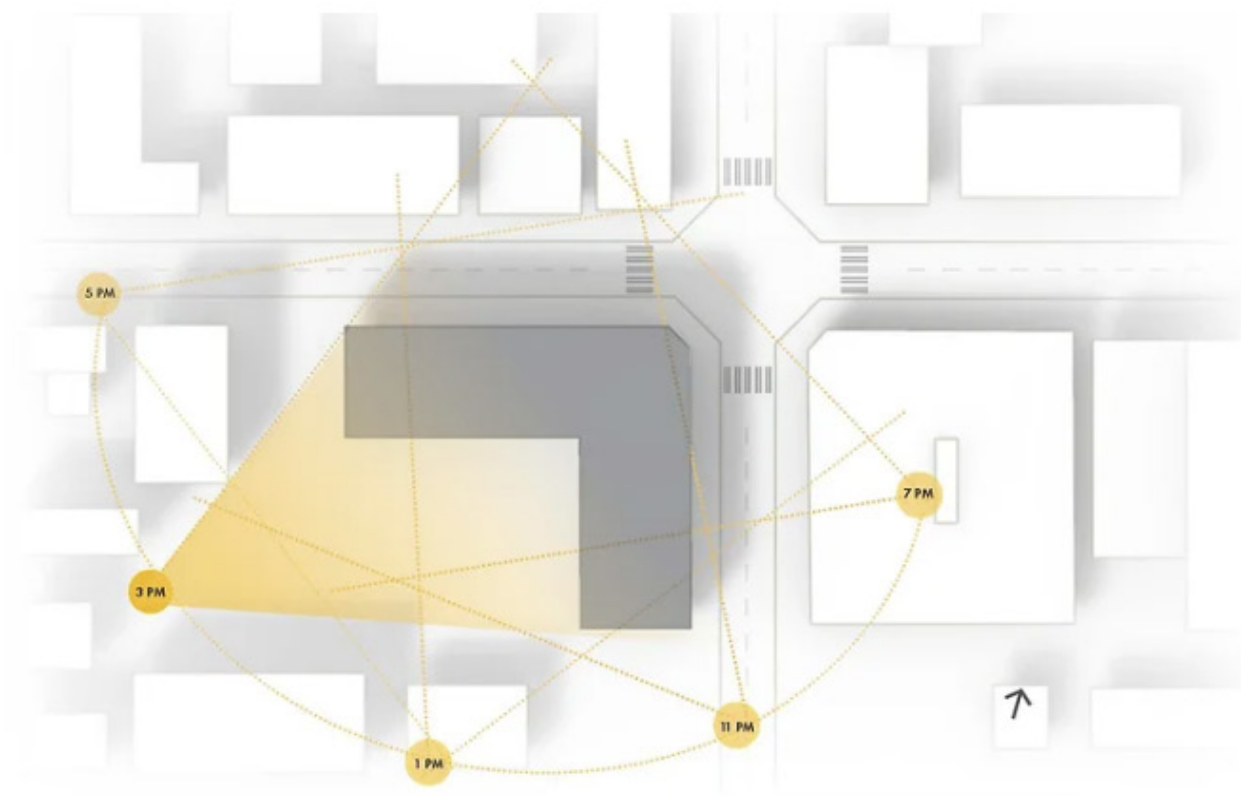
Currently the building is unoccupied and is being protected as a historical building. The glass of the building were removed, and building only have the shell left.

LIGHT IMPACT

A huge amount of morning and afternoon light is coming in to the building. Introducing natural light is very important, but when designing an ASD friendly environment, too much natural light could be a problem.

SOUND IMPACT

The building is located in the middle of two busy streets. There are a lot of noise coming from the two streets to the building. Especially in the morning and afternoon during the high traffic period.

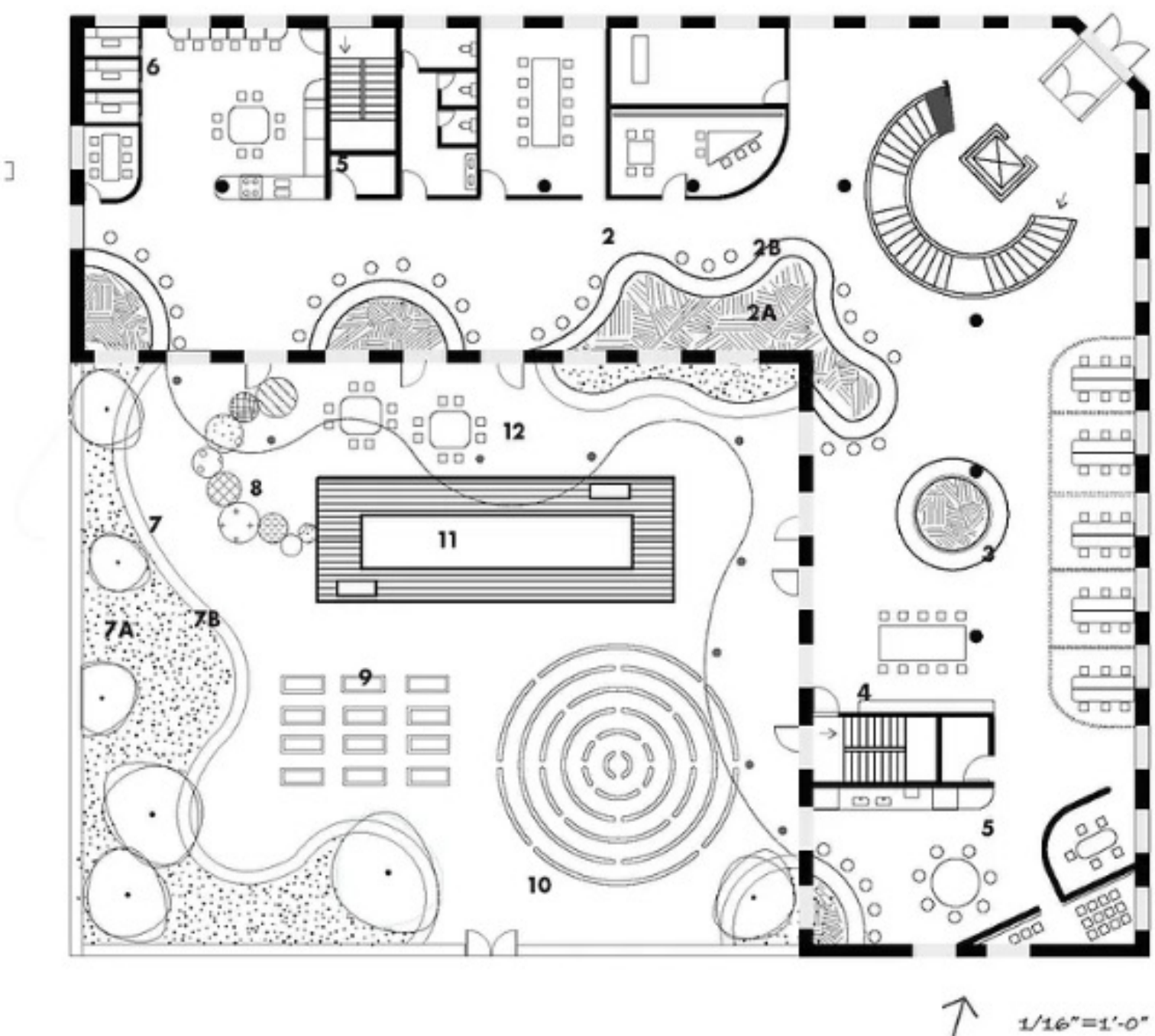
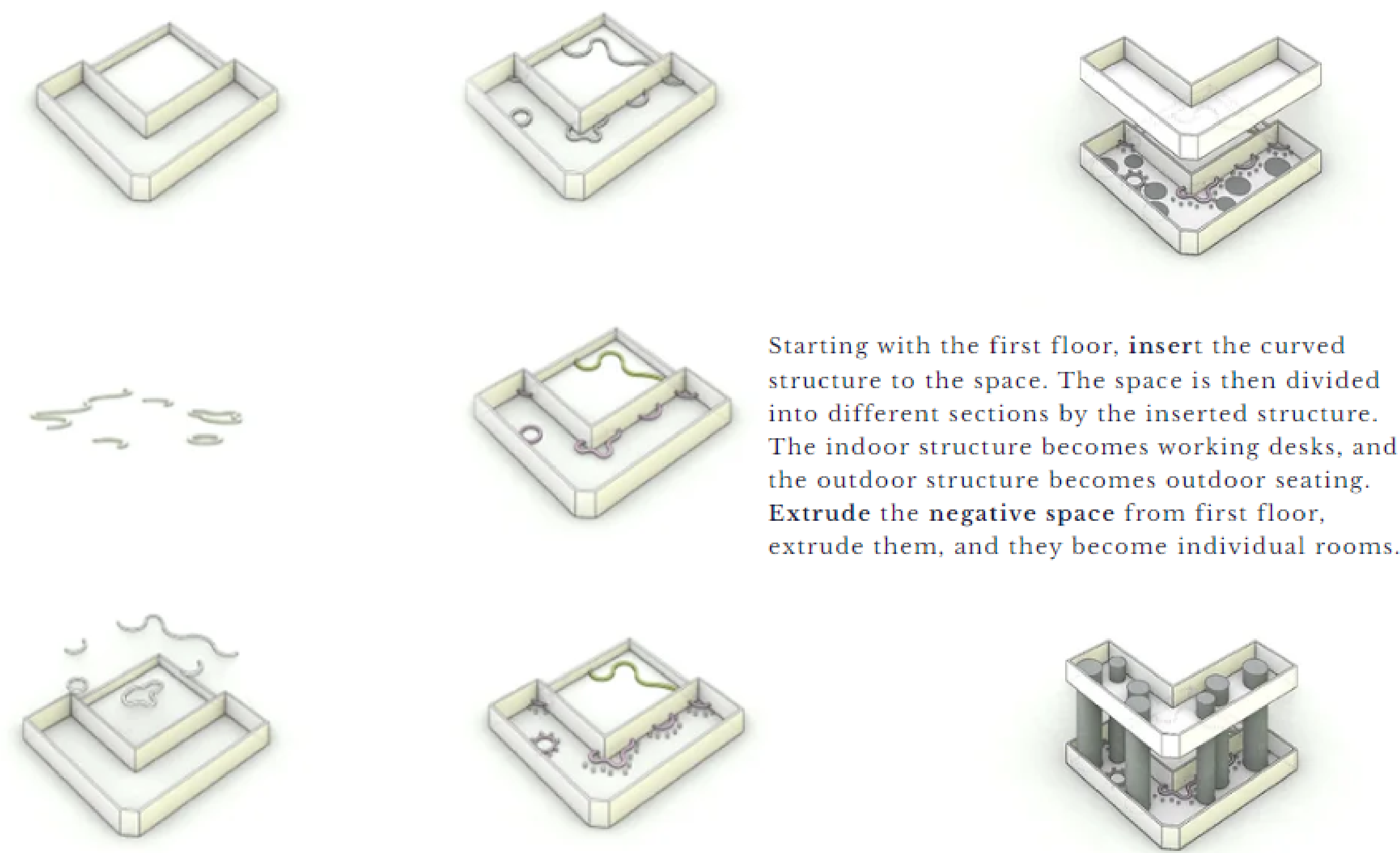


ENVISIONING WORK

An Autism Friendly and Anxiety Free Office

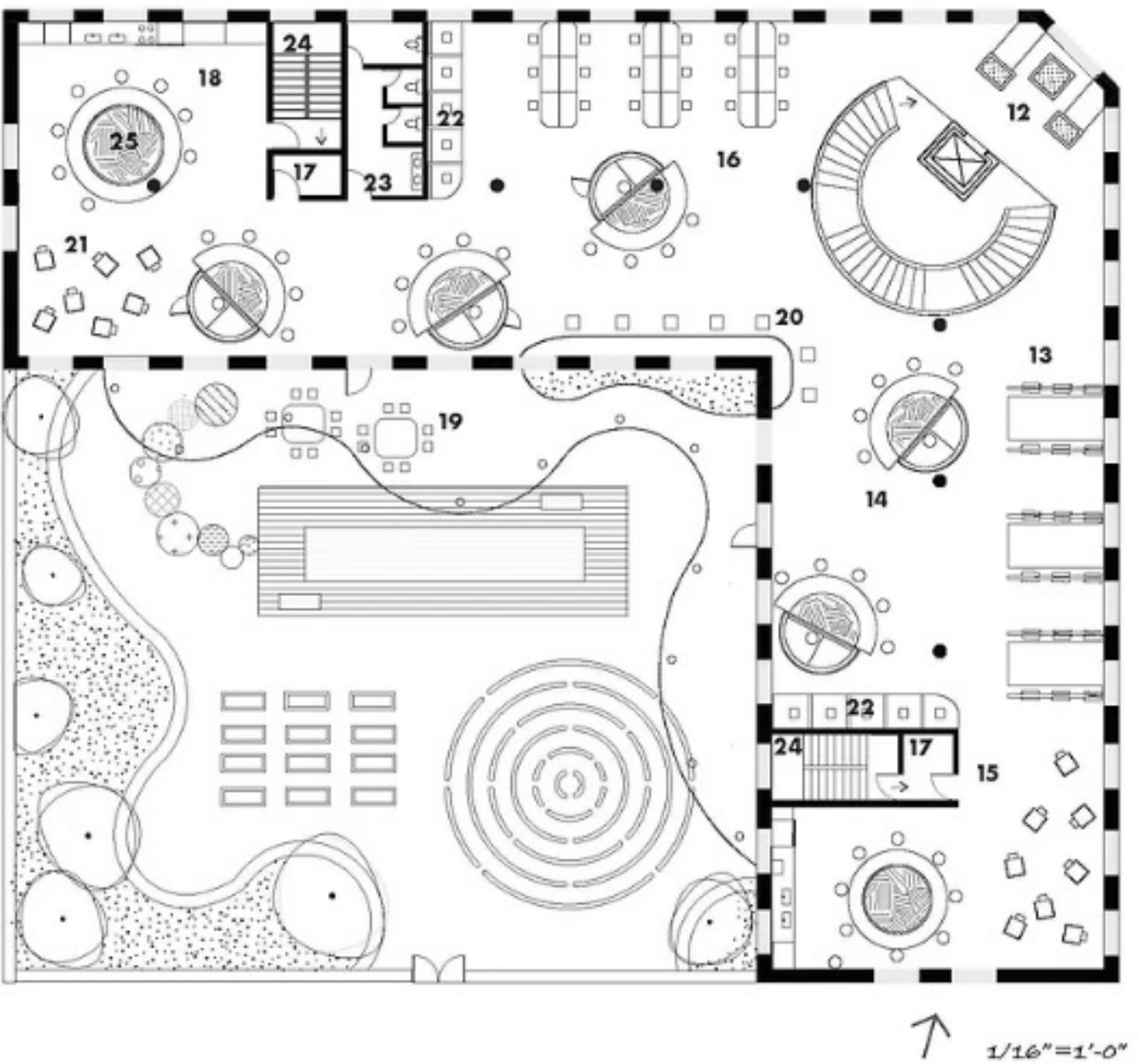
A FRIENDLY OFFICE SYSTEM FOR ANY TYPE OF BUILDING

An office's interior configurations has a great impact on employees' performance. It is important to create a supportive office environment for both people on the spectrum and those who have other forms of anxiety at work. The key to an autism friendly and anxiety free office is balance. The space will be divided in a way to create a balance between working and relaxing, private and open, as well as light and shade. **Focusing on productivity, privacy, and flexibility, I will create a system that can be applied to any type of building to make an office ASD friendly.** The system provides employees the personal space they need, and at the same time it encourages employees to communicate. The proposed site is located in Laodaowai District, Harbin, China, and the existing site conditions are not ideal for people on the spectrum for their work performance. The site will be an example of how the autism friendly system can be applied to any type of building, even one in a problematic setting.



FIRST FLOOR

1. RECEPTION
2. WORKING AREA
 - 2A. PLANTER
 - 2B. CURVED DESKS
3. SEATING/RELAXING AREA
4. LOCKER
5. CAFE KITCHEN
6. KITCHEN
7. OUTDOOR SEATING AREA
 - 7A. PLANTER
 - 7B. CURVED BENCHES
8. SENSORY PAVING STONE
9. PRIVATE PLANTER
10. MEDITATION MAZE
11. CALMING POND

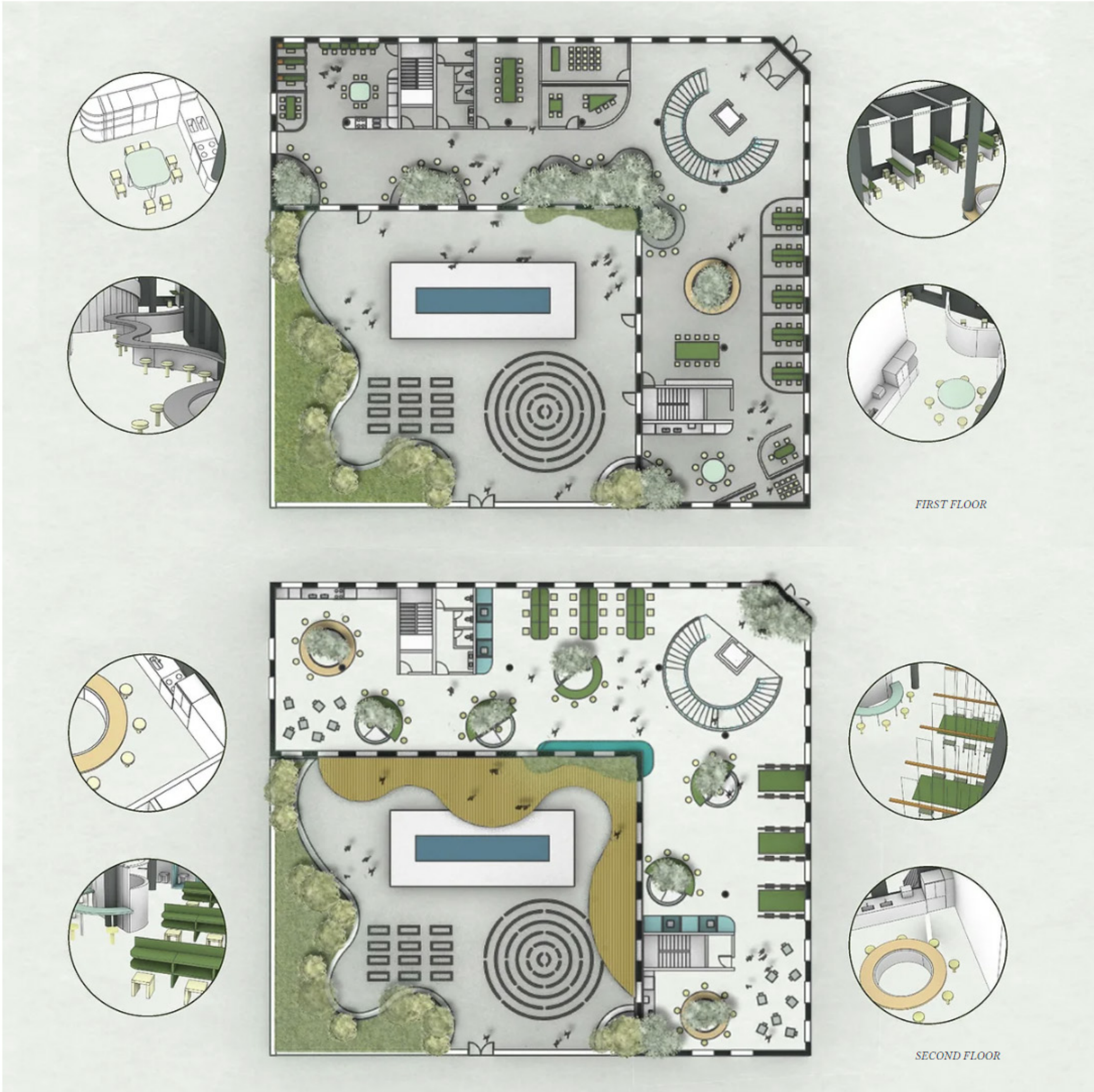


SECOND FLOOR

12. SEATING AREA WITH PLANTS
13. SWING WORKING AREA
14. PRIVATE + GROUP WORKING STATION
15. CAFE KITCHEN
16. OPEN WORKING AREA
17. ESCAPE ROOMS
18. KITCHEN
19. PATIO
20. OPEN WORKING AREA
21. EAT ALONE AREA
22. PRIVATE BRAINSTORMING AREA
23. BATHROOM
24. ESCAPE STAIRS
25. DINNING TABLE WITH PLANTS

E N V I S I O N I N G W O R K

An Autism Friendly and Anxiety Free Office

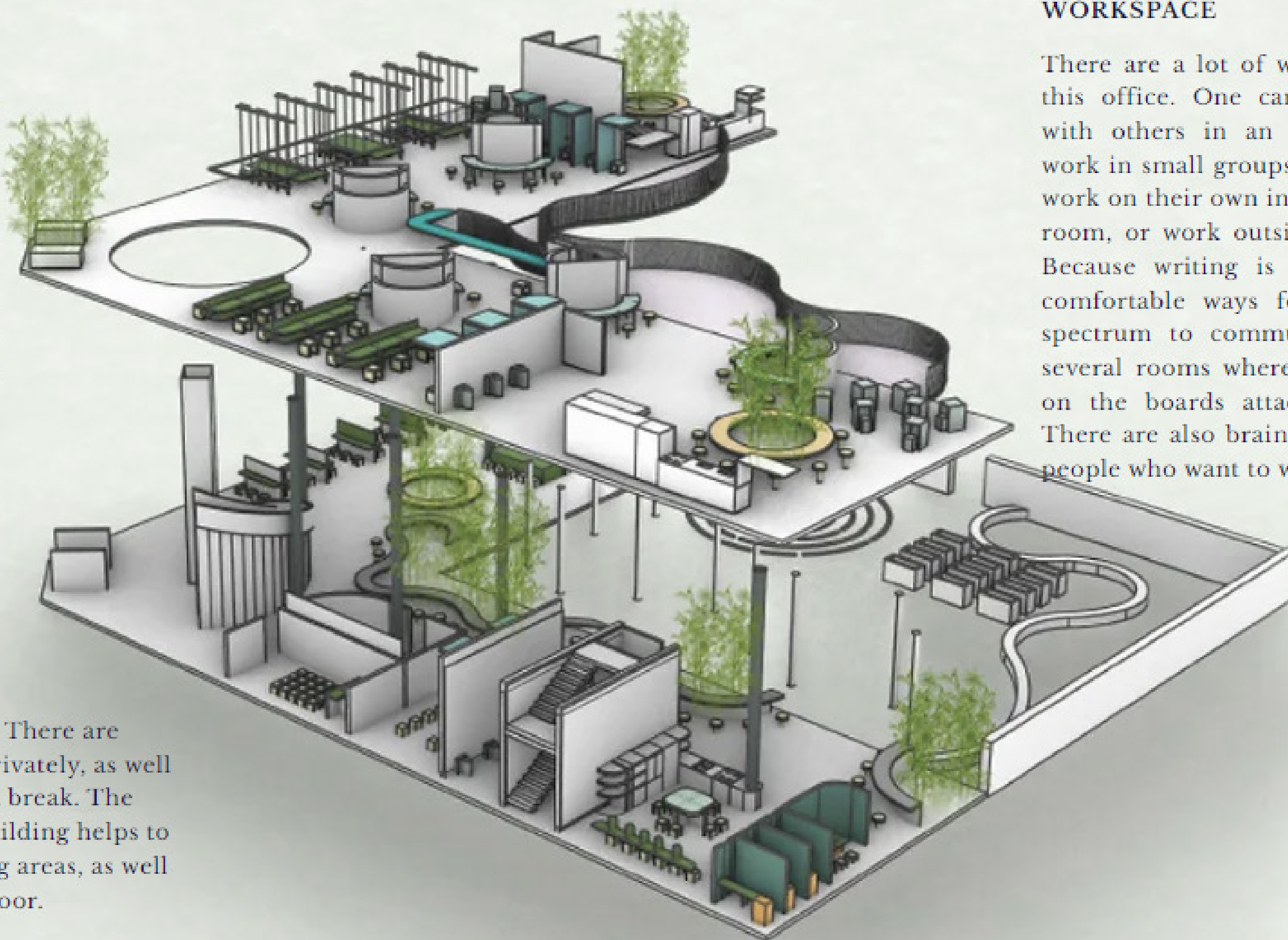


ENVISIONING WORK

An Autism Friendly and Anxiety Free Office

CIRCULATION

By introducing the curved inserted structure into the building, the space is divided into different sections. The long corridors have been divided into smaller and curvy corridors. The circulation became organic and smooth, at the same time as simple as it can be so that people won't get lost in the building.



PRIVACY

Privacy is very important in offices. There are rooms for people to eat and work privately, as well as escape rooms for people to take a break. The bamboo being planted inside the building helps to create privacy between each working areas, as well as privacy between indoor and outdoor.

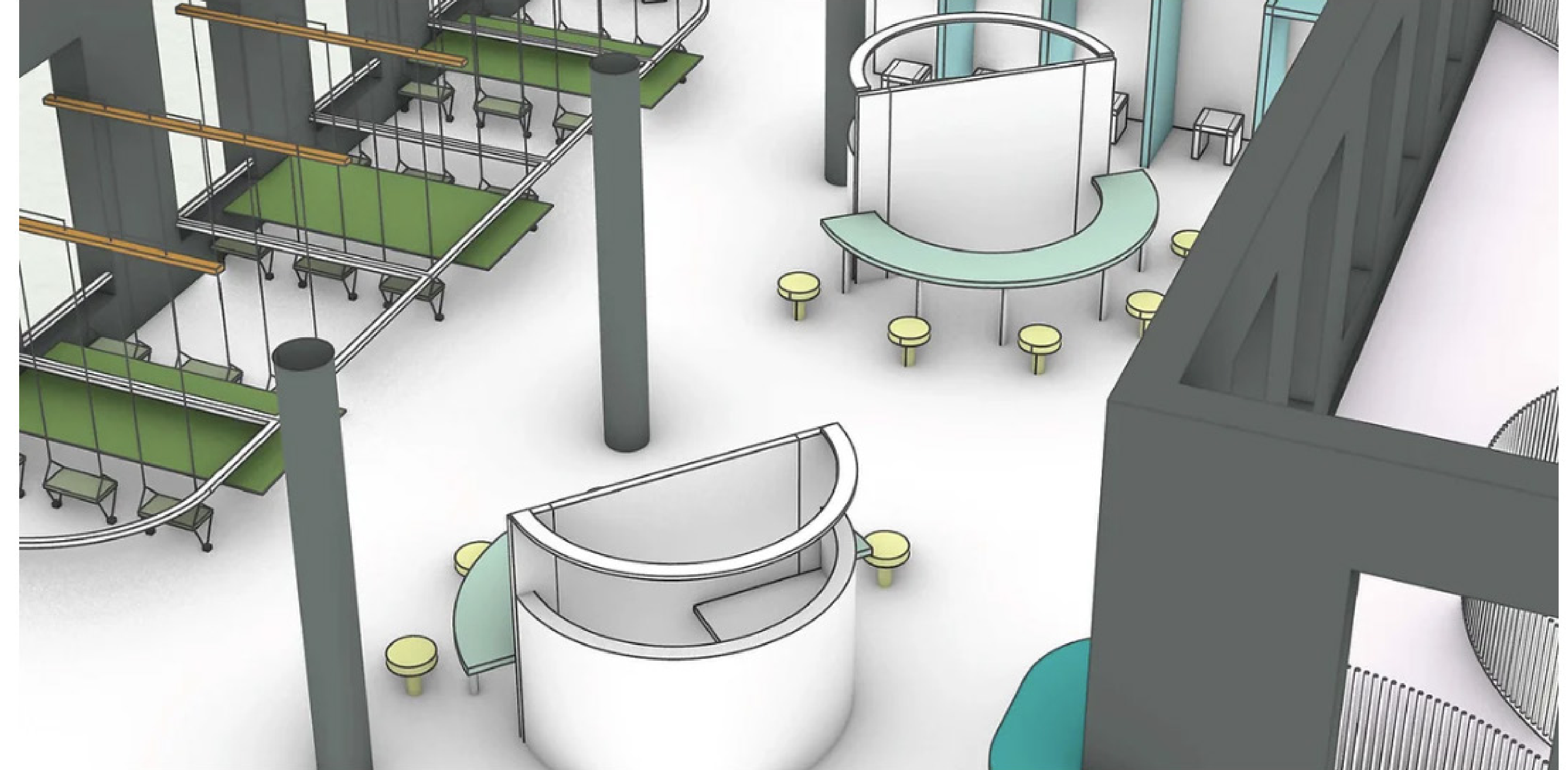
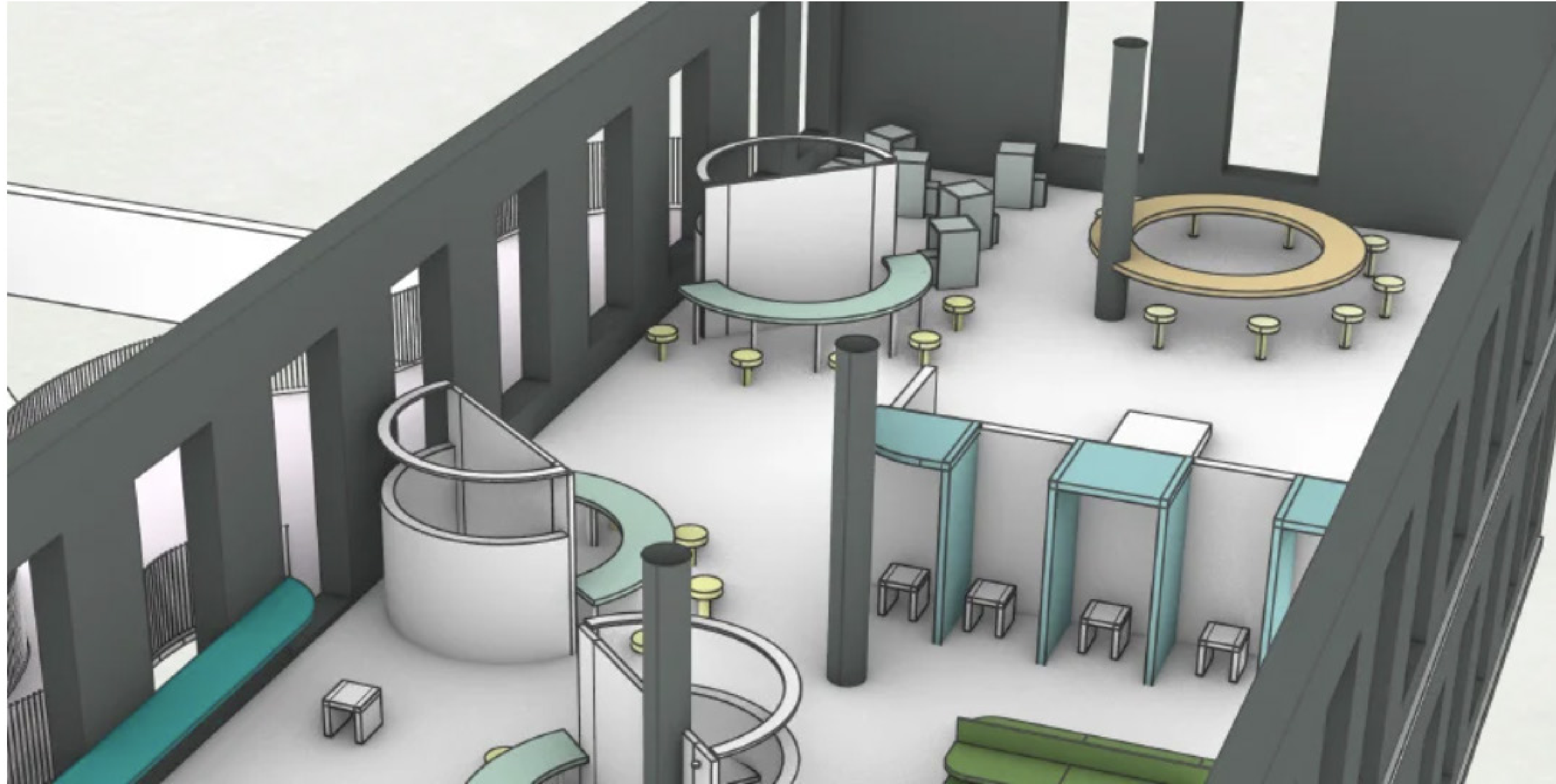
WORKSPACE

There are a lot of ways of working in this office. One can choose to work with others in an open office area, work in small groups in a closed room, work on their own in a closed and quiet room, or work outside by the garden. Because writing is one of the most comfortable ways for people on the spectrum to communicate, there are several rooms where people can write on the boards attached to the wall. There are also brainstorming areas for people who want to write and be alone.



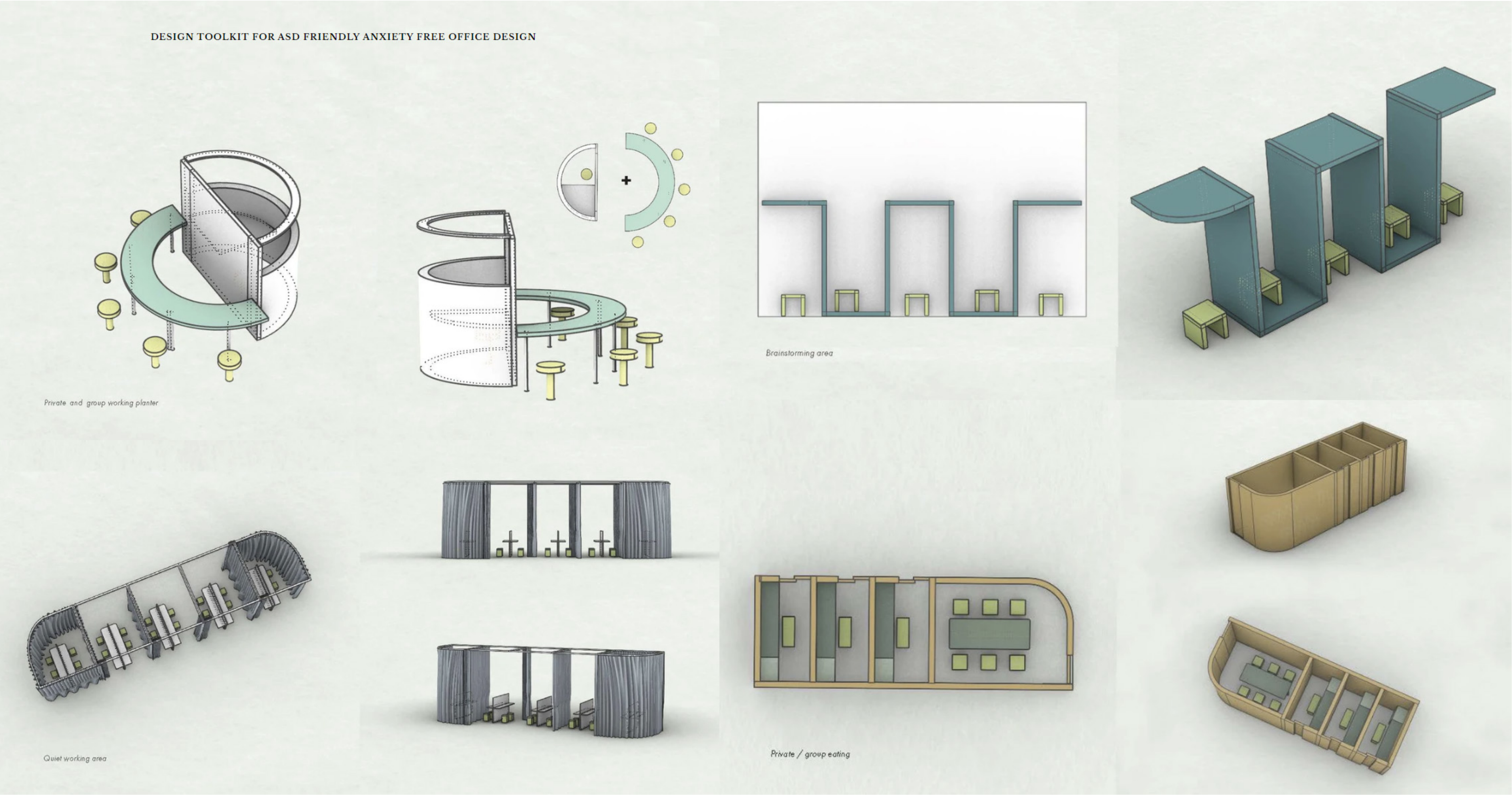
ENVISIONING WORK

An Autism Friendly and Anxiety Free Office



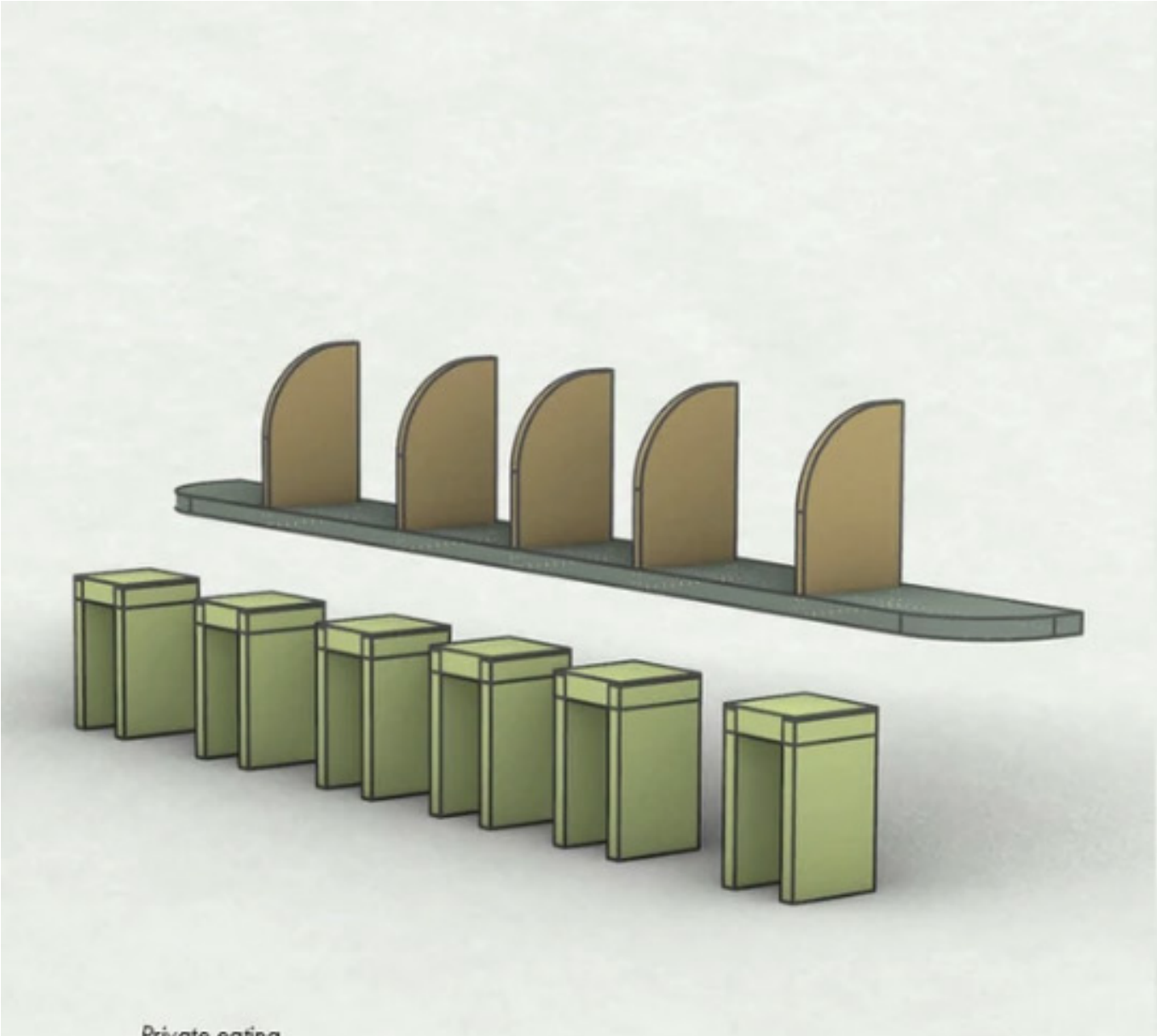
ENVISIONING WORK

An Autism Friendly and Anxiety Free Office

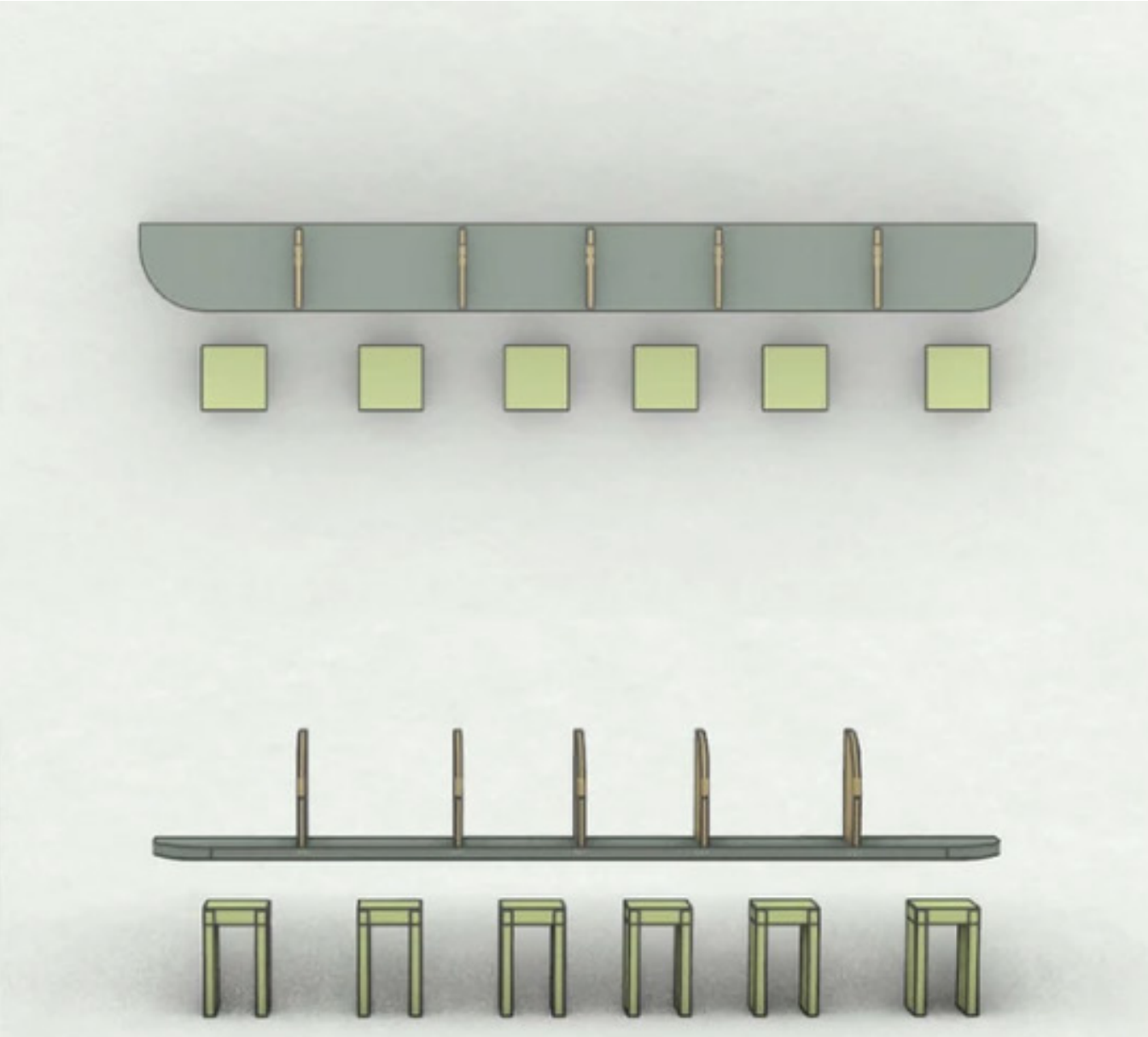


ENVISIONING WORK

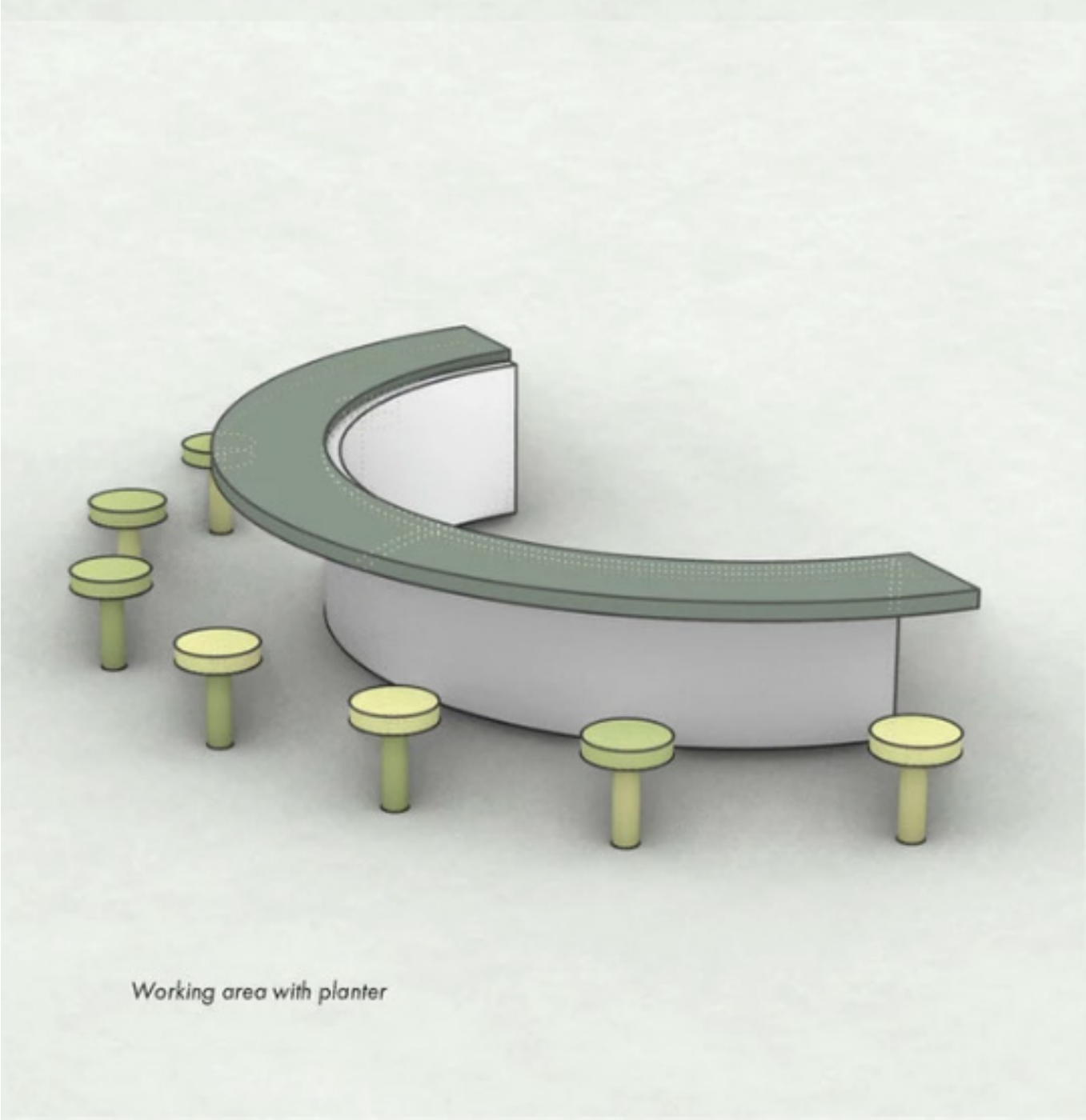
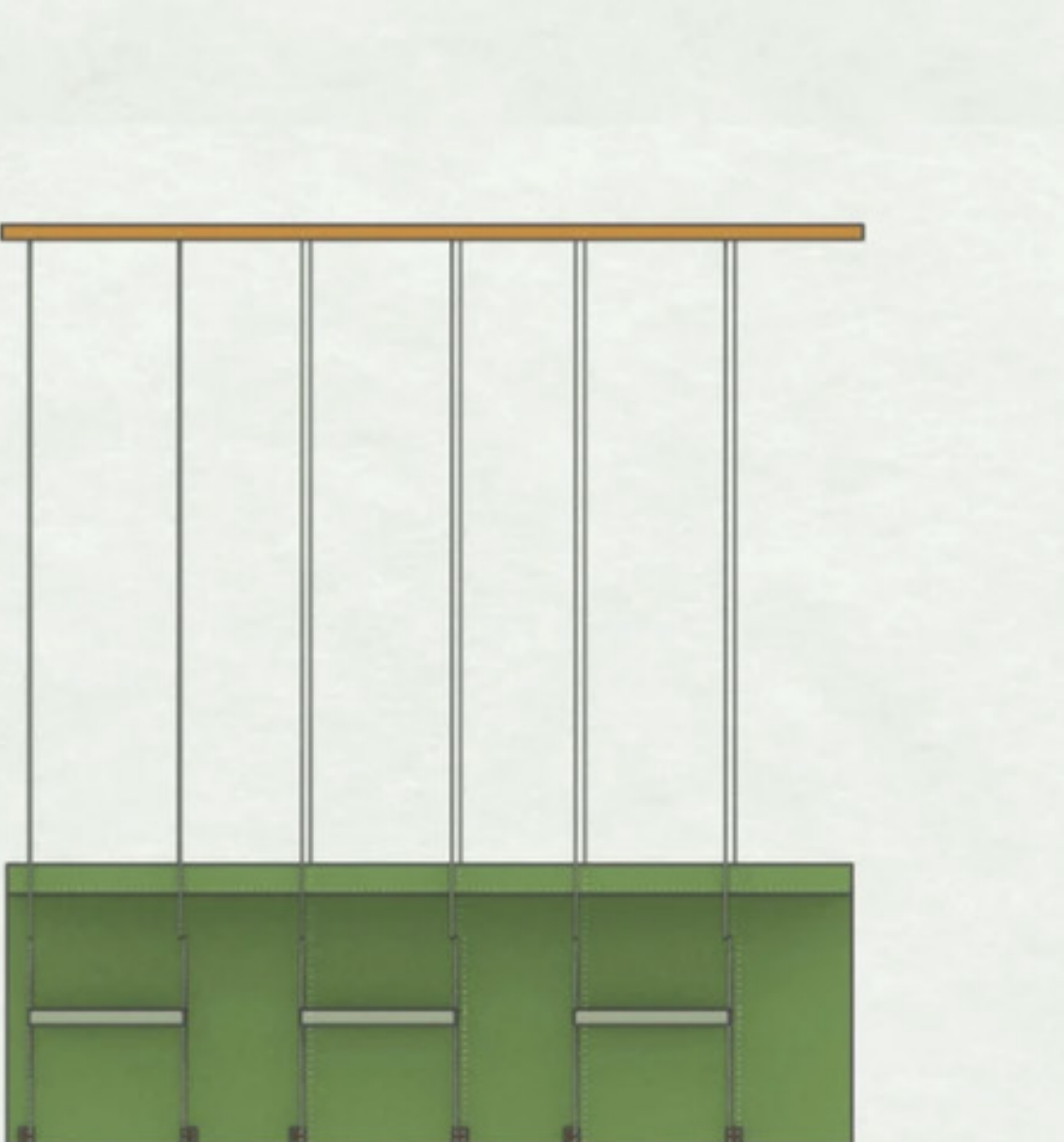
An Autism Friendly and Anxiety Free Office



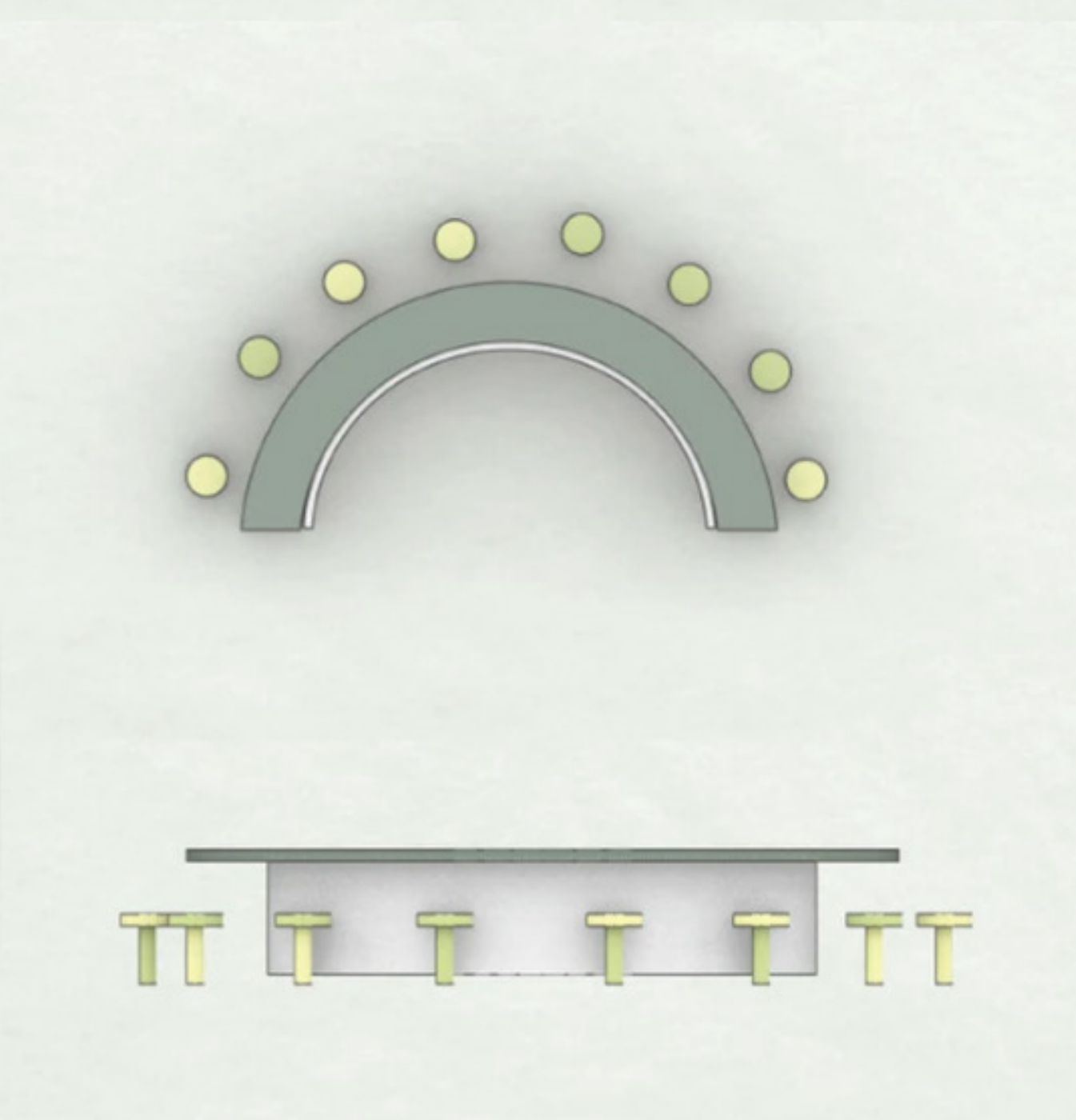
Private eating



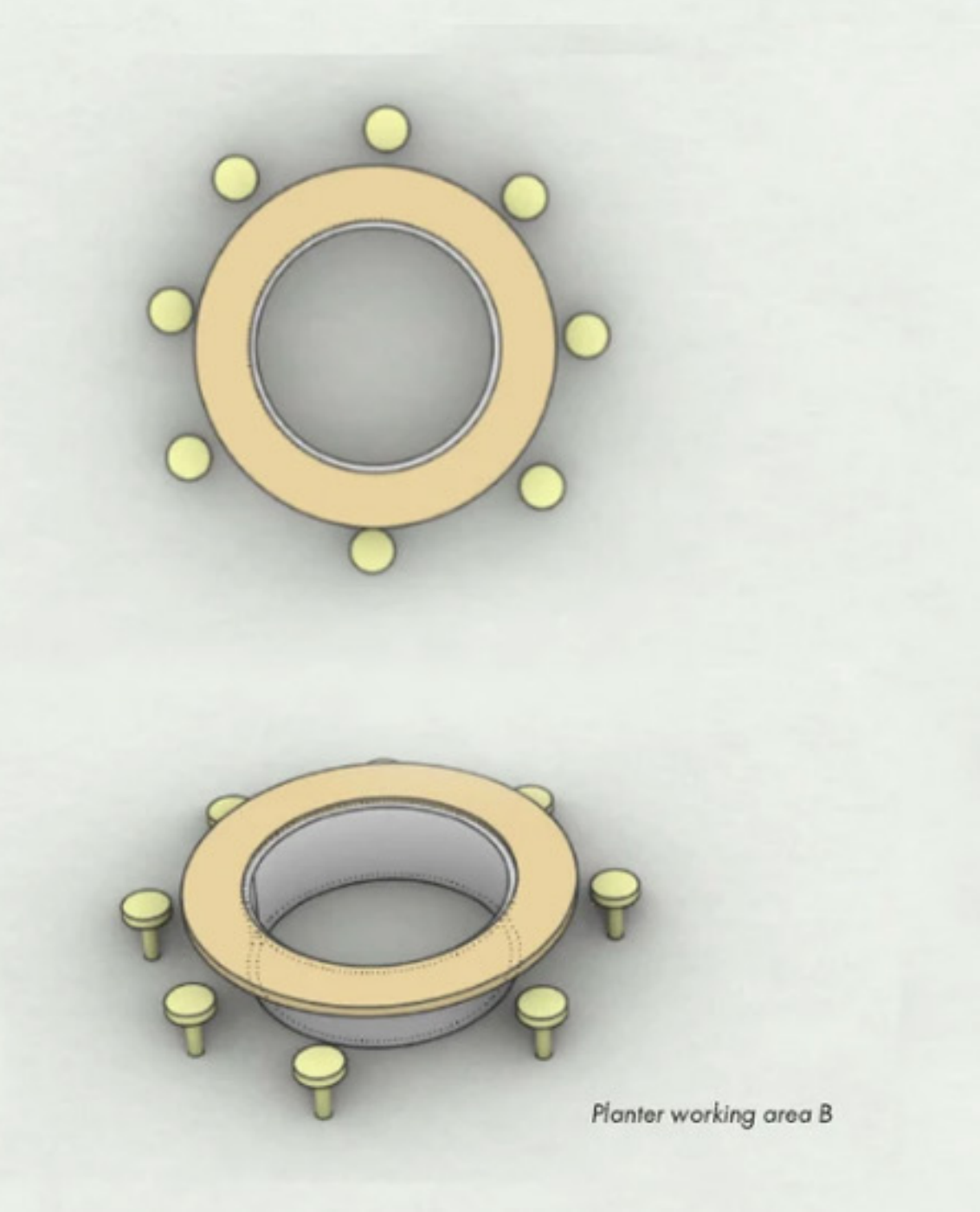
Swing working area



Working area with planter



Planter working area A



Planter working area B

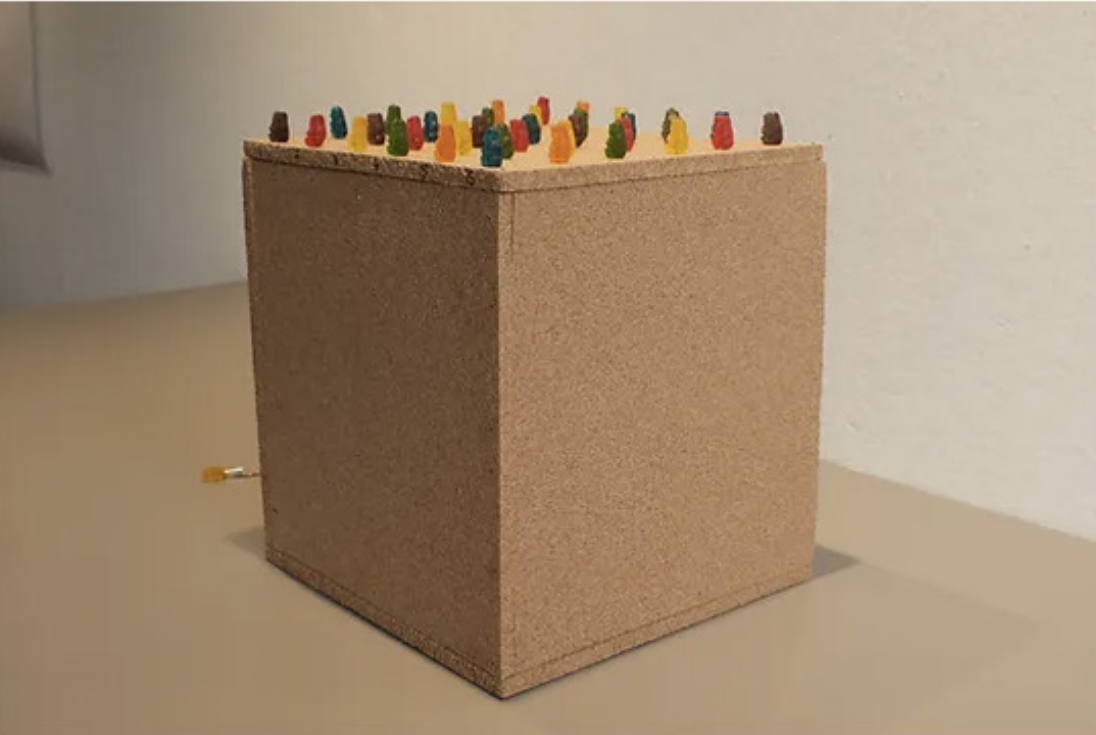
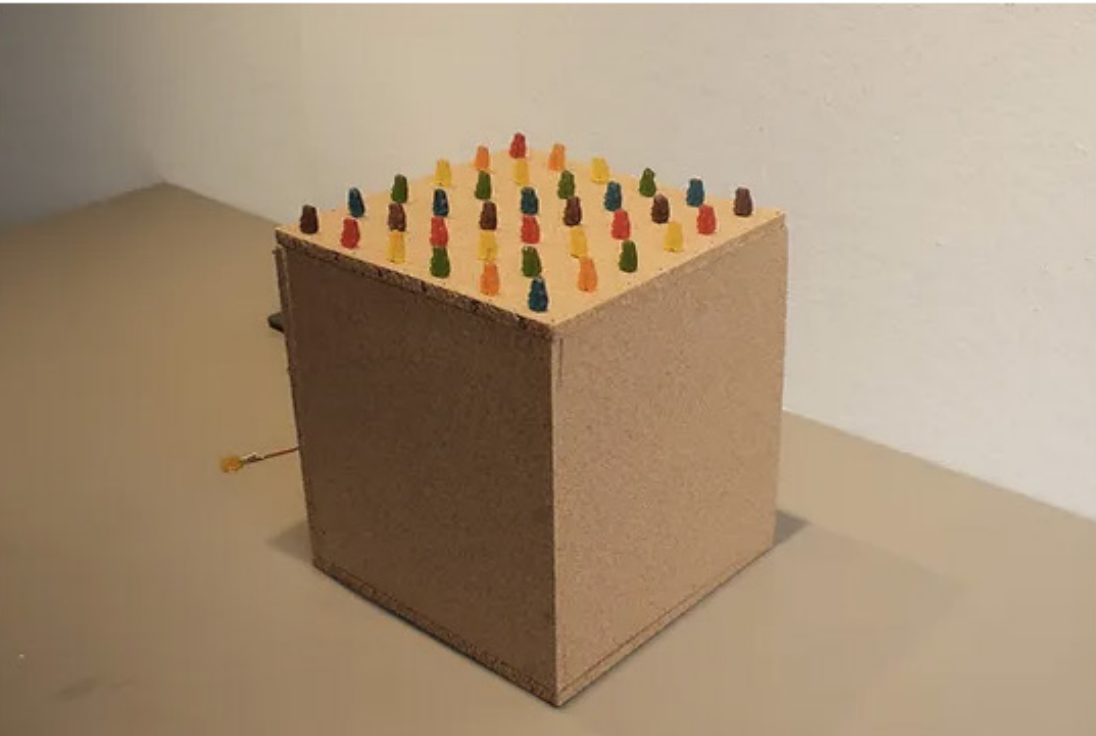
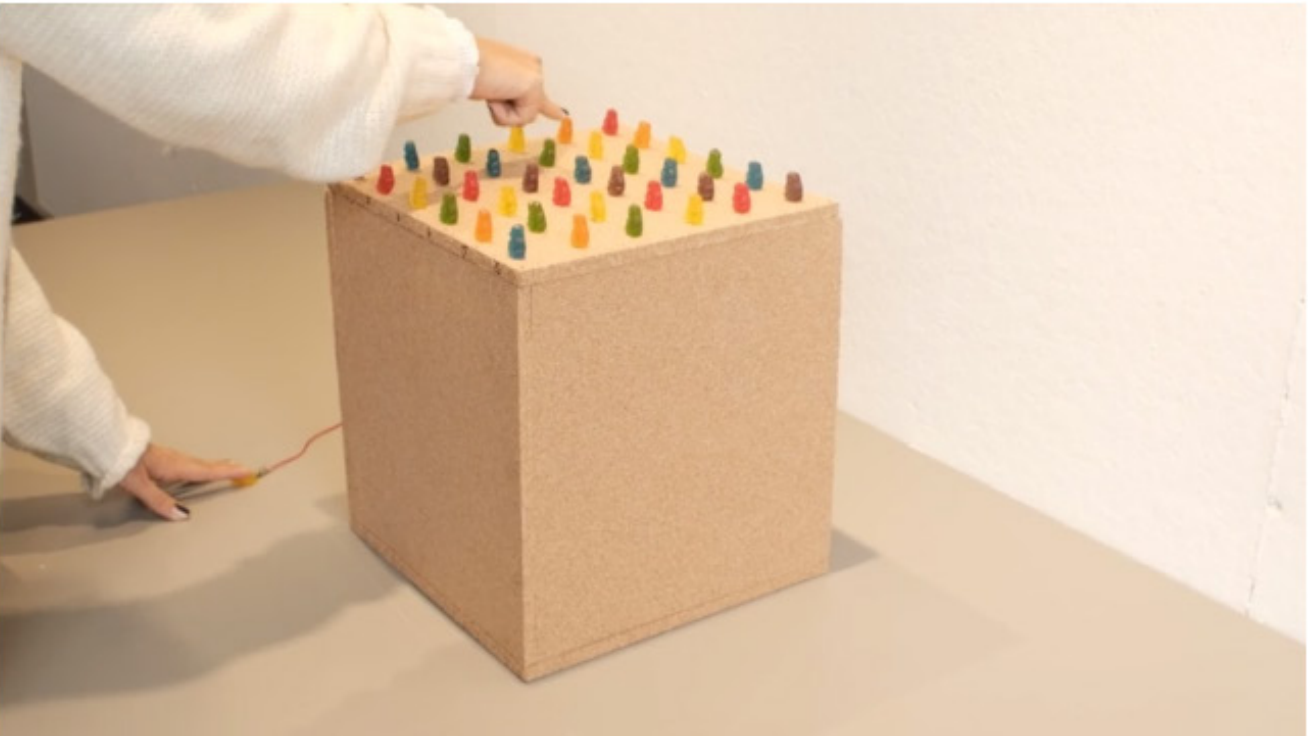
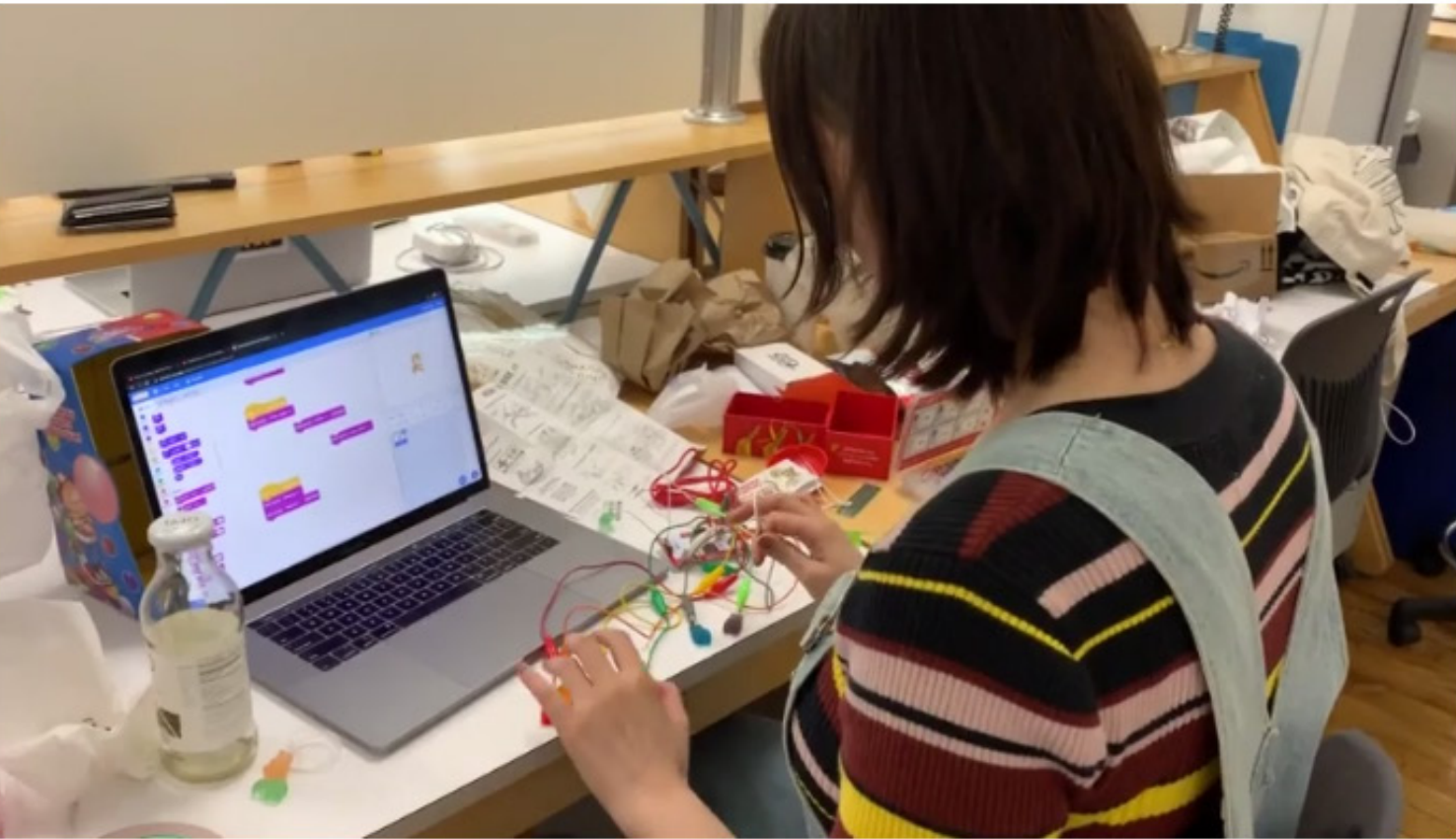
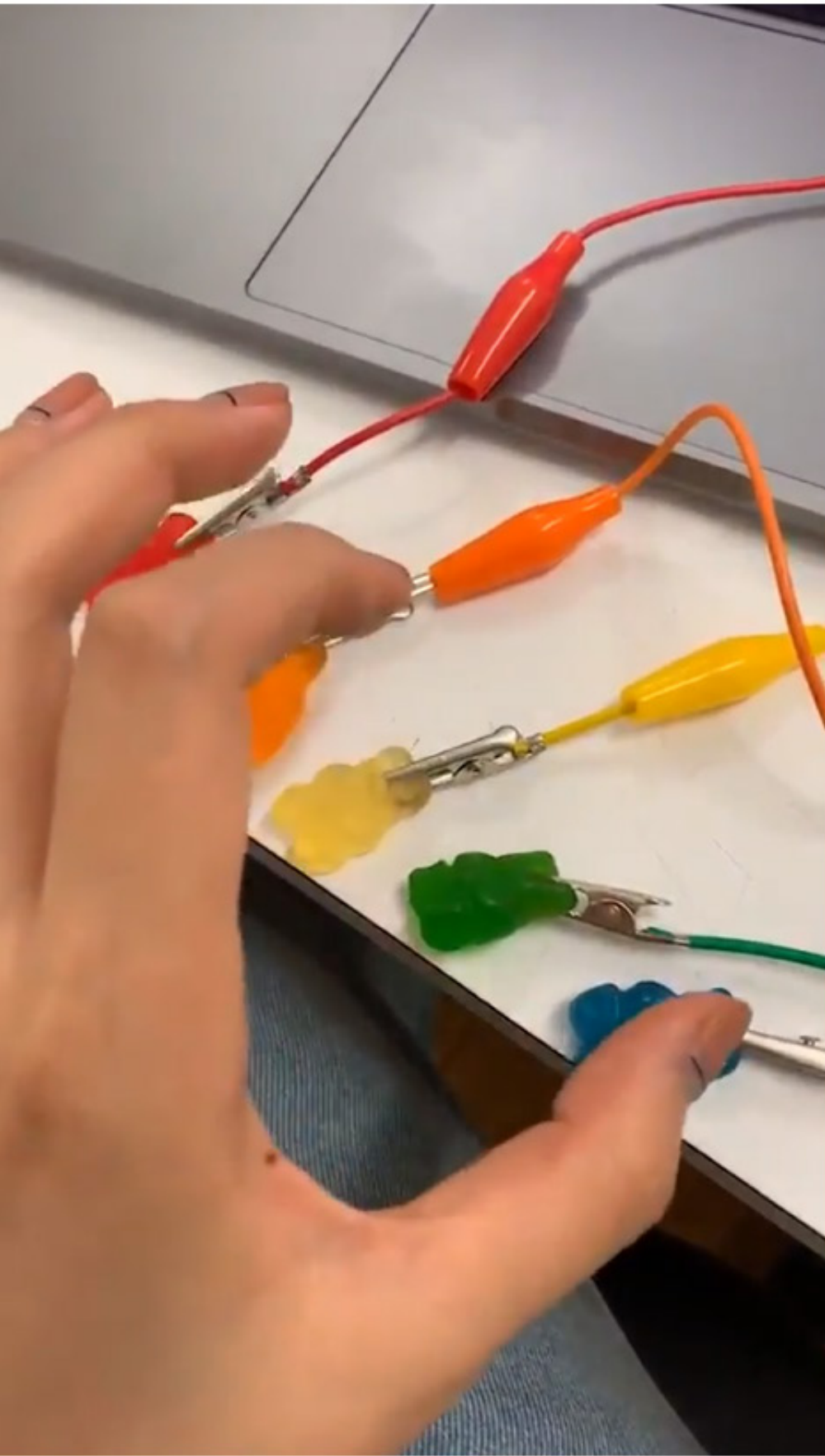
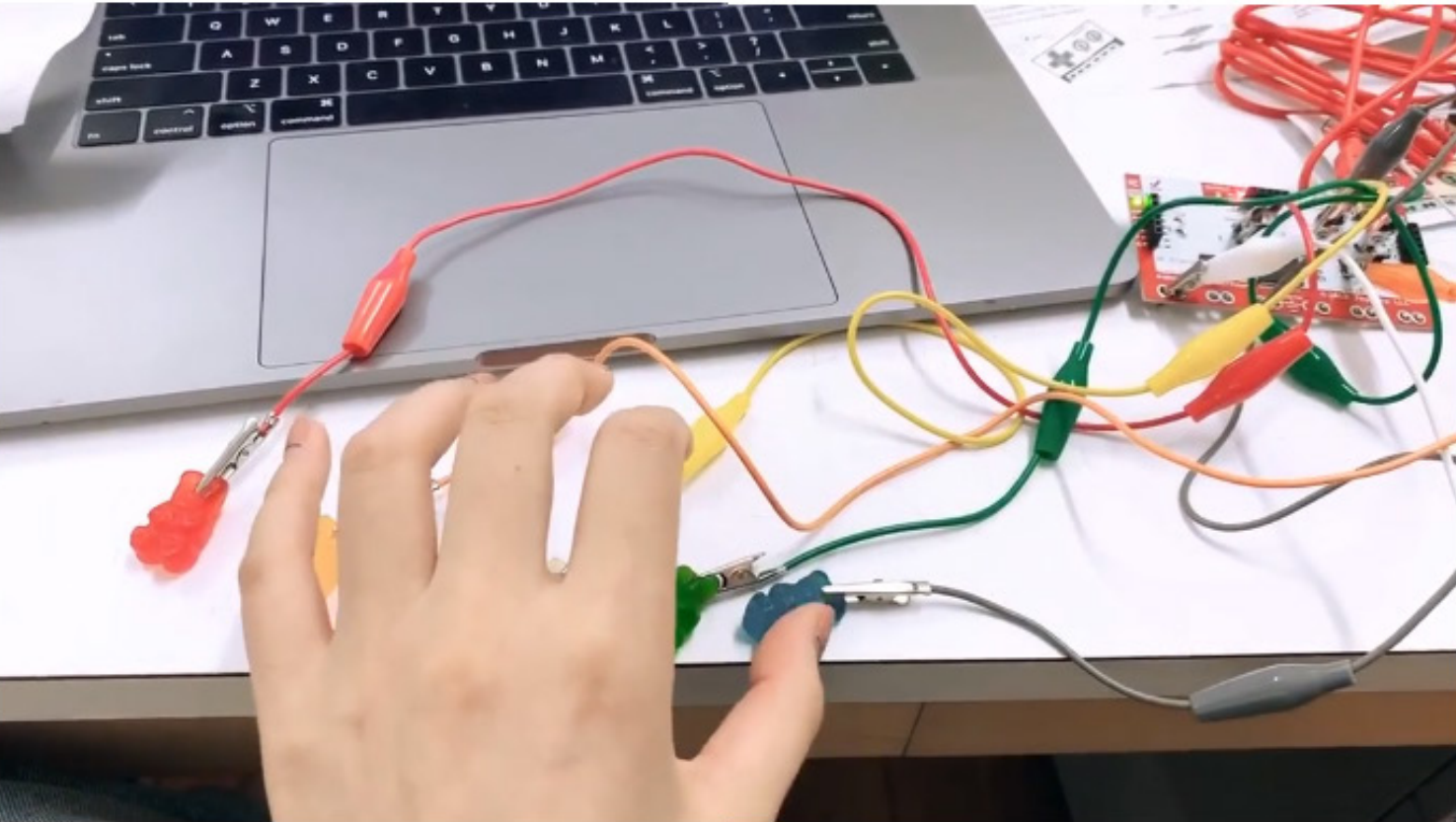
G U M M Y B E A R P I A N O

Immersive exhibit

1

GUMMY BEAR PIANO

A piano made of gummy bears! The gummy bear piano is my first interactive art project with Makey Makey. I used 5 gummy bears and thats it! The 5 gummy bears represent 5 keys and I programed it with Scratch. Makey Makey works just like a USB keyboard or mouse, sending keyboard (WASD, spacebar, etc) and mouse (left click, right click, etc) signals to my computer. When the circuit is closed, the Makey Makey sends a command to my computer, just like a button pressed on a keyboard. I also created a version with home made jellos.



A N I M A L F O R E S T

Immersive exhibit

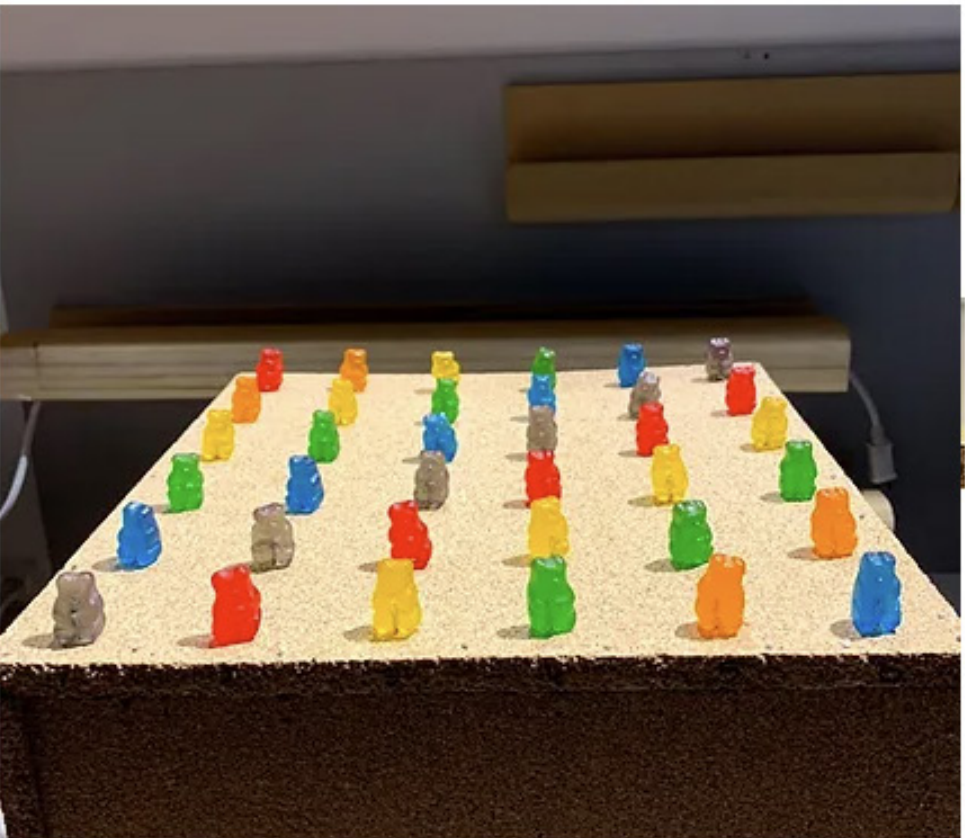
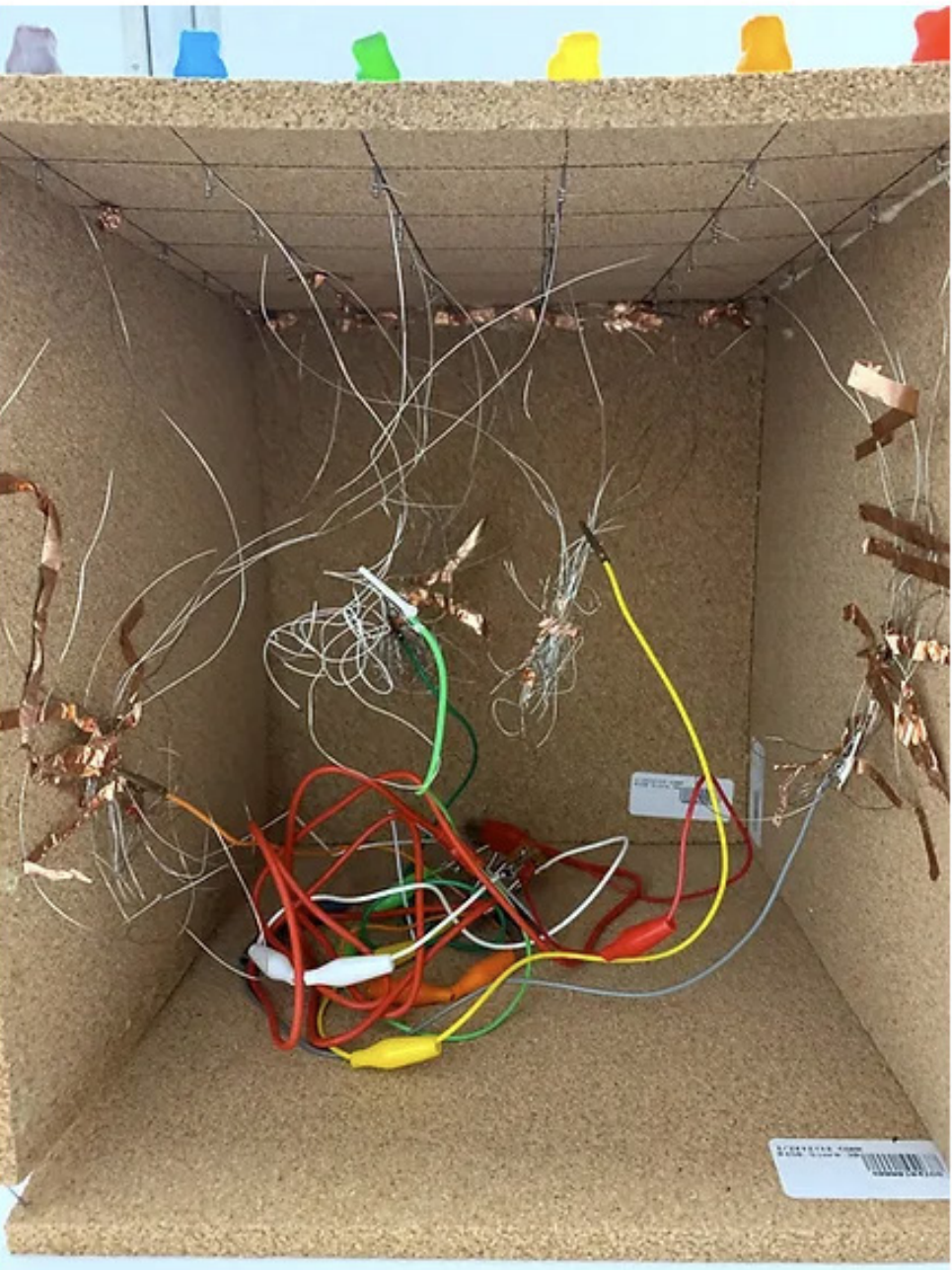
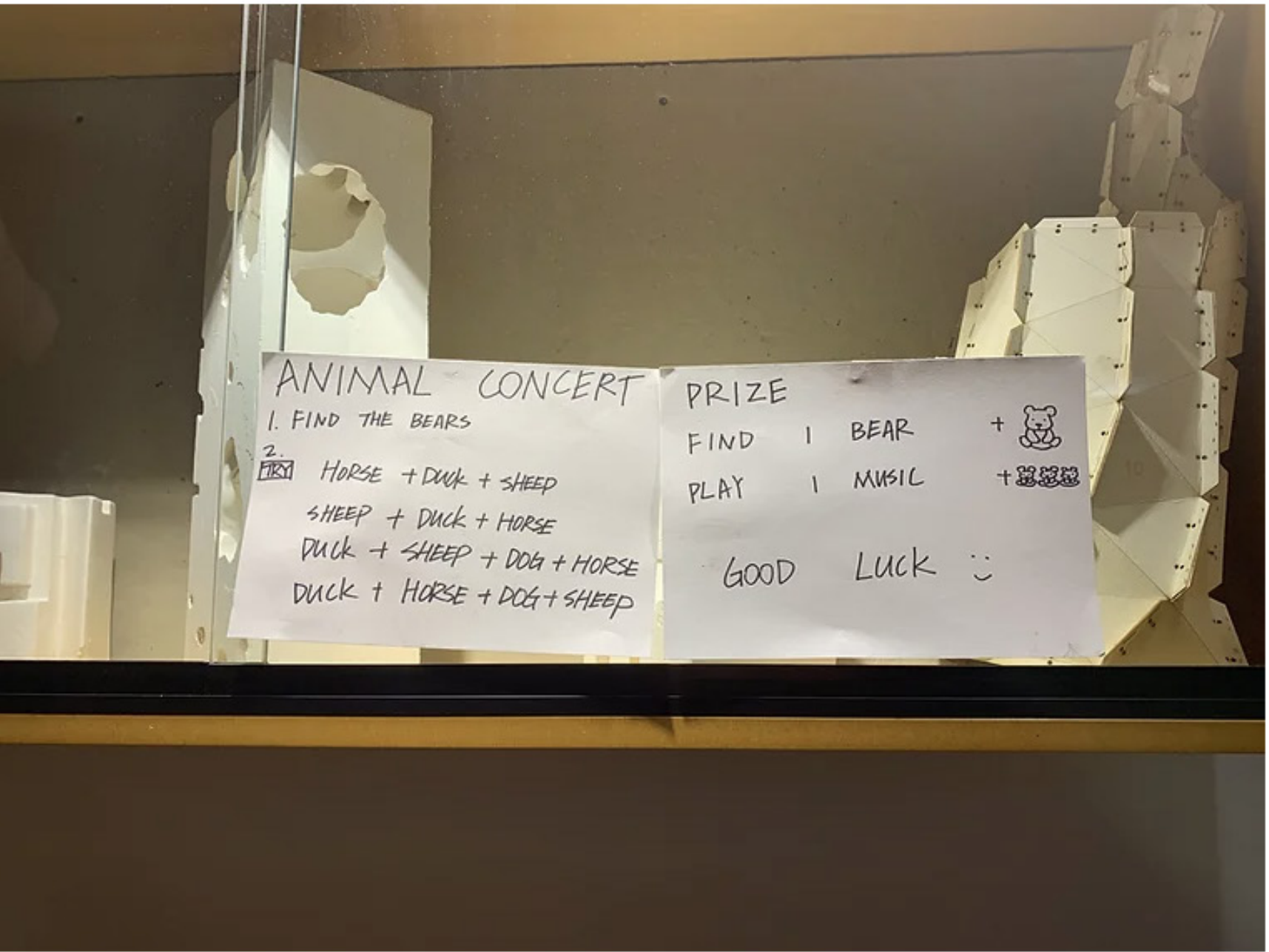


2

ANIMAL FOREST

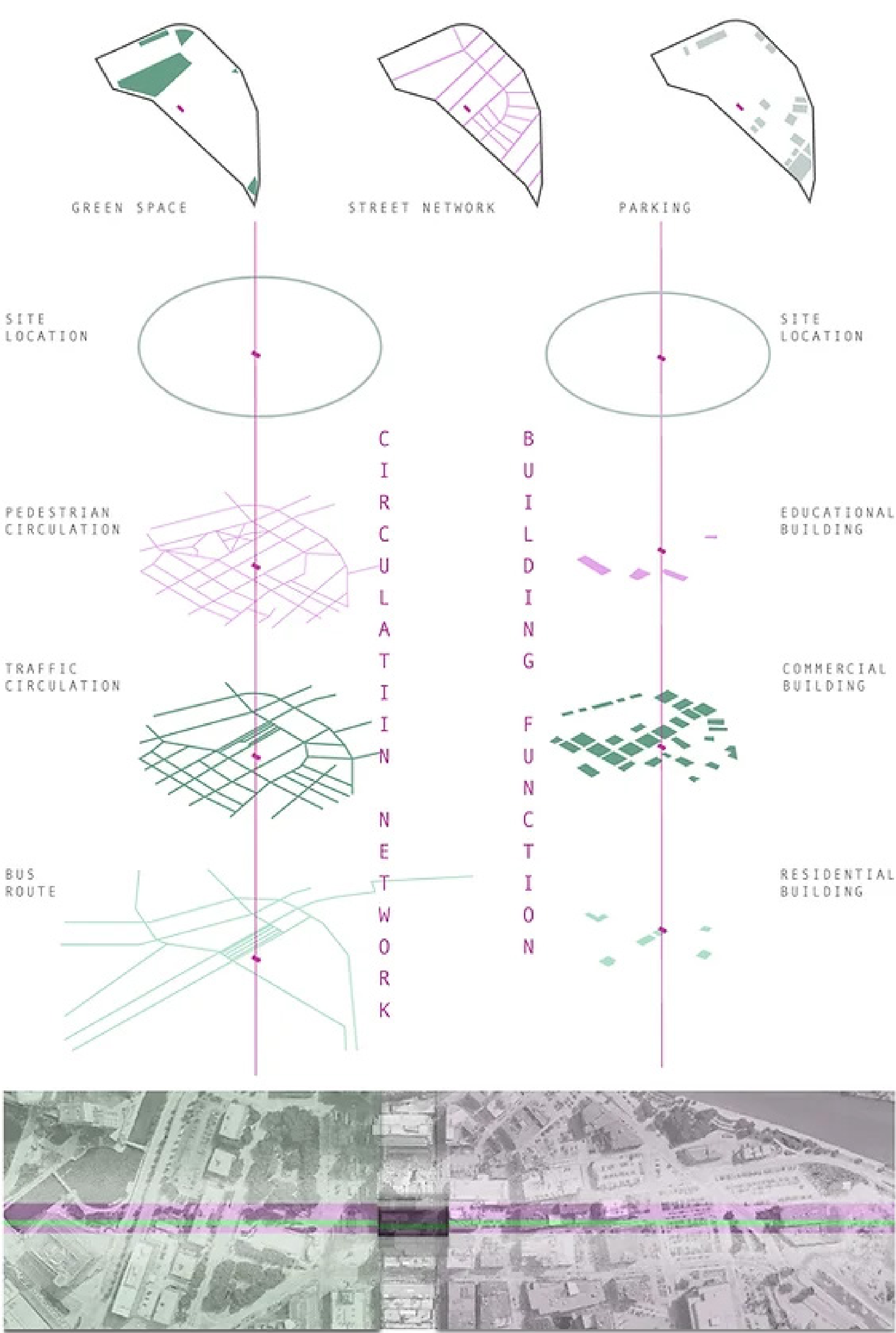
A Hands-on Computer Interactive Box:Used Scratch and, a Makey Makey , and a bag of gummy bears to design a hands-on computer interactive that will surprise and reward the visitor in some way when they solve a puzzle.

Honored by RISD INTAR to be displayed and presented on 2019 RISD alumni weekend



MACHINERY

Biomass Food Market



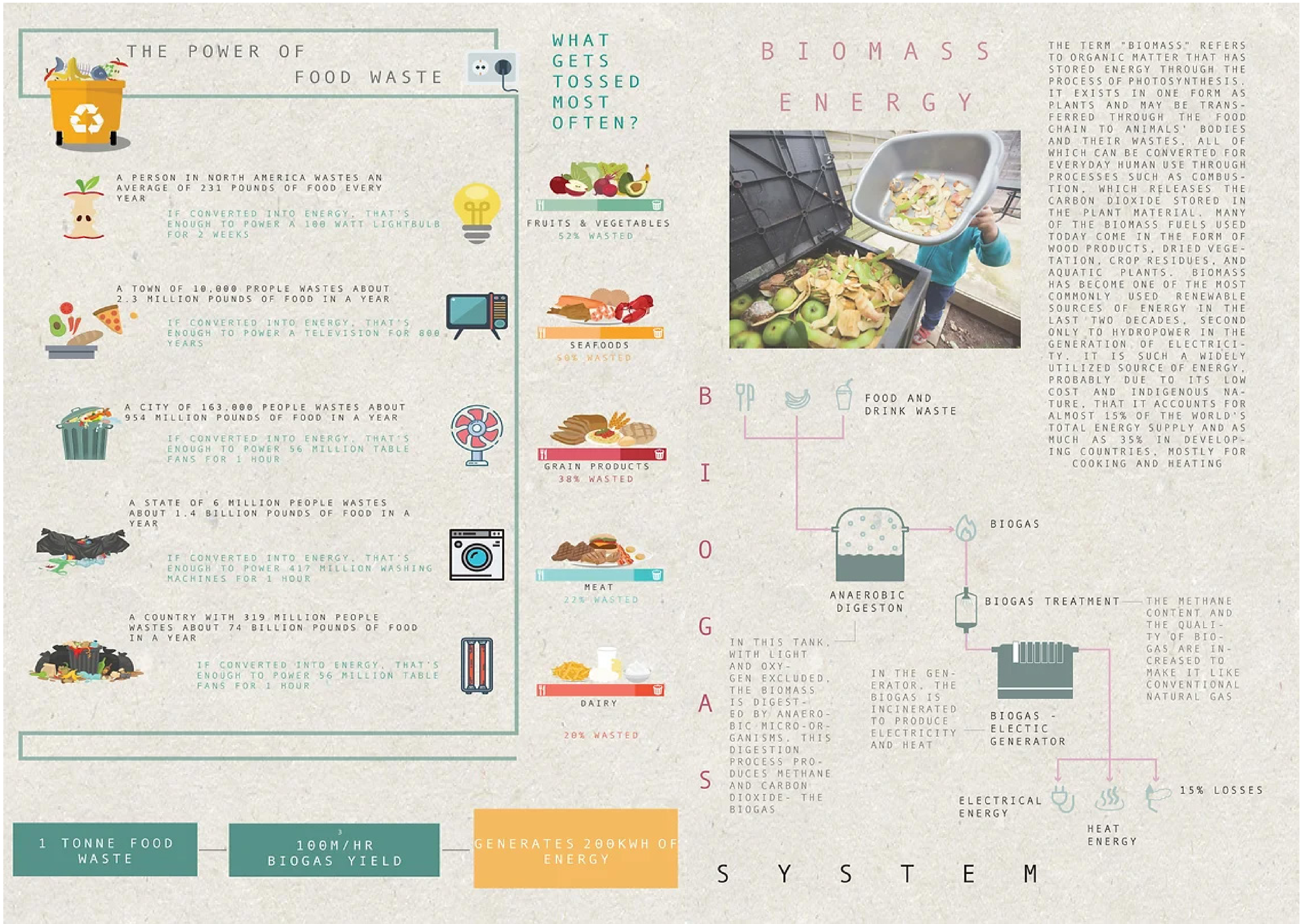
THE SITE IS LOCATED IN THE CENTRAL PART OF PROVIDENCE. IT ACTS AS AN URBAN CORRIDOR OF THE CITY. THE EXISTING CVS IS RIGHT NEXT TO KENNEDY PLAZA. A LOT OF PEOPLE TRAVELING FROM STATES TO STATES PASS BY THIS BUILDING, AS WELL AS THE RESIDENTS, STUDENTS AND PEOPLE WHO WORK AROUND. THE EXISTING CVS SITE HAS A GREAT DIVERSITY OF CUSTOMERS.

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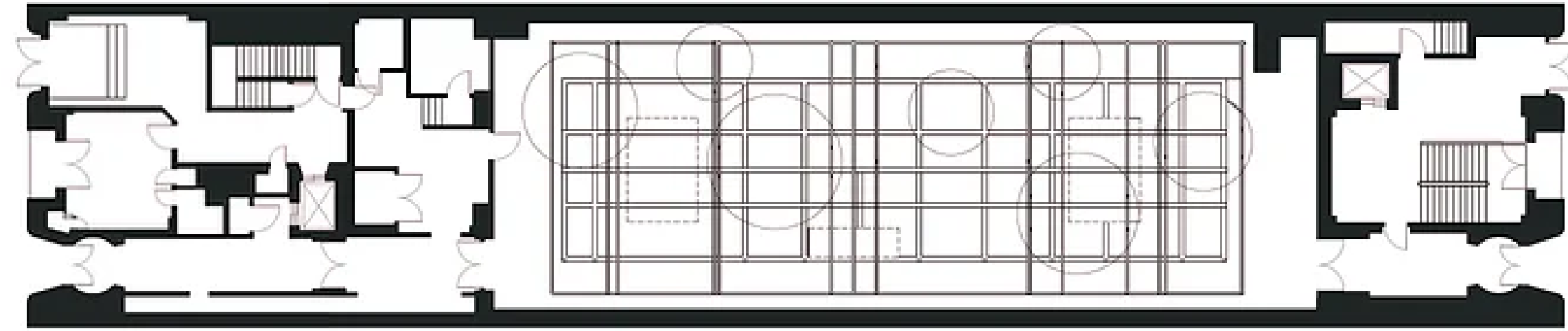
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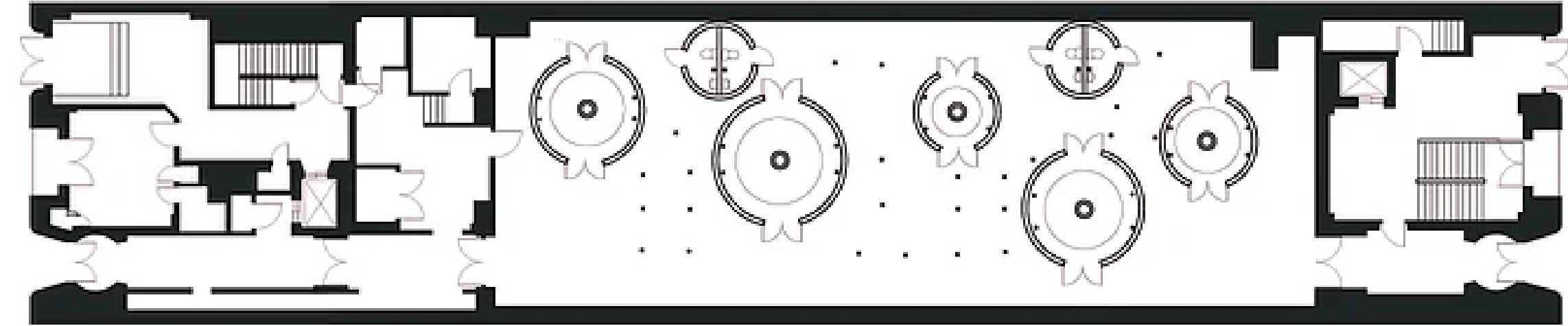
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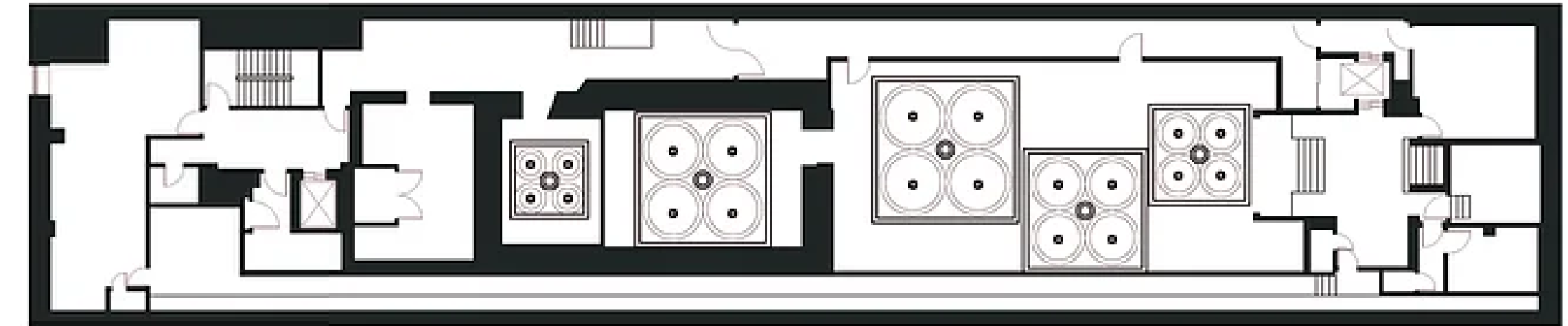
TOP VIEW
1/8" = 1'-0"



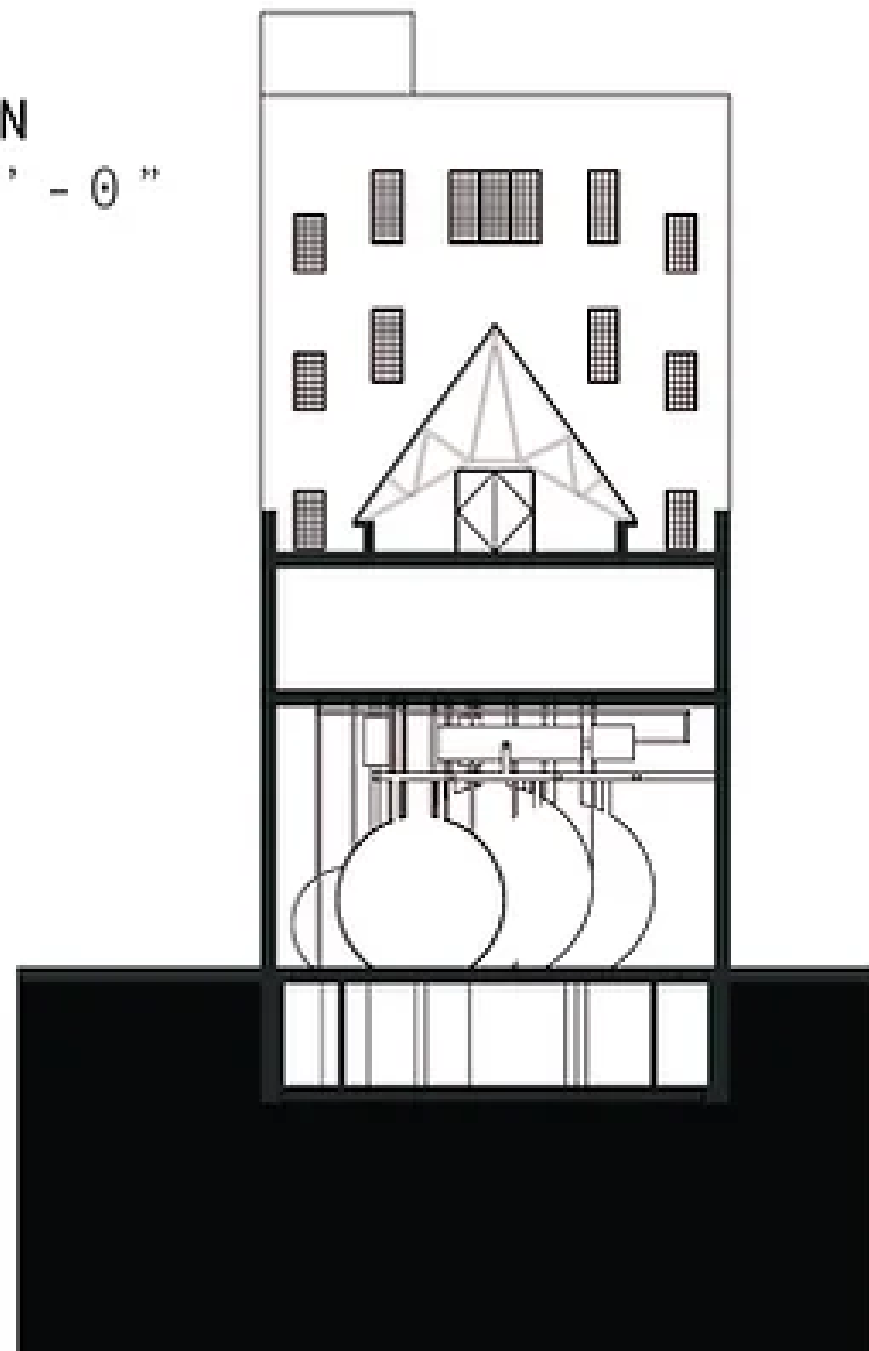
FIRST FLOOR PLAN
1/8" = 1'-0"



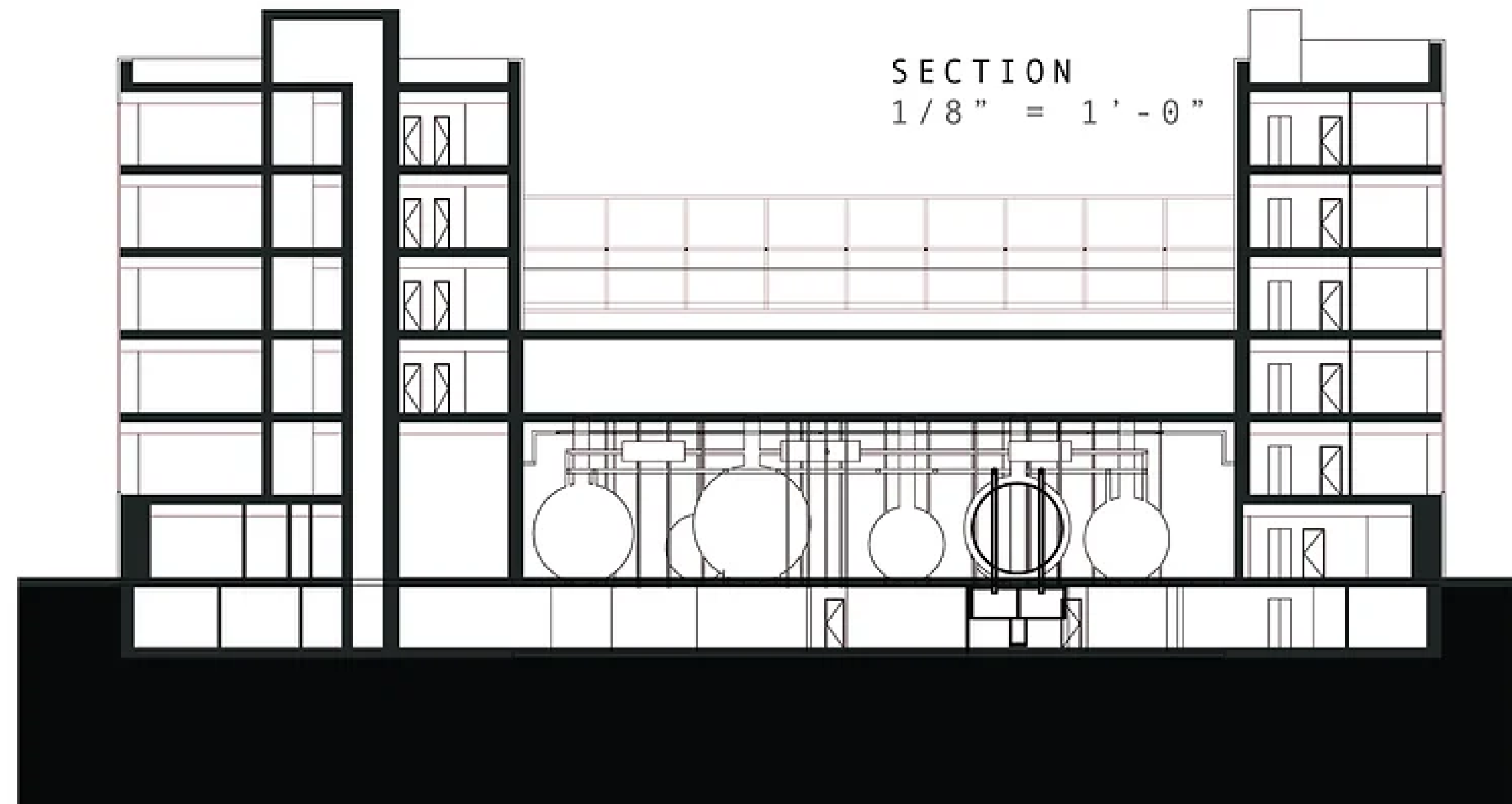
BASEMENT PLAN
1/8" = 1'-0"



ELEVATION
1/8" = 1'-0"



SECTION
1/8" = 1'-0"

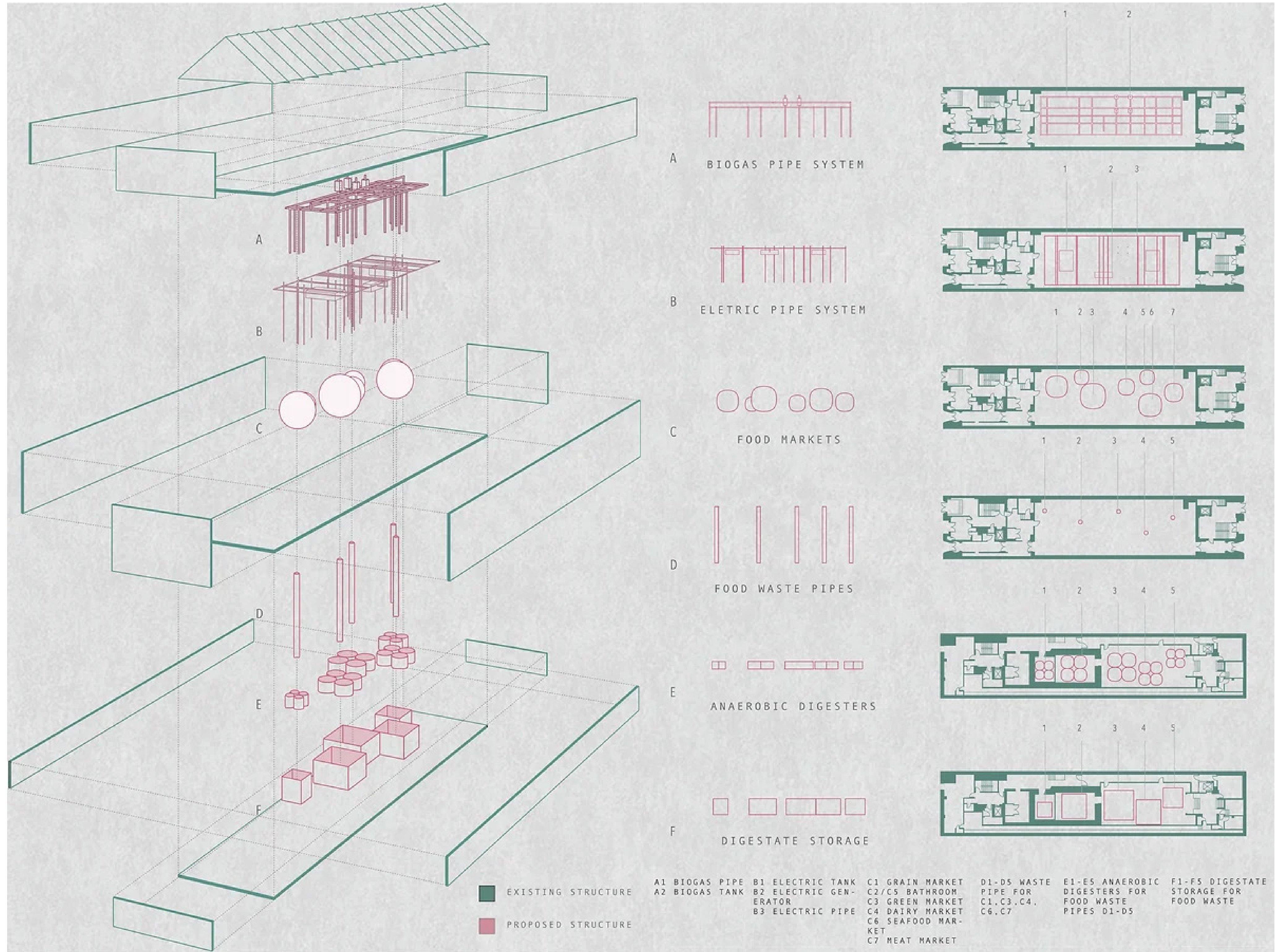


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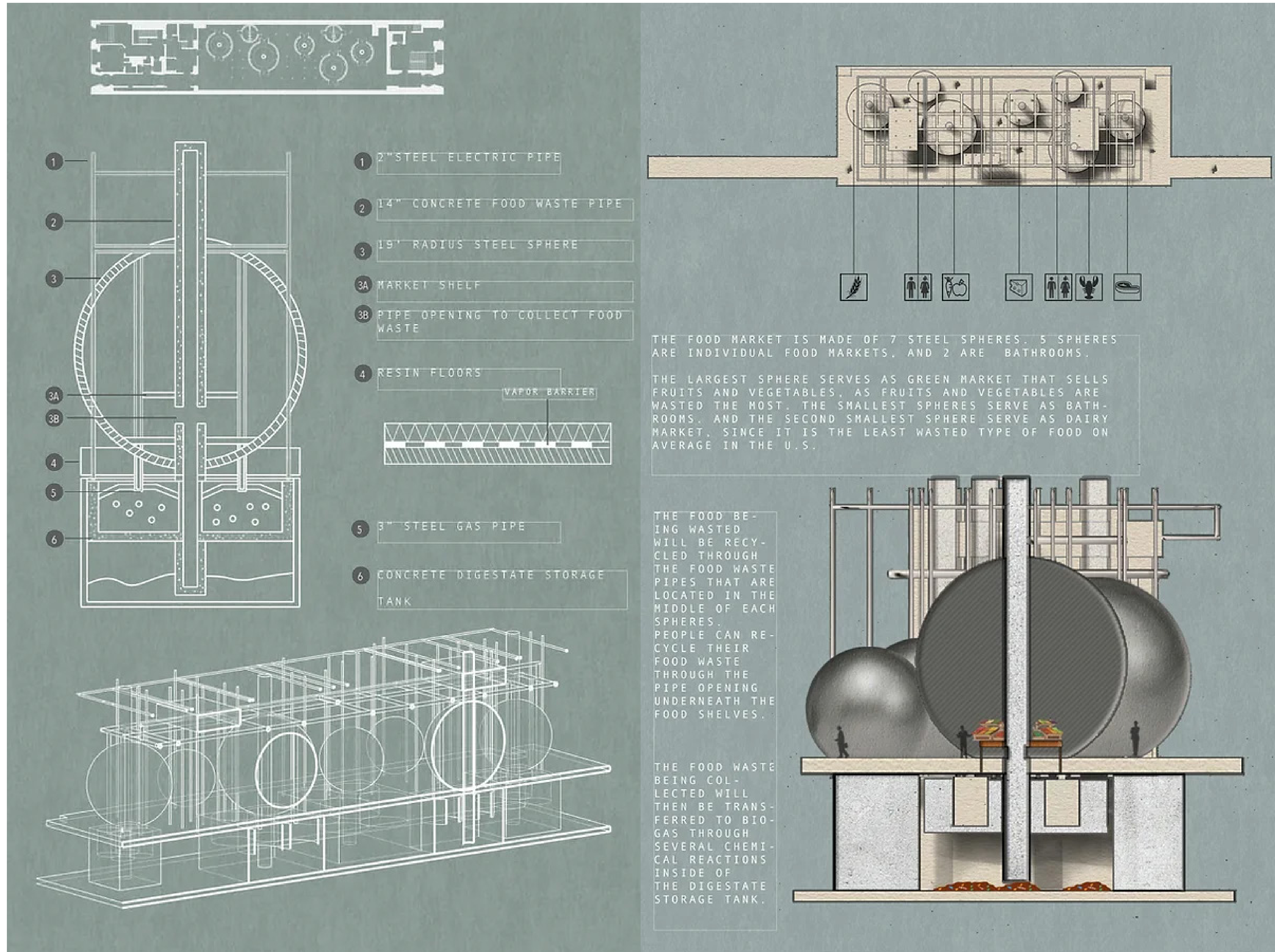
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MACHINERY

Bio-mass Food Market

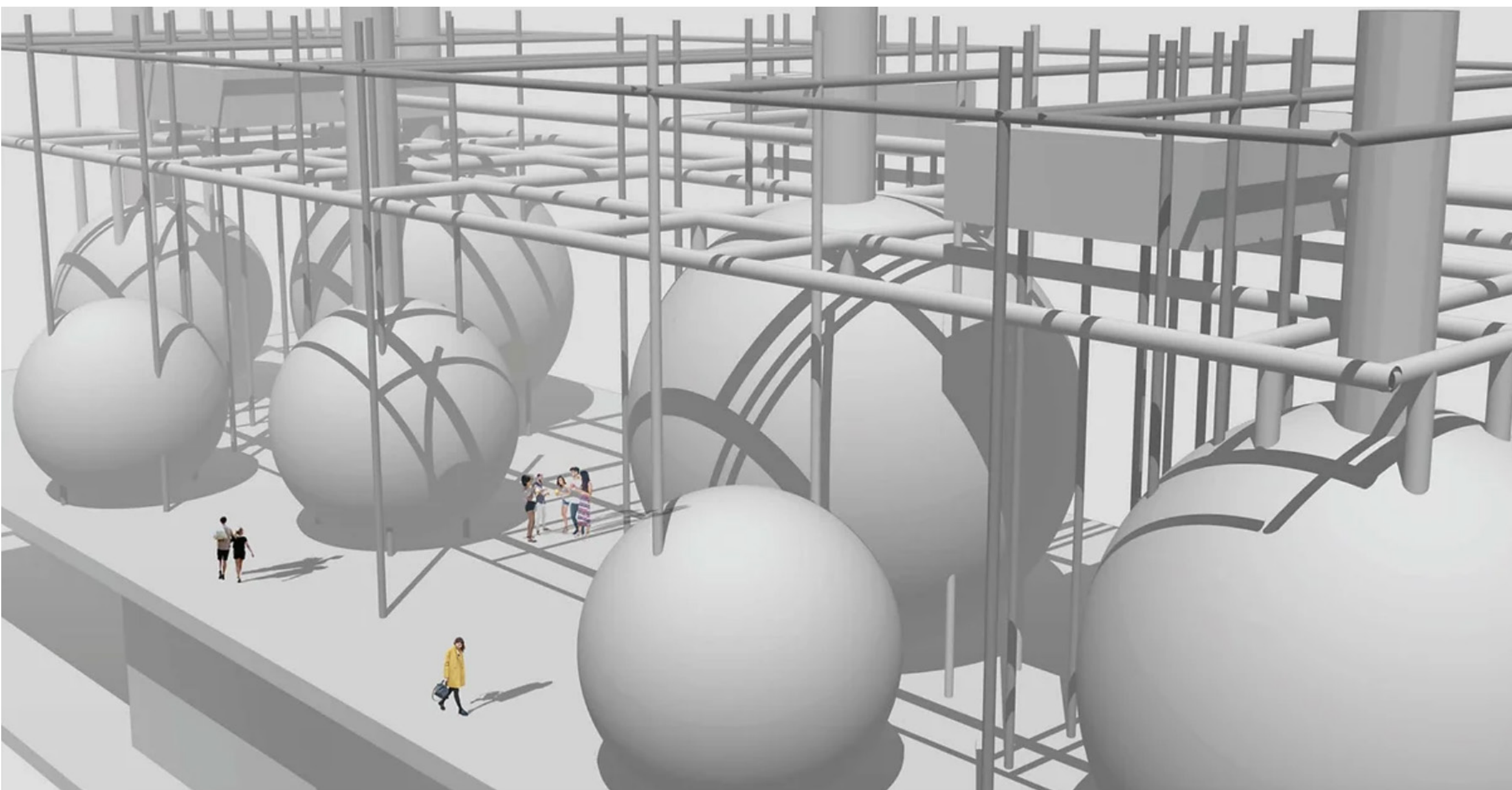
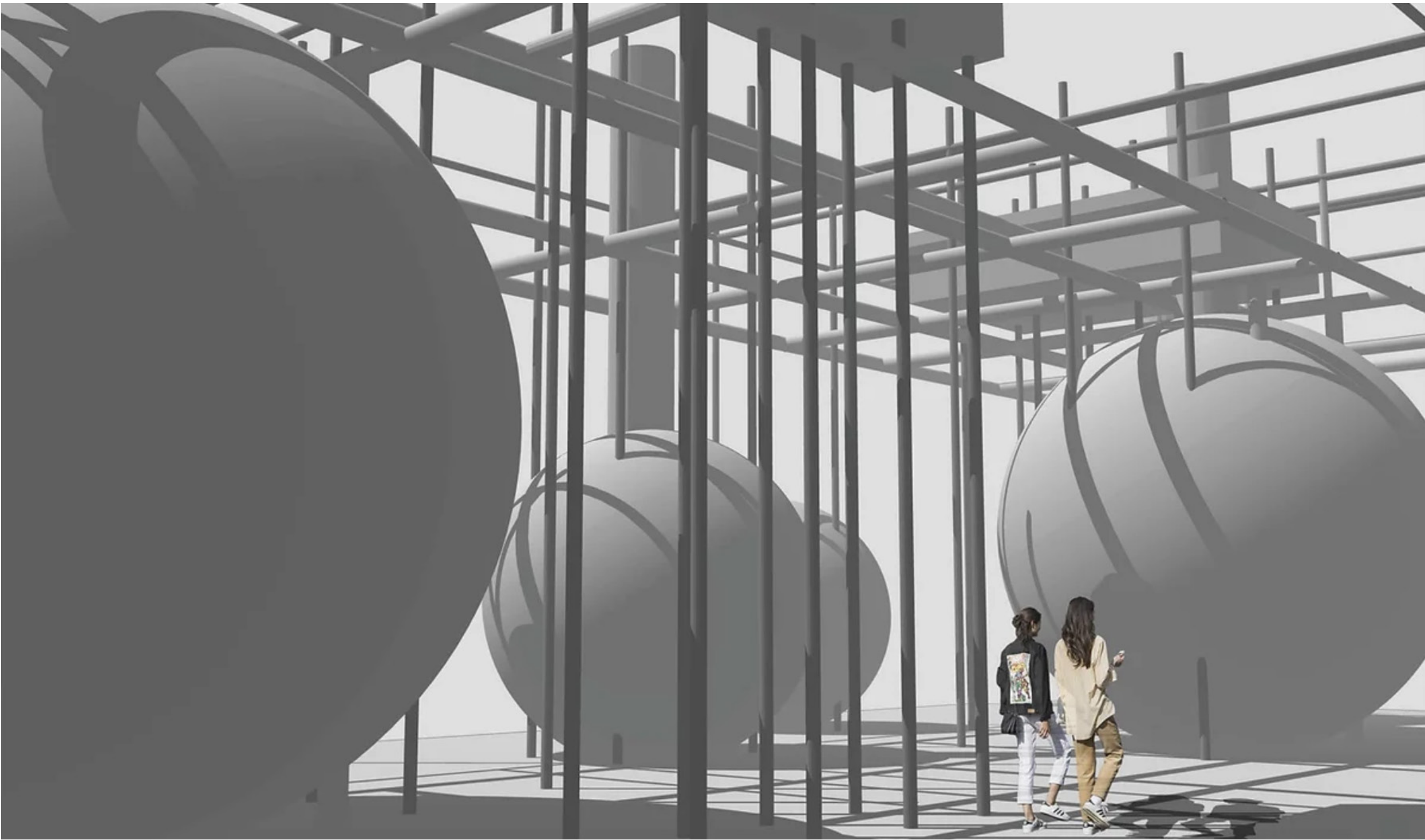
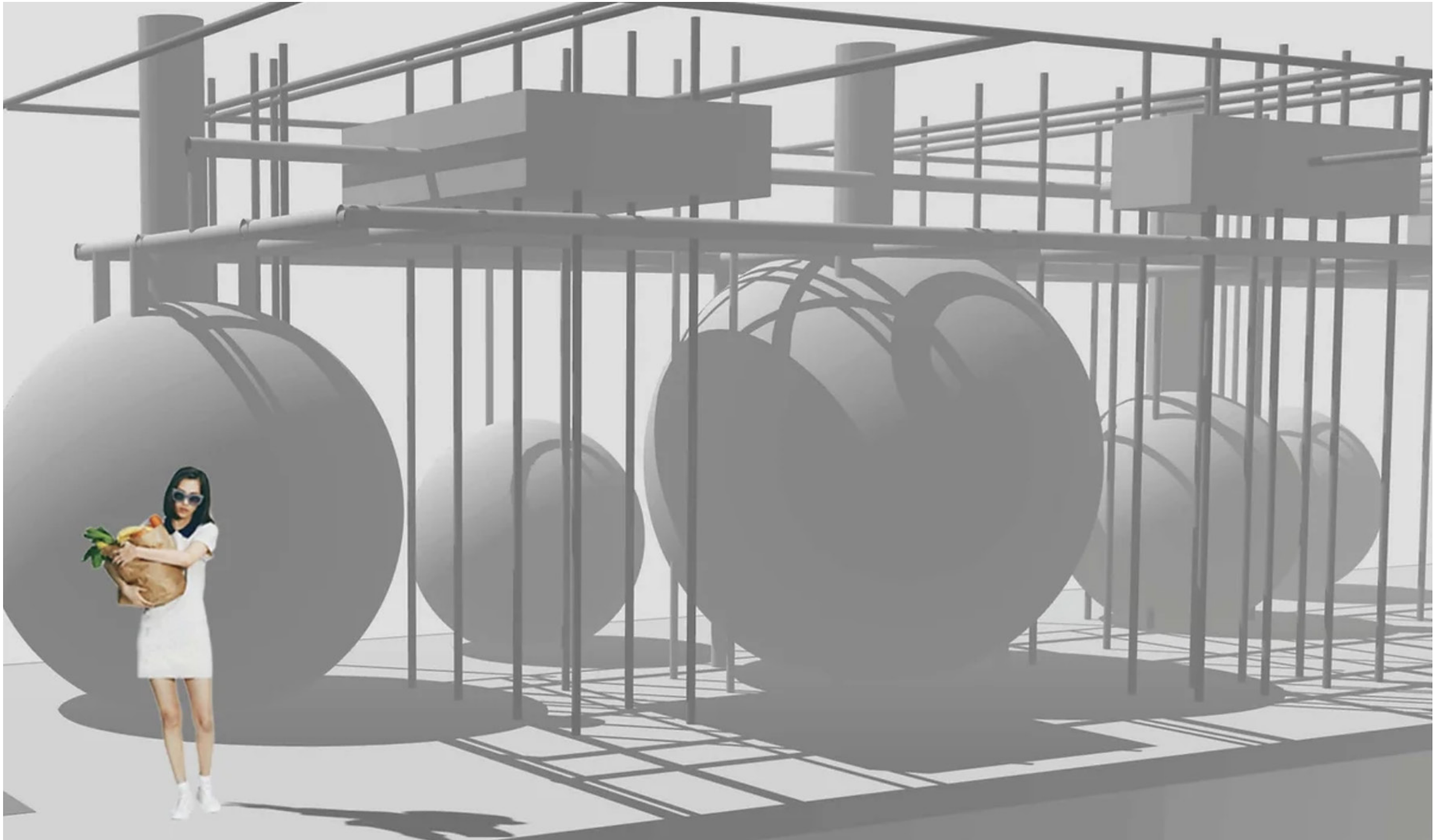


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C O U N T D O W N

COUNTDOWN IS A MAZE LIKE PARK LOCATED IN WARREN, RI. THE GOAL IS THE PARK IS TO EDUCATE PEOPLE ABOUT CLIMATE CHANGE AND SEA LEVEL RISE. THE PARK IS LOCATED AT WHERE THE WARREN WASTE TREATMENT USED TO BE. IN ADDITION TO THE EDUCATIONAL PURPOSE, THE PARK WILL ALSO PROVIDE MORE PUBLIC SPACE, AS WELL AS LET PEOPLE GET MORE ACCESS TO THE WATERFRONT. THE MAZE SHAPE WALL IS A GABION WALL FILLED WITH CONCRETE TRUNK RECYCLED FROM THE RUINS OF WASTEWATER TREATMENT FACILITY, WHICH GIVES THE ABONDONED BUILDINGS A BETTER AND MEANINGFUL USE. THE WALL WILL HELP WITH FLOOD, STORM SURGE, WAVE ACTION, AND COSTAL LAND EROSION. THE SHAPE OF THE WALL COMES FROM FUTURE WATERLINE, AND THE HEIGHT OF THE WALL WILL BE A REPRESENTATION OF FUTURE SEA LEVEL IN 2100. THE PROJECT WILL BE A NEW STRATEGY FOR ADAPTING TO SEA LEVEL RISE

WARREN WASTE WATER
TREATMENT FACILITY

FRED J JANNITTO
MEMORIAL PARK

PROPOSED BIKE PATH

EXISTING BIKE PATH

MAJOR HIGHWAY

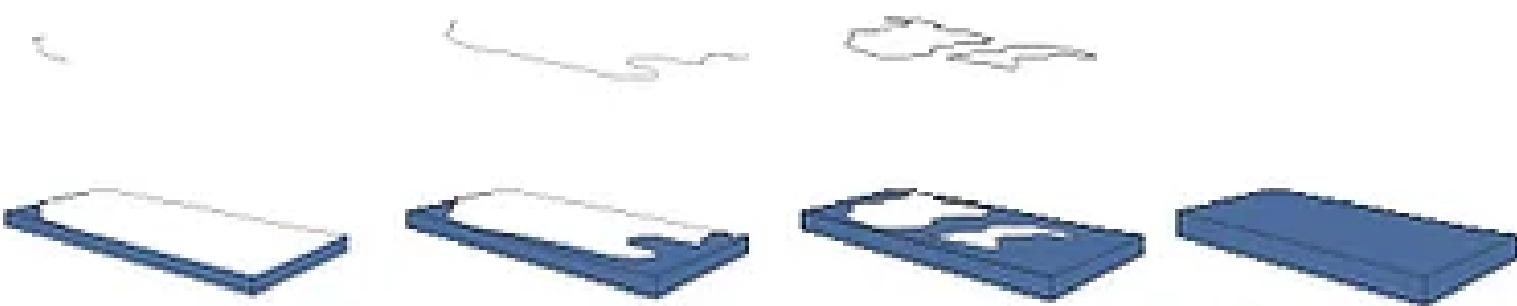
MAZE SHAPE GABION WALL



PHASE 1 ACKNOWLEDGE

[RECOGNIZE THE FACT AND THE POSSIBLE IMPACT OF GLOBAL WARMING AND SEA LEVEL RISE]

FUTURE WATER LINE



DUPLICATE



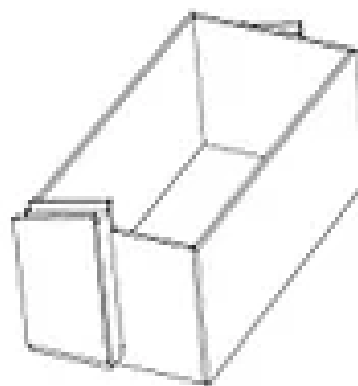
EXTRUDE



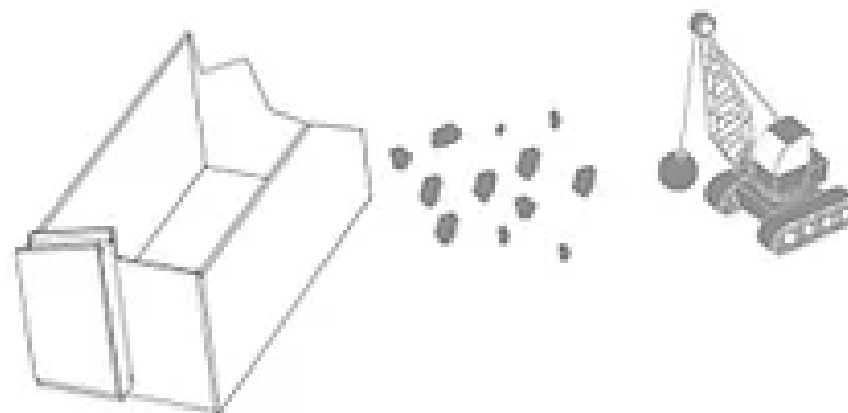
PHASE 2 COUNTDOWN

[COUNTINGDOWN THE FINAL MOMENTS BEFORE THE CITY GET FLOODED AND IMPACTED]

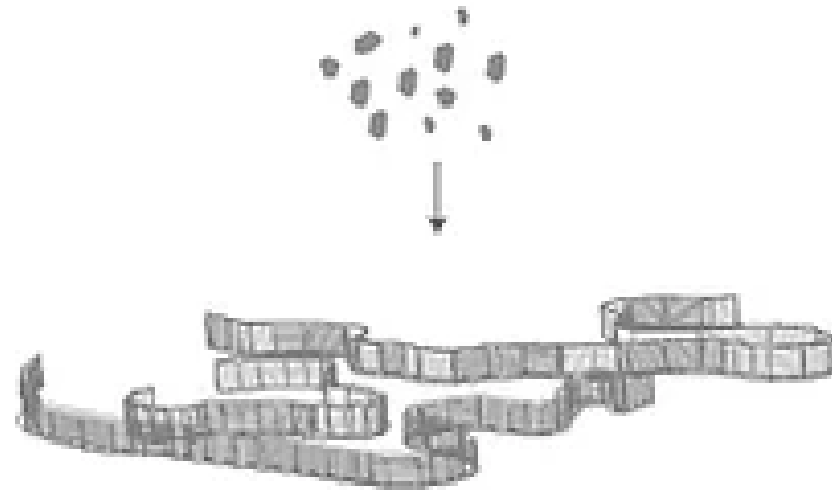
EXISTING BUILDING



DEMOLISH



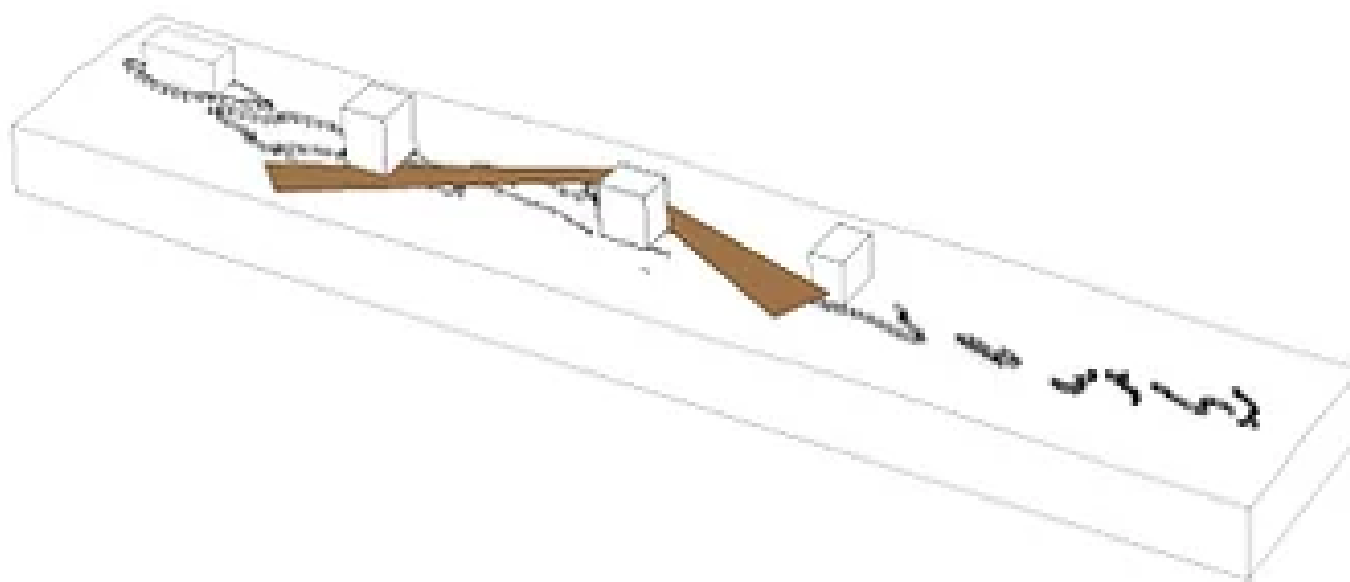
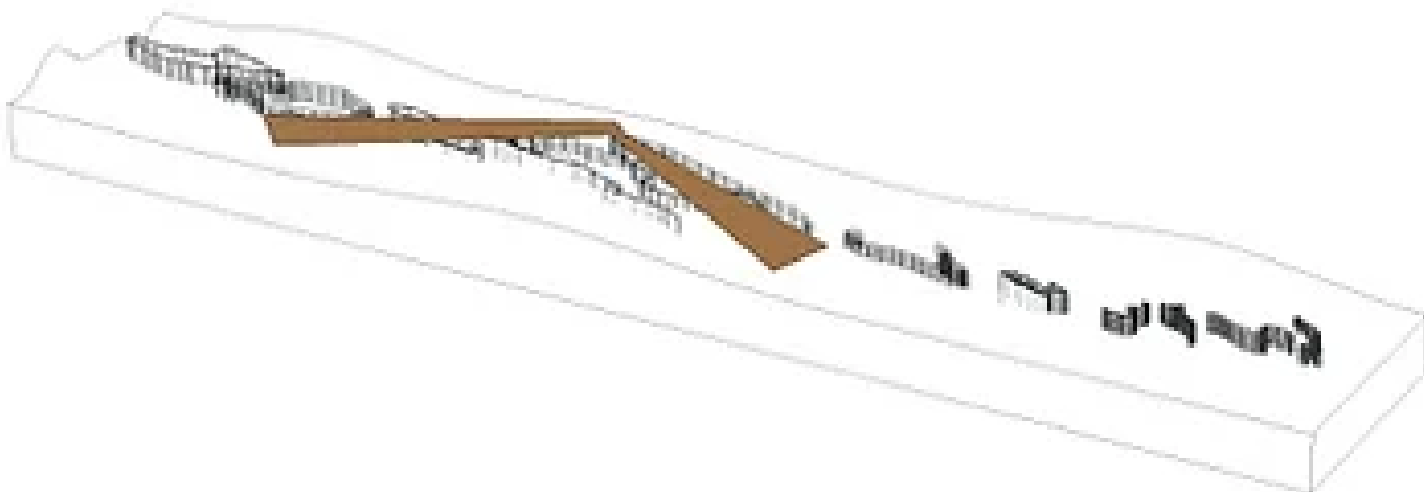
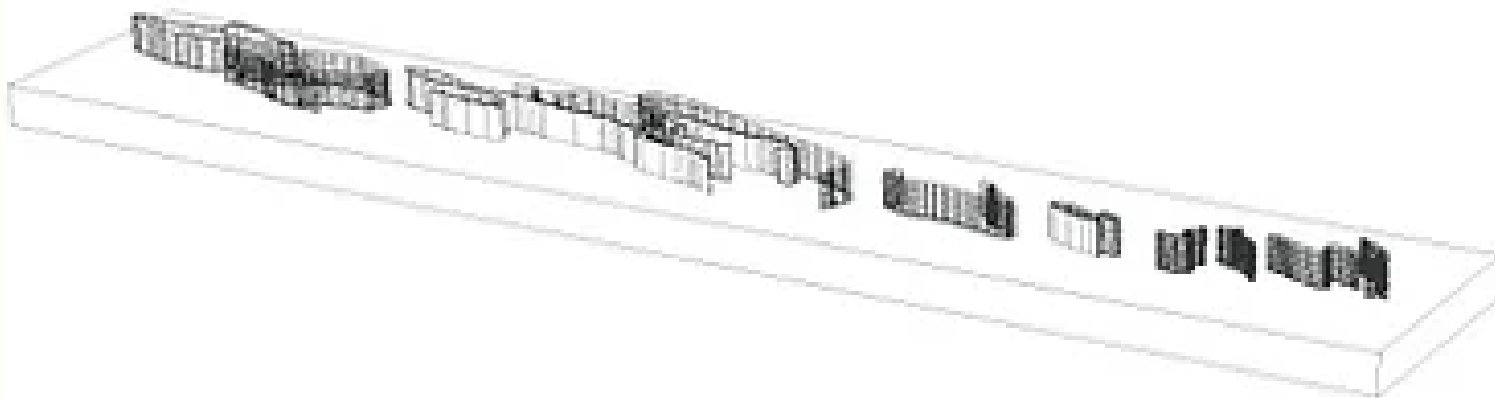
RECYCLE

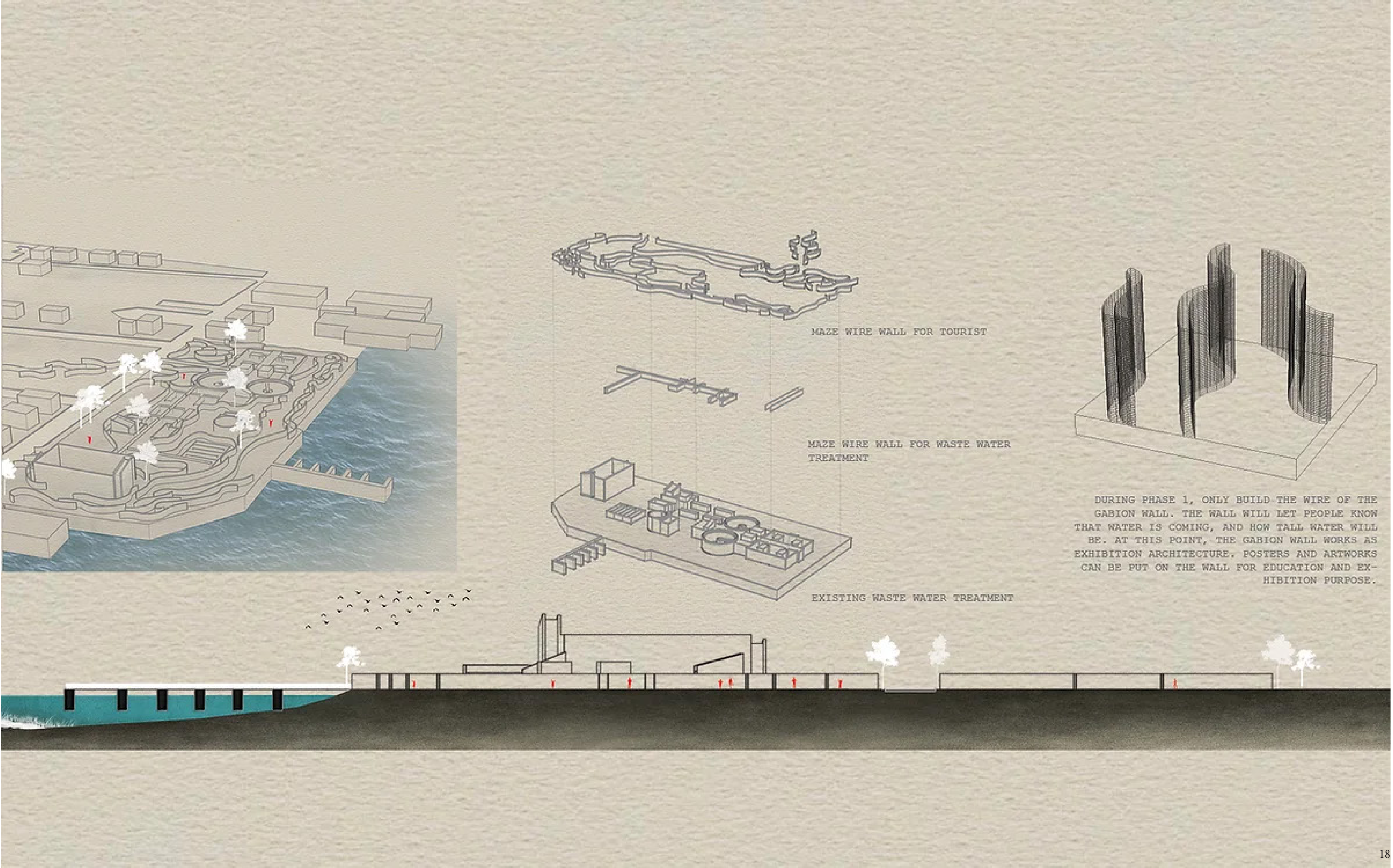


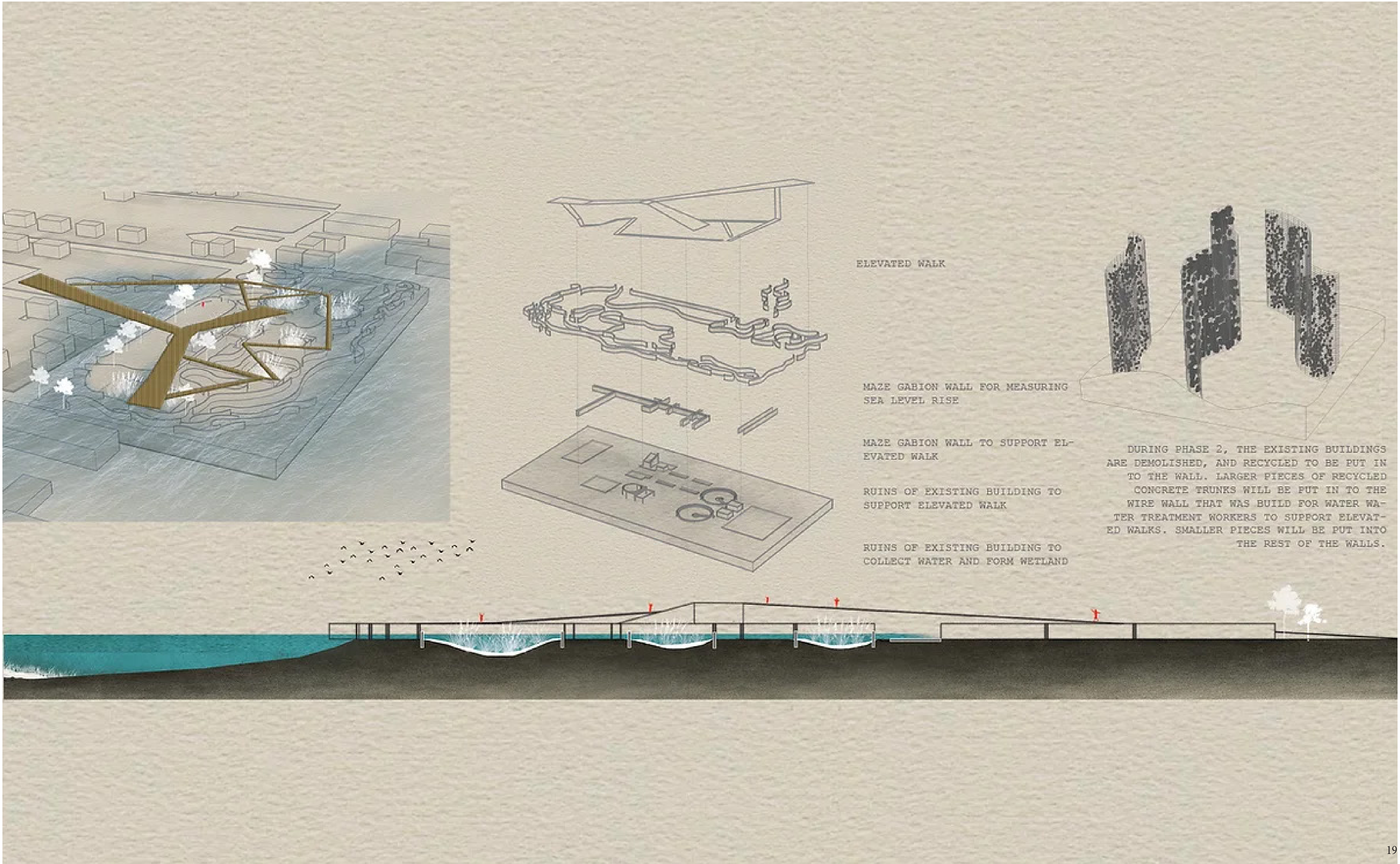
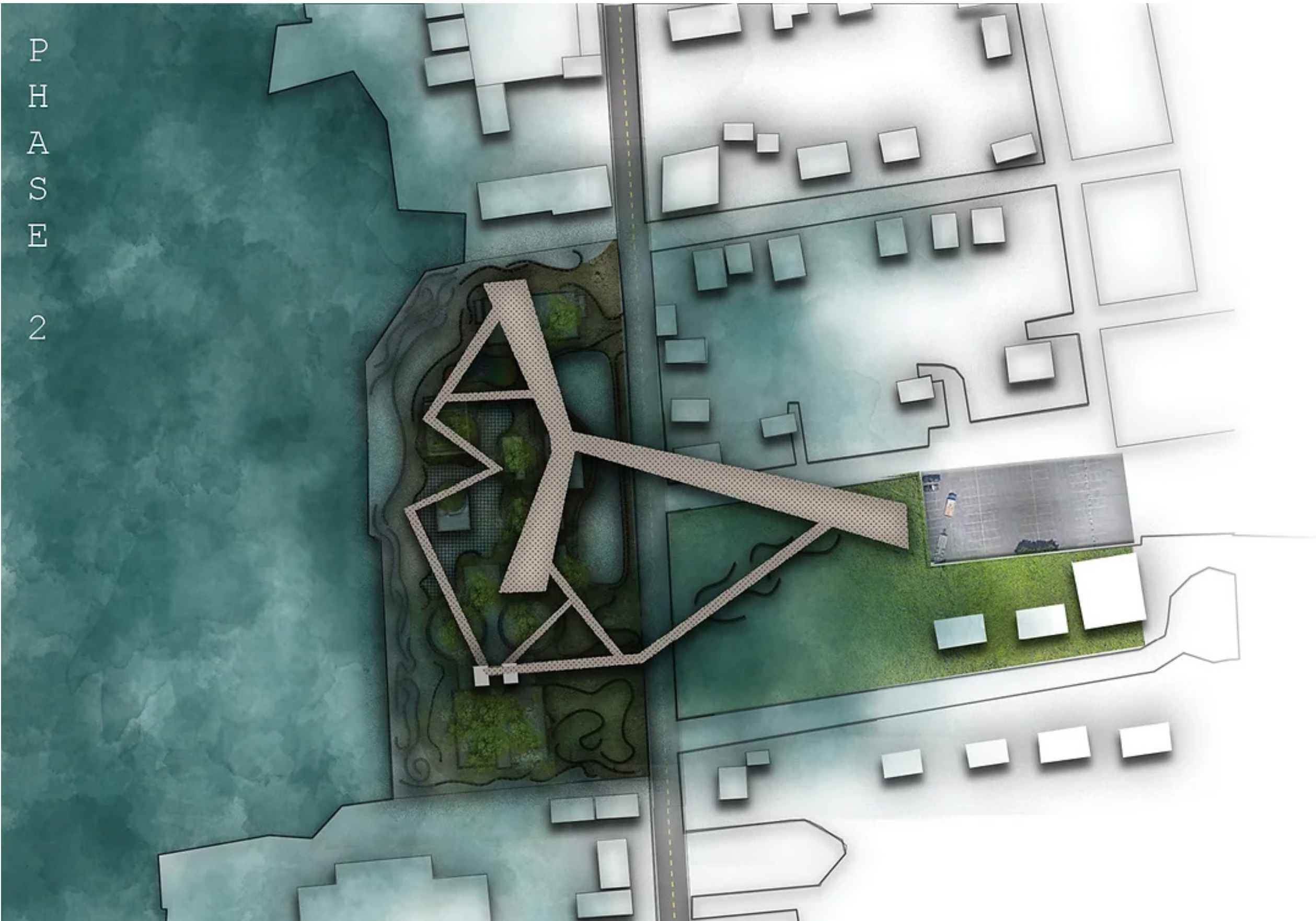
PHASE 3 REBIRTH

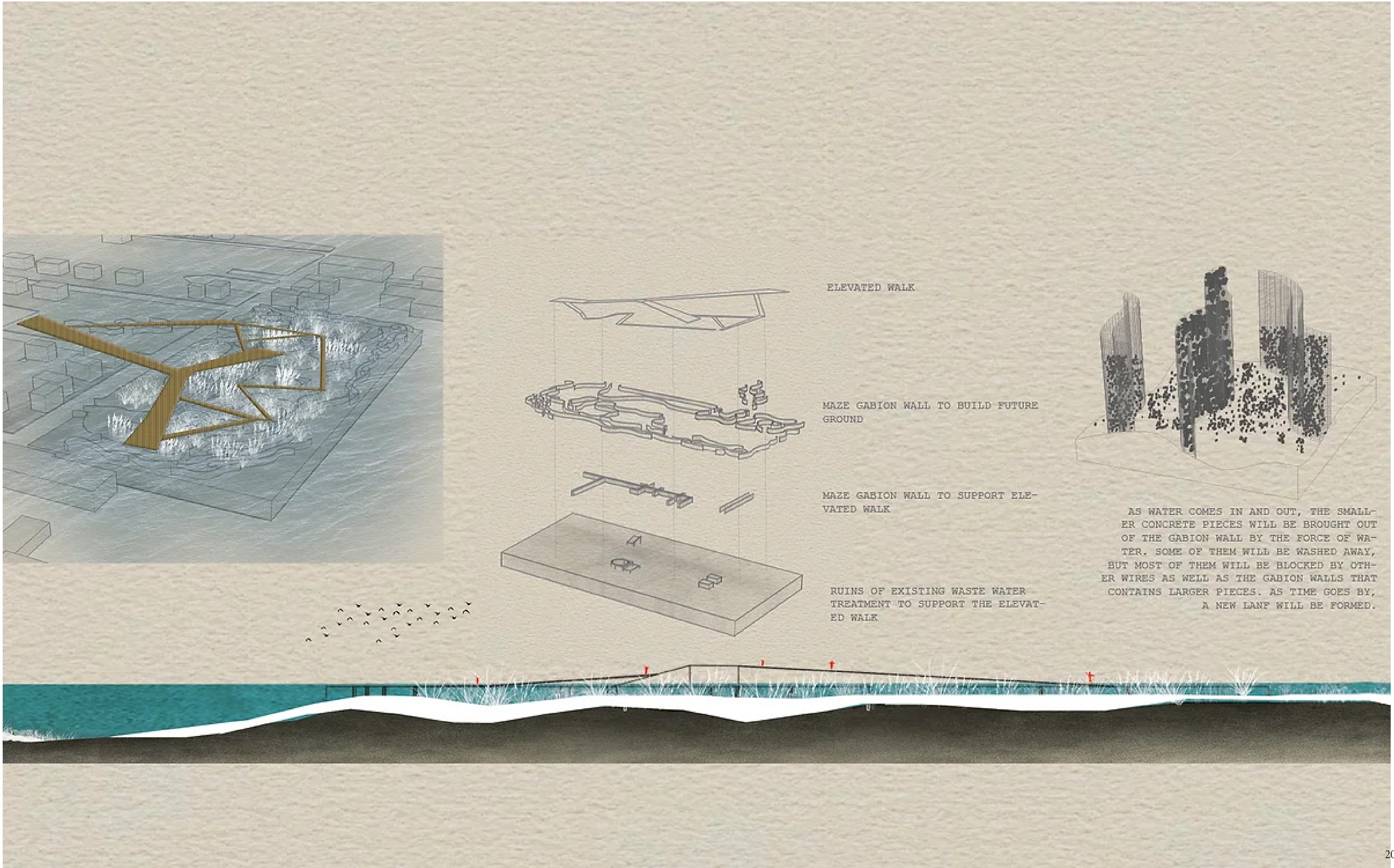
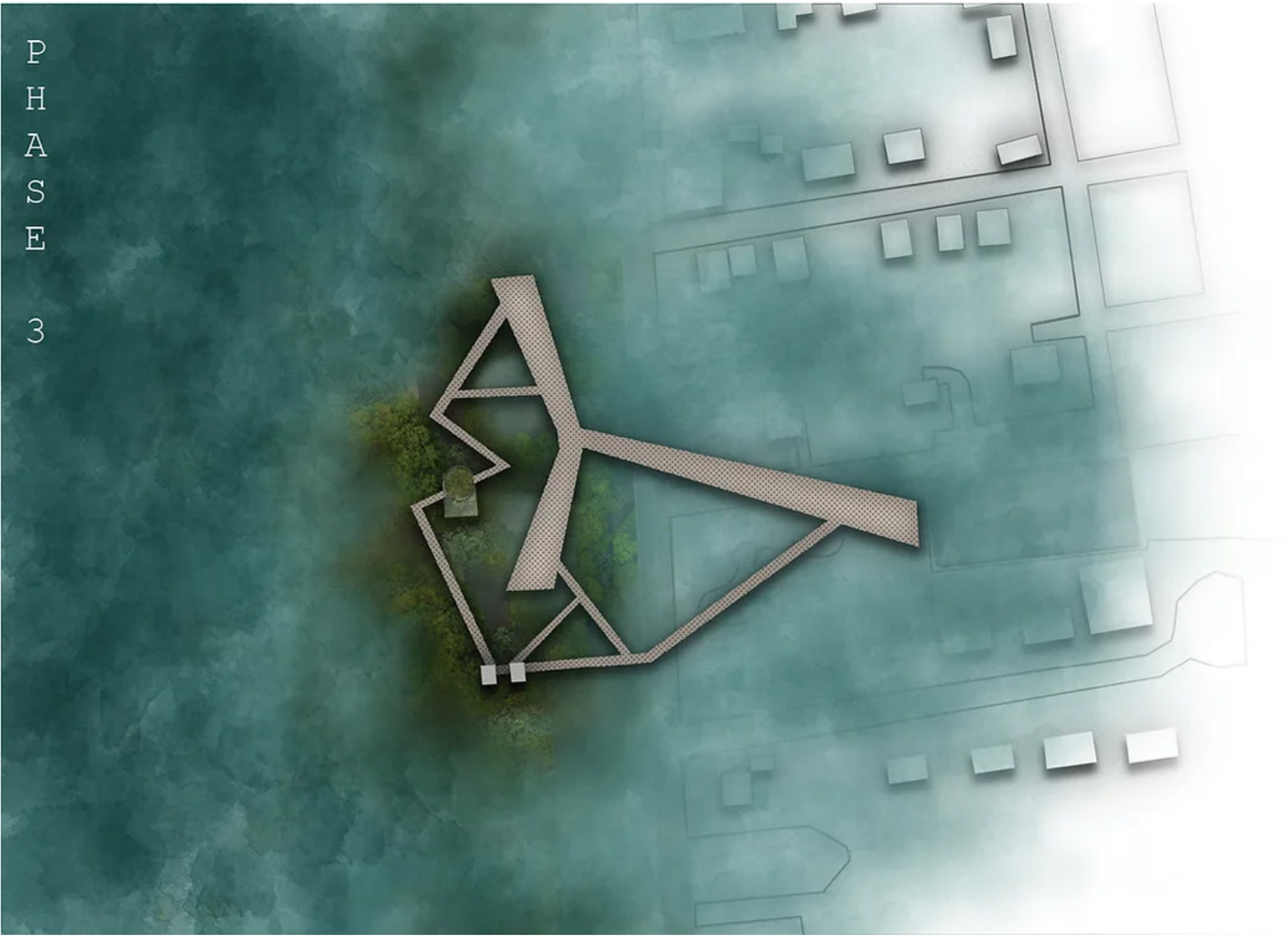
[NEW LAND FORMED, THE CITY WILL USE THIS METHOD TO ADAPT SEA LEVEL RISE AND NEW BUILDINGS WILL BE BUILT ON THE MAZE SYSTEM]

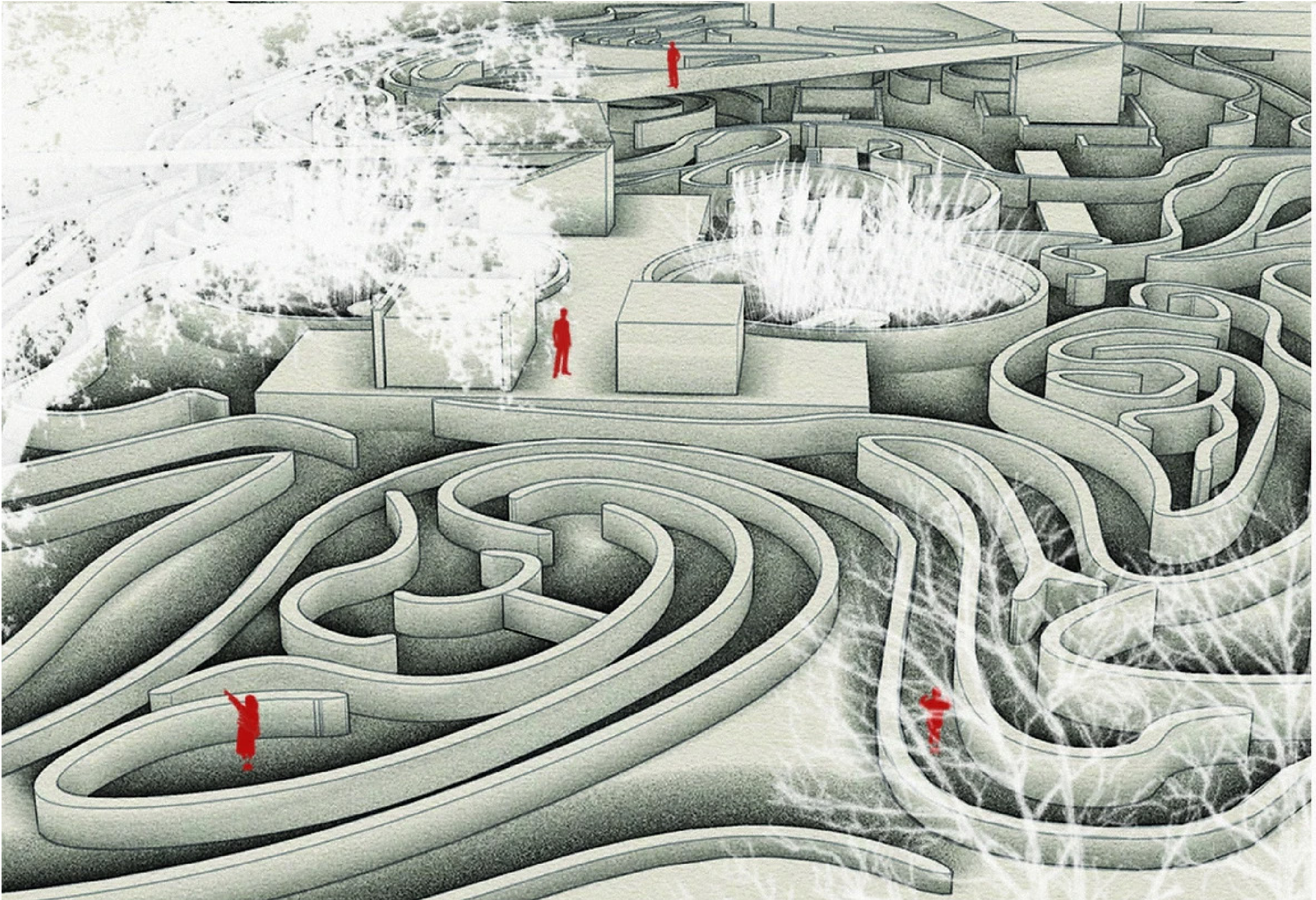
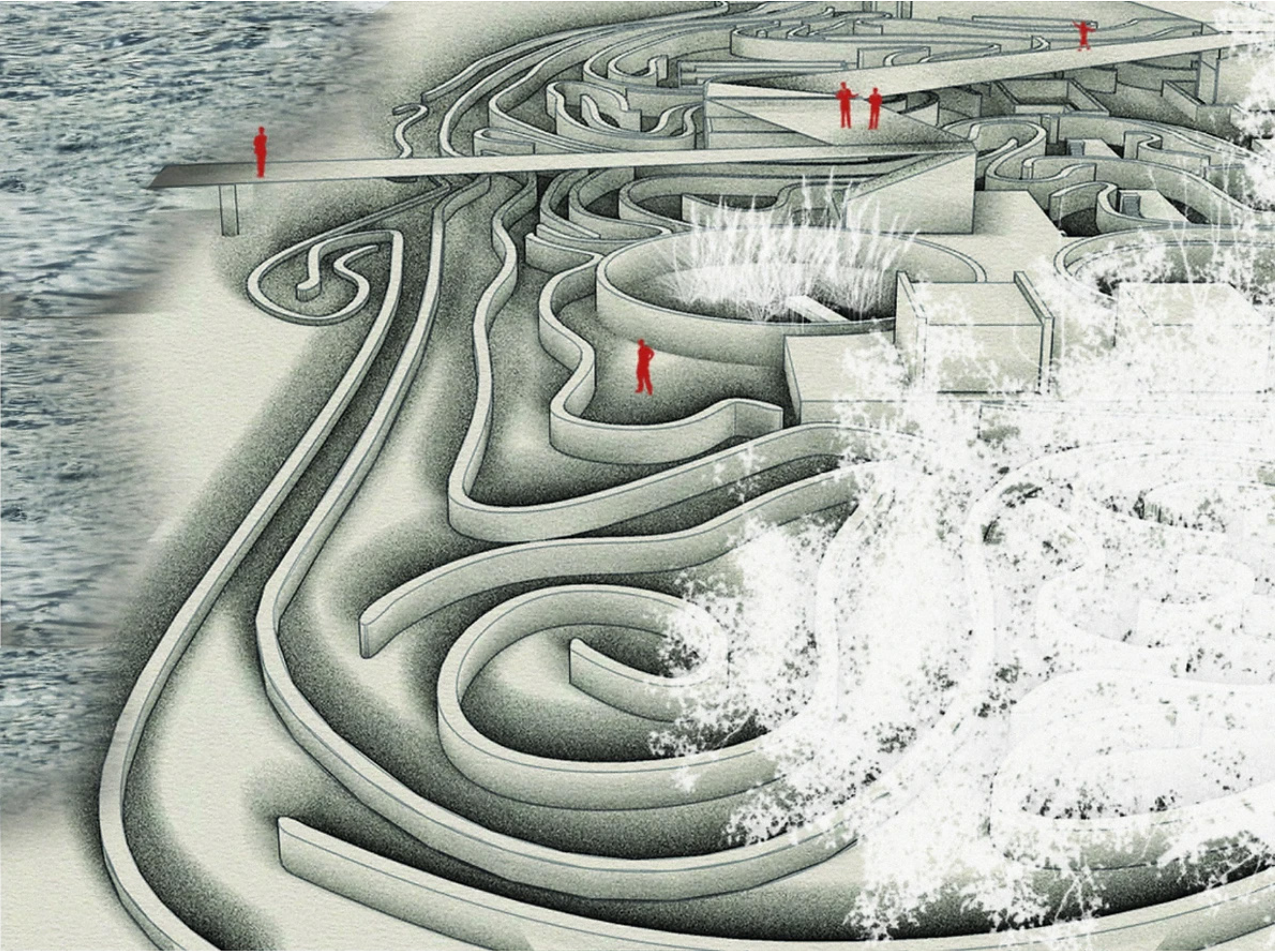
NEW LAND











SCALE OF THE WORLD

PROVIDENCE CHILDREN MUSEUM

SPATIAL &IMMERSIVE EXPERIENCE DESIGN

← [Back to Projects page](#)

PHASE 1
FRIENDLY SENSORY ROOM

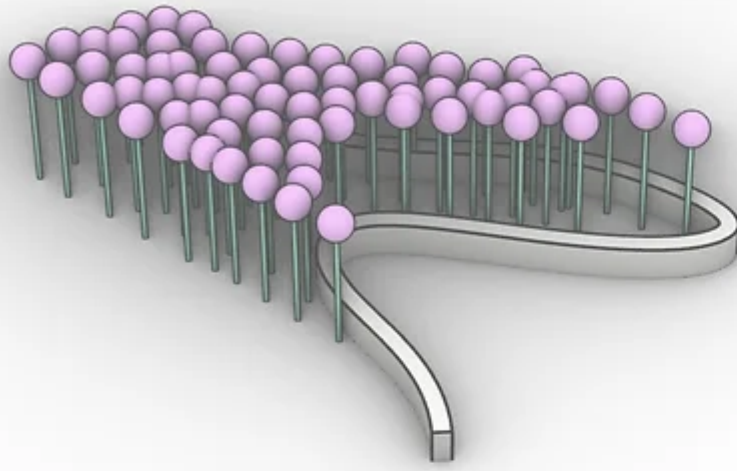
Imagine a softly lit, quiet space filled with captivating lights, soothing sounds, and cozy swings. It's like a playground but intended for taking a breather instead of burning off excess energy. That's right, we're talking about a sensory room or multi-sensory environment. Everything in the space is carefully chosen and placed so that individuals with SPD, ASD, or have difficulties integrating their senses can chill and play in an engaging and calming manner.

PHASE 2
MAZE OF SHAPES

Our world is consist of different shapes in different scales. Come to this maze and experience the sense of scale. There are different play and experience zones throughout the maze. Visitors will learn and experience shapes in different scales.



SENSORY FLOWER FIELD



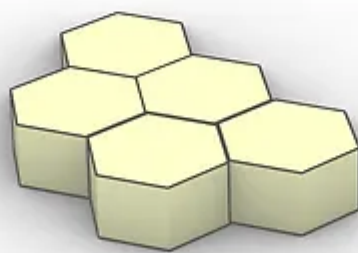
This field of flowers would help children's movement and visual awareness. It is great for children who love hugging or squishing or are restless.

SENSORY BUBBLE TUBE



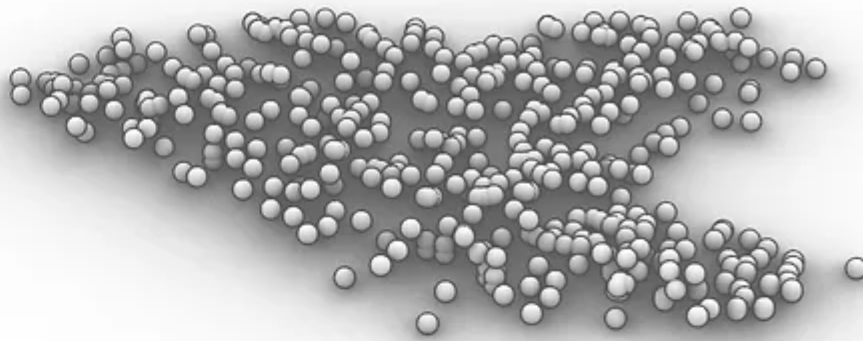
A sensory bubble tube has a special ability to be both attention-grabbing and mesmerizing, but also calming and soothing. Sufferers of a variety of sensory disorders can benefit from a bubble tube, as they are a great way to encourage visual development and communication skills.

SEATING PUZZLES



Puzzles are good for the child's mental development and provide the opportunity to work directly with their environment. These large bee-have shaped puzzles help promote focusing, thinking skills and moving skills. These skills can benefit everyone, especially those with autism. These large puzzles are also seating for people who want to sit and rest in the sensory garden .

BALL POOL

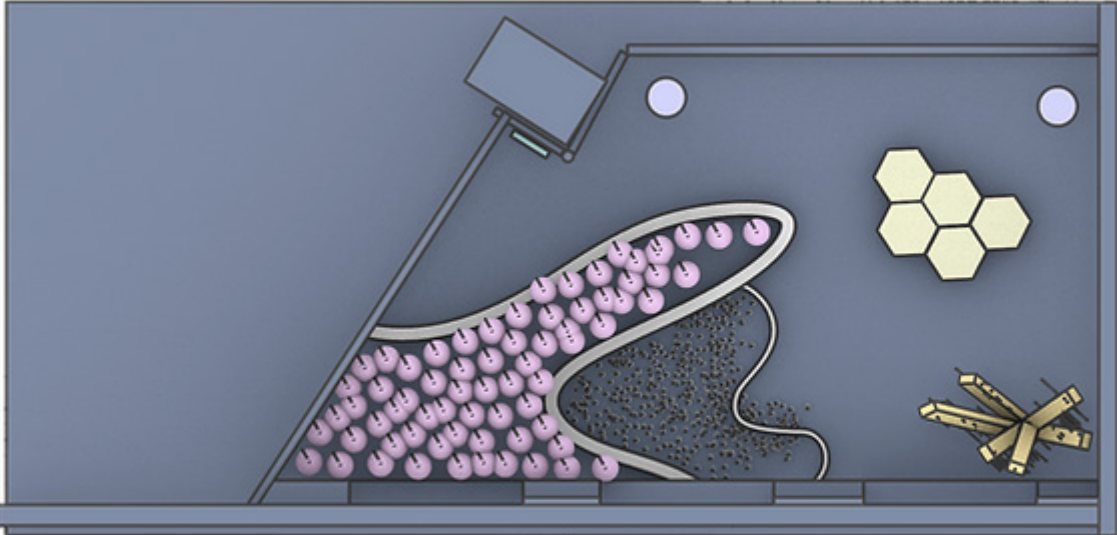


Ball pools have been awakening people who are developmentally delayed, neurologically involved or living with birth disorders such as autism. They are also known to have the opposite effect on those who require relaxation.

FIBER OPTIC LIGHTING WILLOW

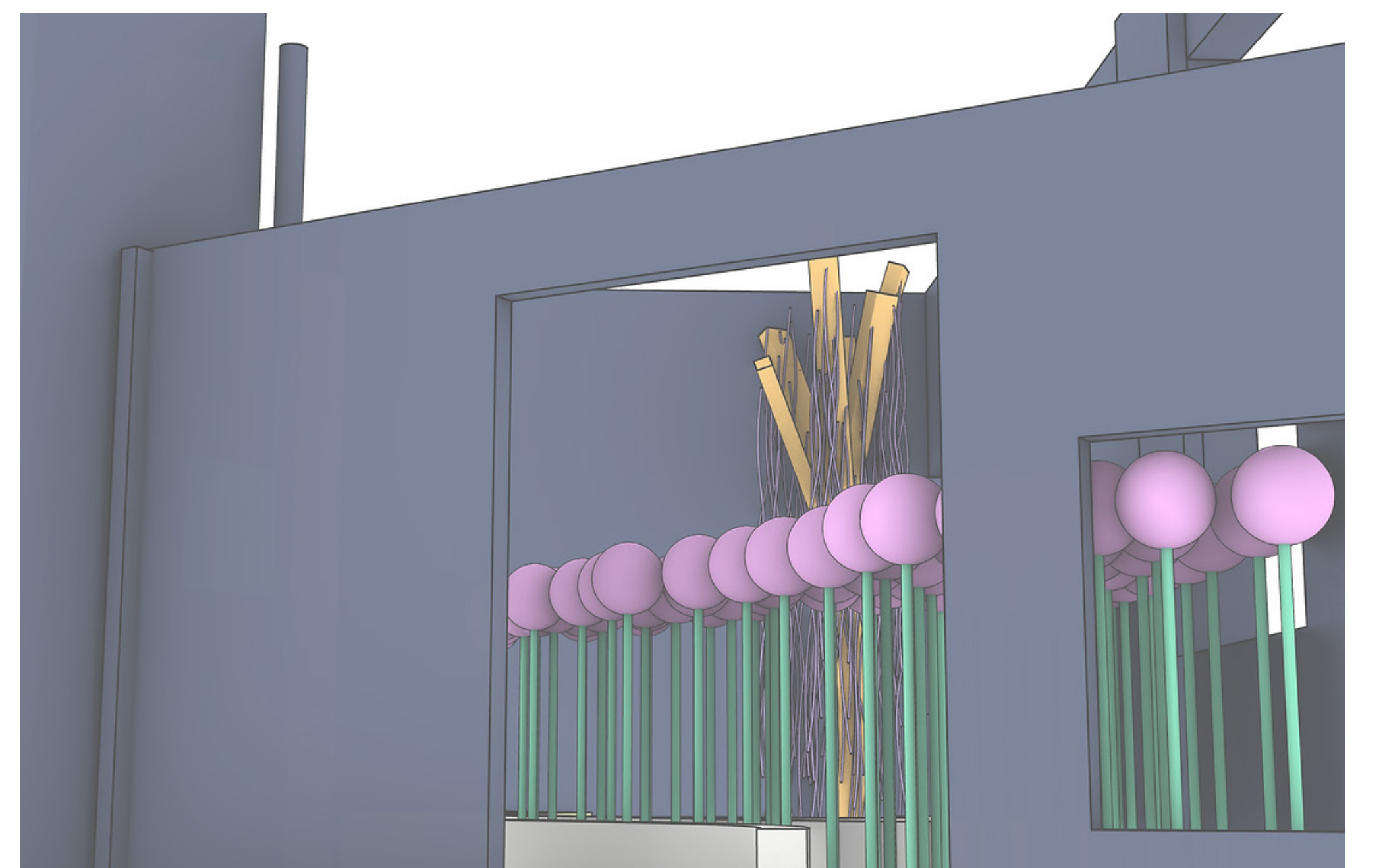
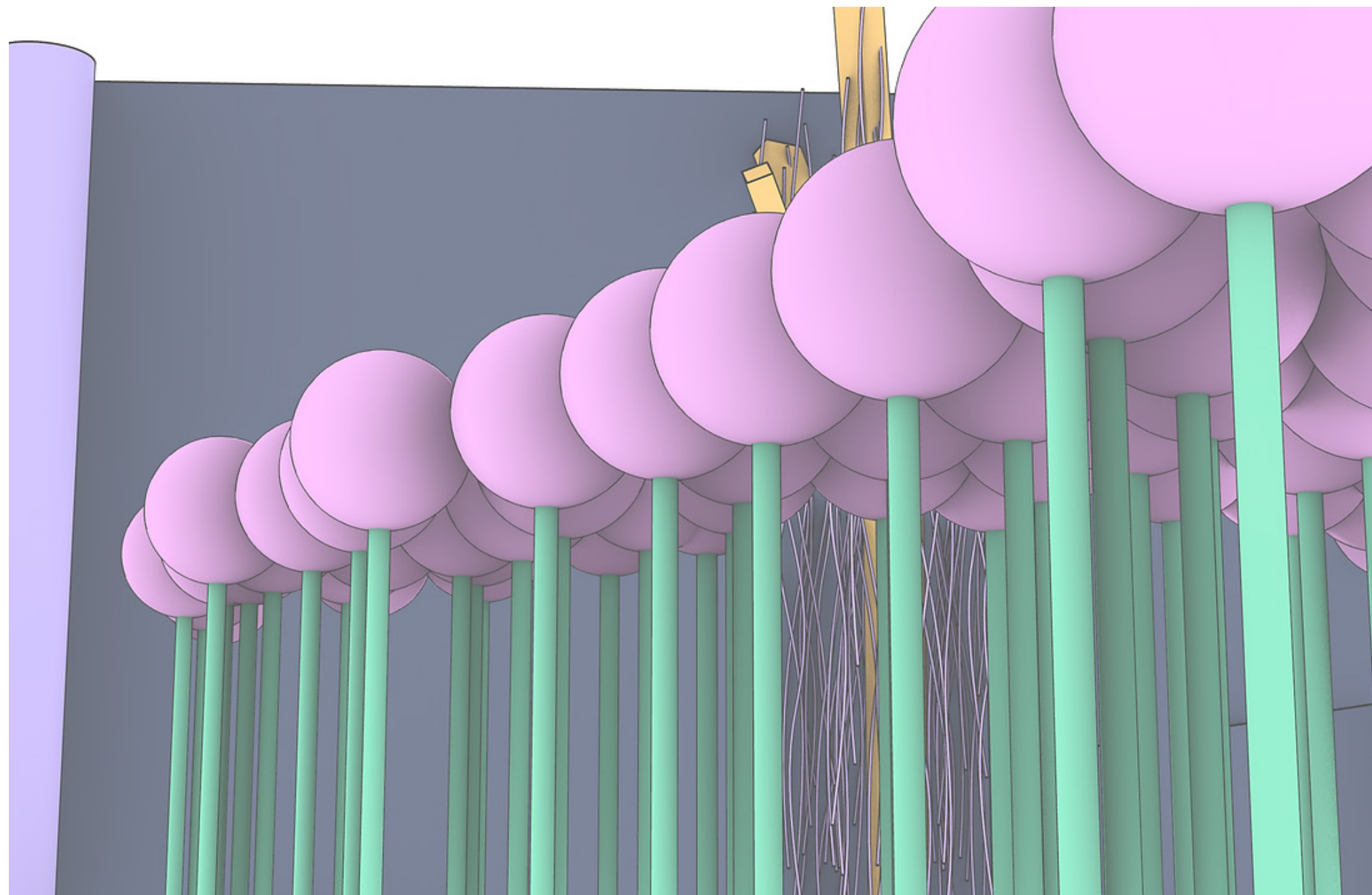
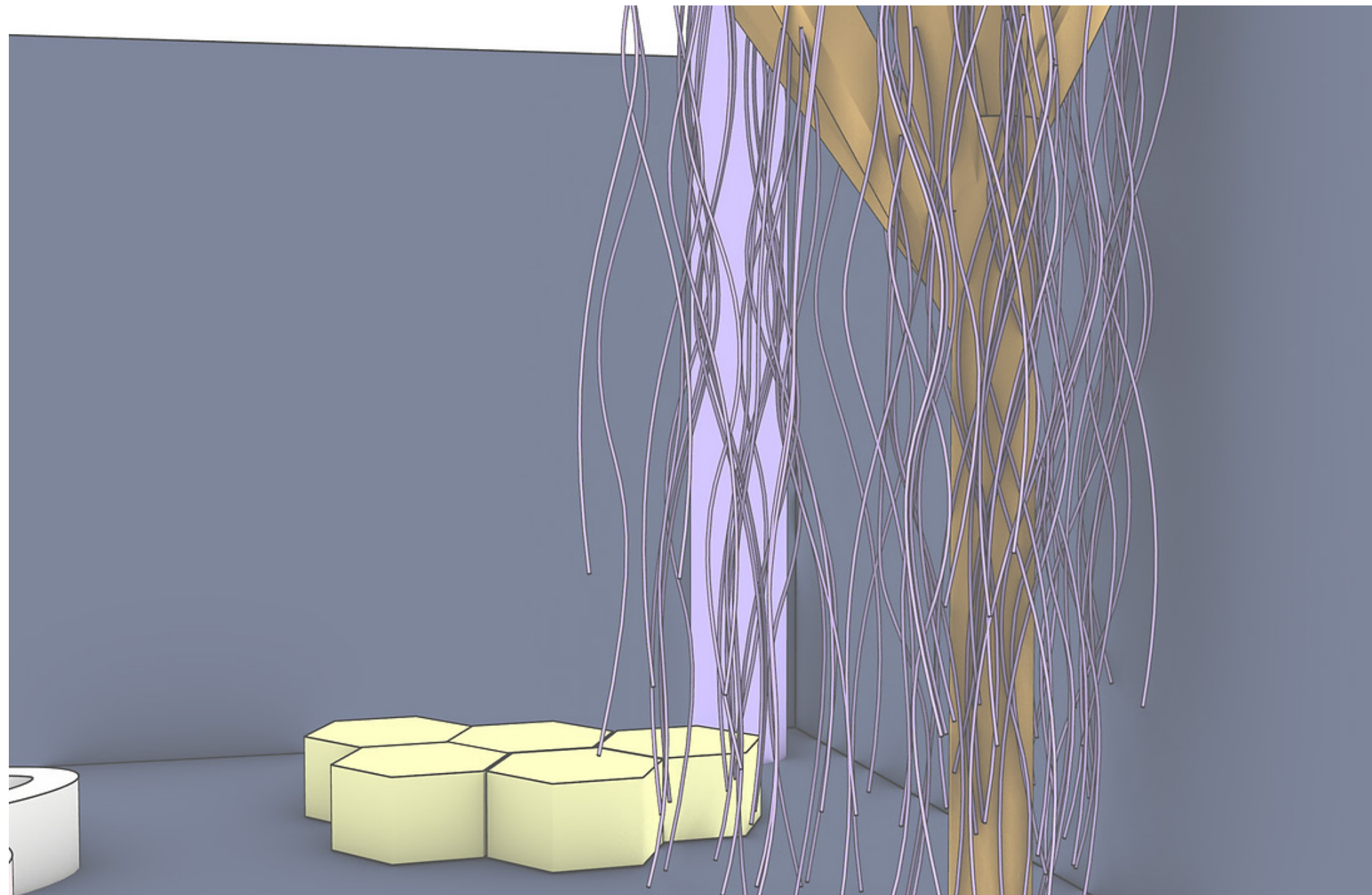
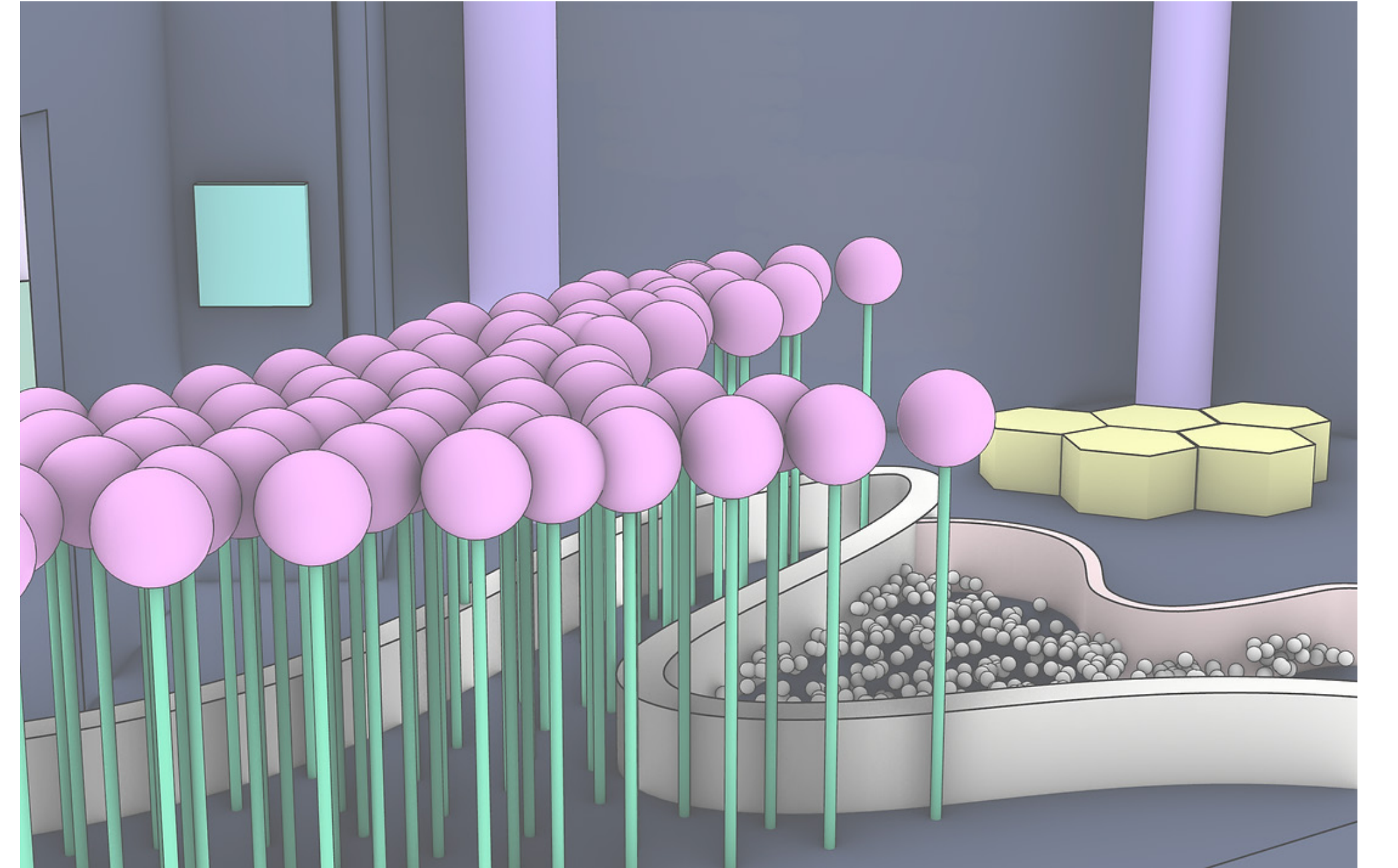
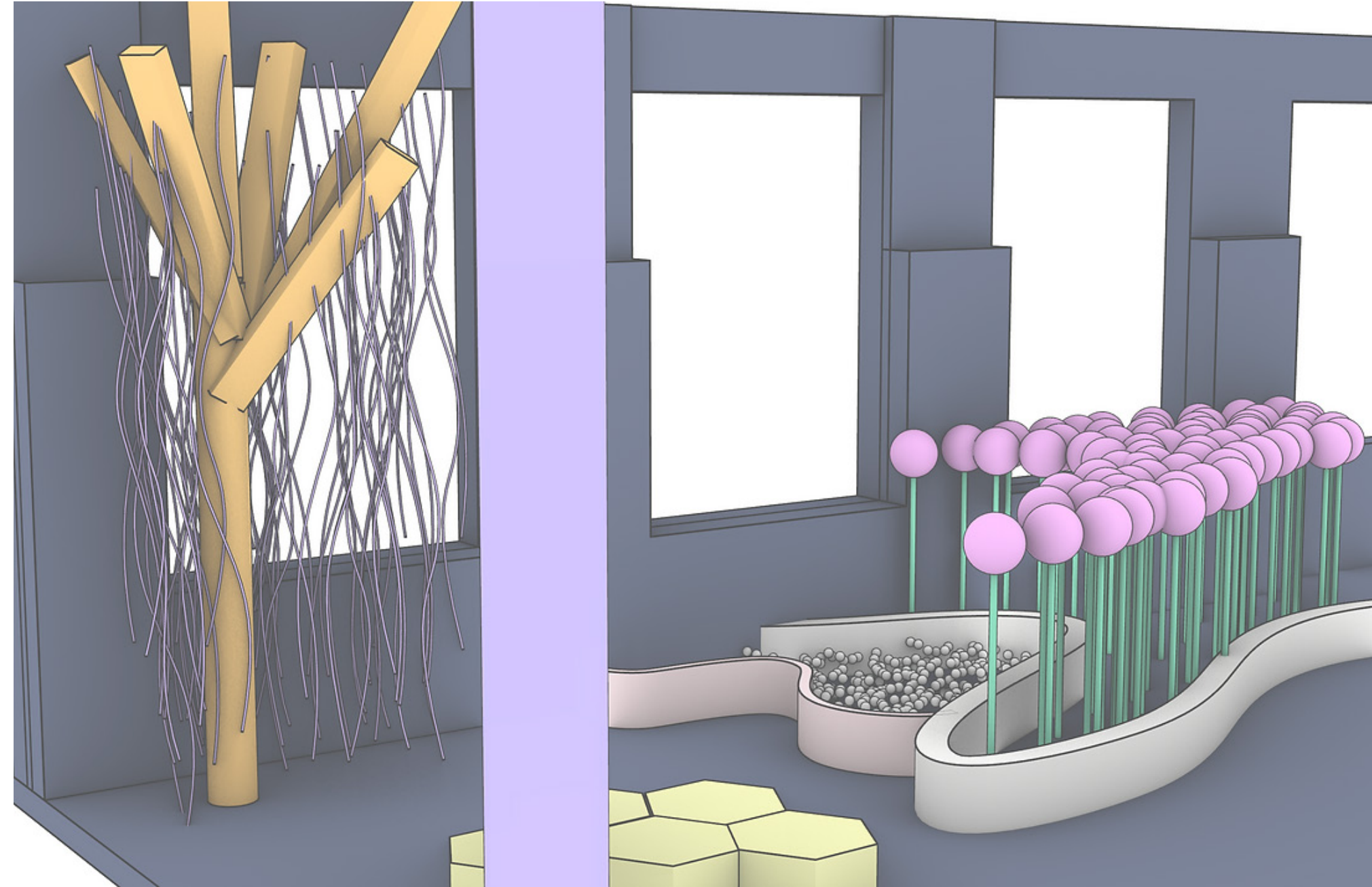
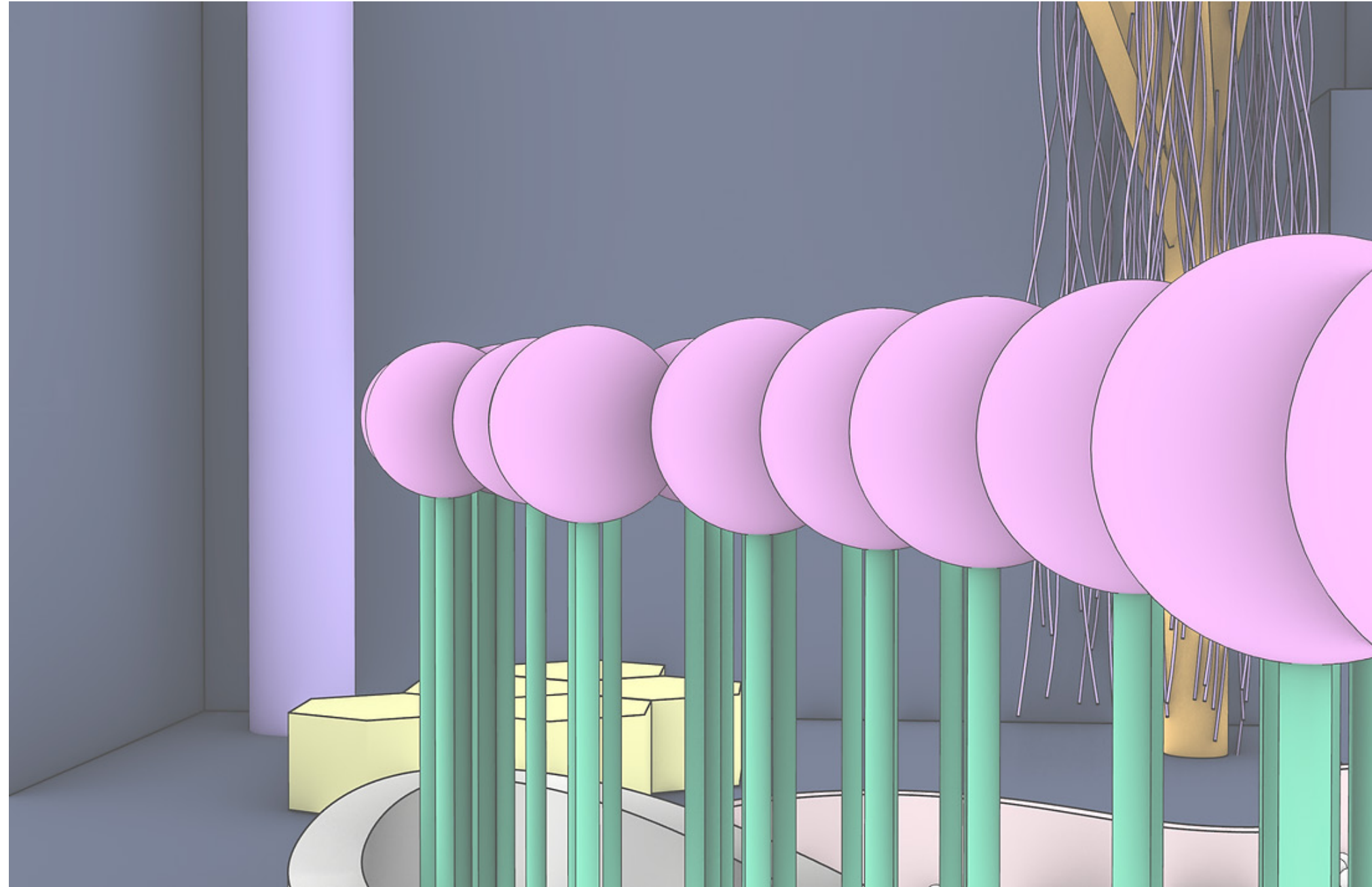


Help to entice individuals to interact with their sensory room environment. The benefits of fiber optic light for children help those with Autism, ADHD, sensory integration dysfunction, learning differences, and Alzheimer's.



1

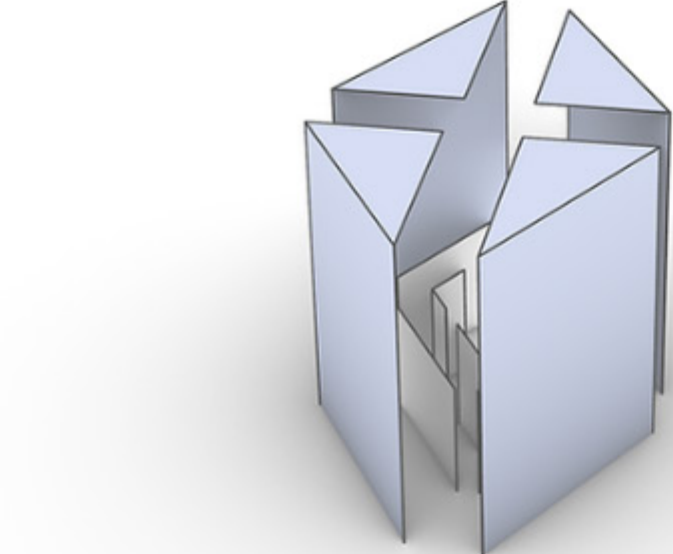
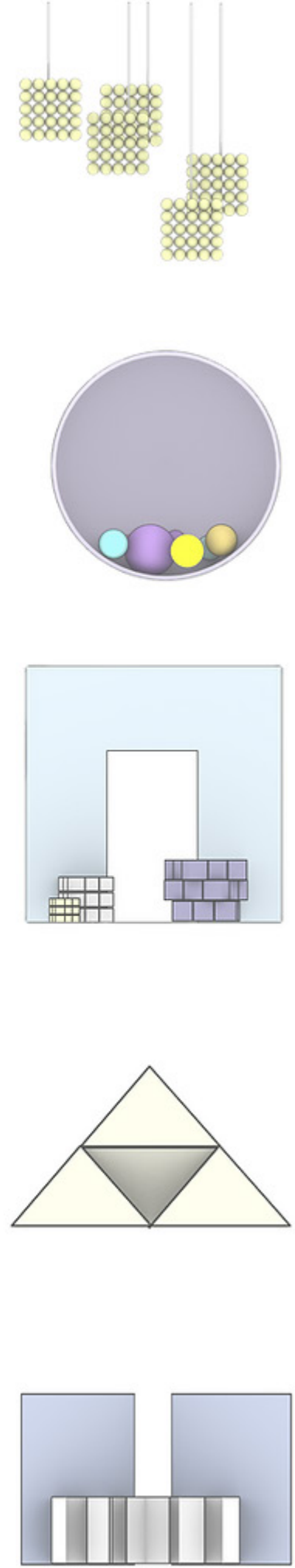
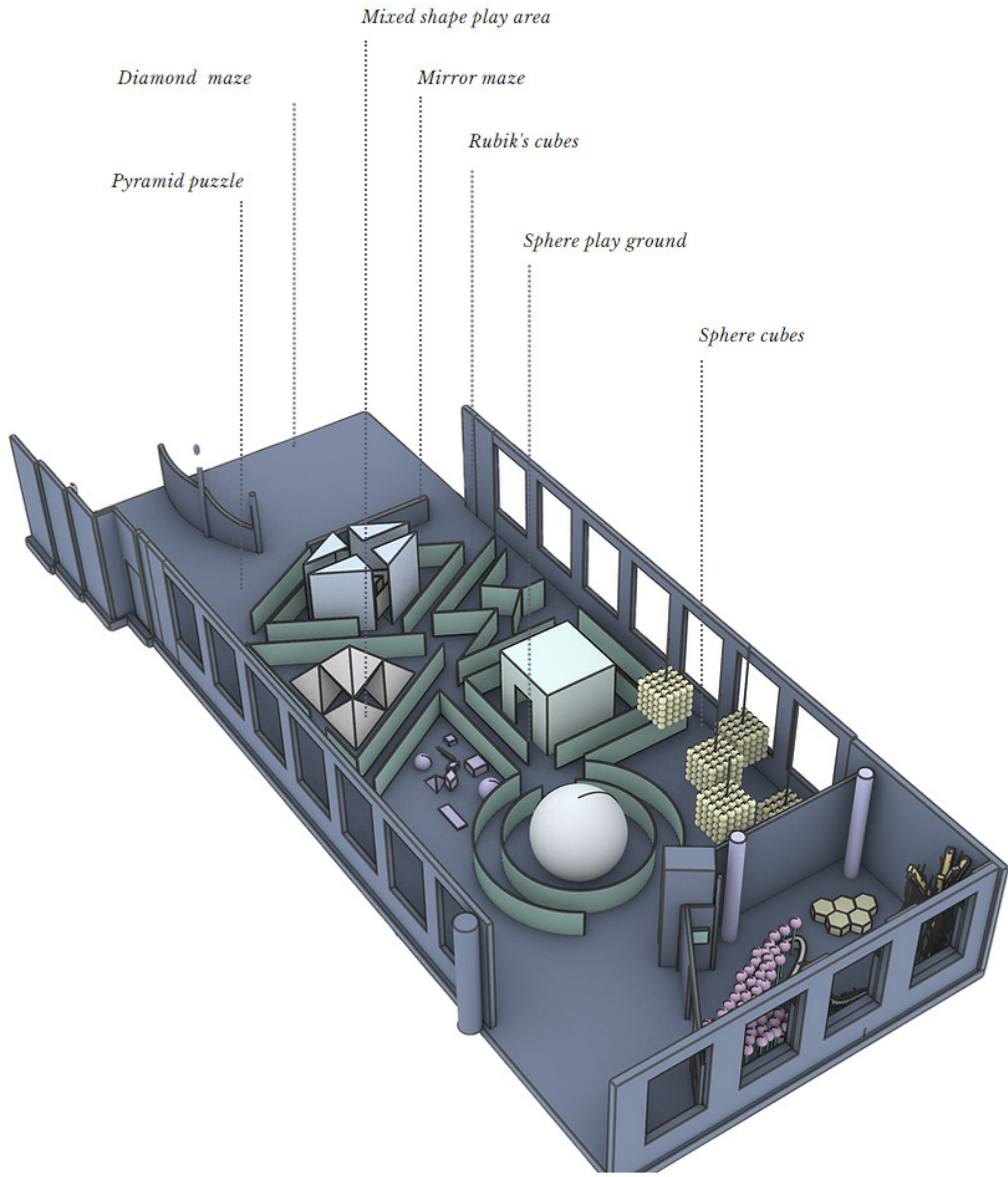
A Sensory Room is a specially designed room which combines a range of stimuli to help individuals develop and engage their senses. These can include lights, colors, sounds, sensory soft play objects, aromas all within a safe environment that allows the person using it to explore and interact without risk. It can be used as a therapy for children with limited communication skills. There are a lot of museums who started to build sensory rooms and got really good feedbacks. Including the Smithsonian's museums, and Milwaukee Public Museum. Some of them even designed an app for people on the spectrum to make appointment for the sensory room.





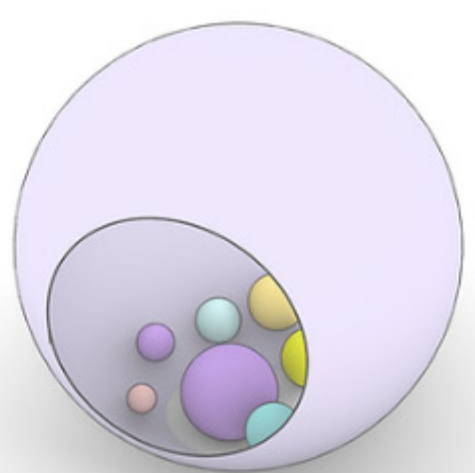
2

We see a lot of shapes in nature, but we are not always able to touch and feel them. Inspired by hay mazes and driveway shape mazes, I created an educational maze that is consist of several interactive shape stations and rooms. The rooms of shapes are made with structural fabrics treated with plasticizers. The room of shapes help children to navigate. Visitors will know which direction they want to go just by looking at the shapes. Height of the maze is 3', which is safe and easier for parents to find their children. The maze and interactive stations are designed under autism friendly color palette. The calming color combination and the immersive experience with shapes in different sizes will help children relax while learning about the scale fo the world.



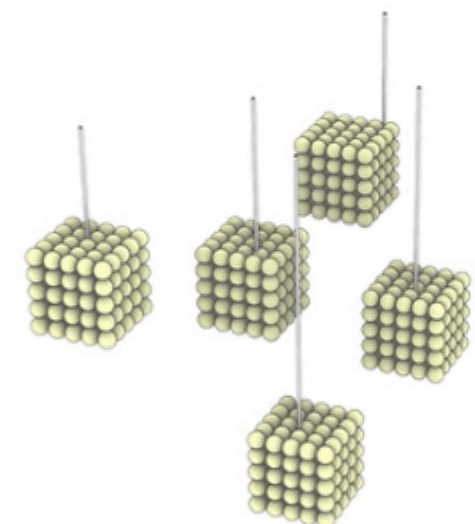
DIAMOND MAZE

A maze inside of a large maze. The maze is made of 3 layers of diamond shape. The outer layer has 2 doors, and the inner layers have 8 entrance points. The 4 entrance points on the second layer is located on the four corners, and the 4 entrance points on the third layer is located on the edges



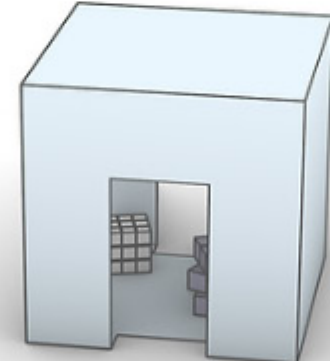
SPHERE PLAY GROUND

Play with spheres helps children develop grasping skills, eye-hand coordination, tracking, finger muscles, and the ability to move objects from one hand to another. Cognitively, infants and toddlers learn about the properties of balls: They bounce, roll down hills, are easy to move and difficult to keep still.



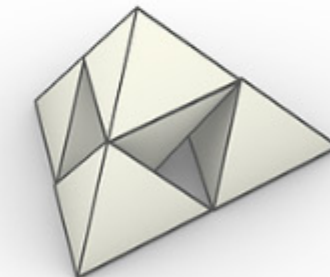
SPHERE CUBES

Cubes made of spheres are great examples of how spheres can form different shapes, and how cubes and spheres are related. There will be four sphere cubes in different height for children to learn and play with.



RUBIK'S CUBES

With Rubik's cubes, children will enjoy the benefits of a sharper brain that stems from a solid eye-hand coordination. Paving the way to improve their memory, your child will experience better reaction time coupled with an enhanced agility and attention span.

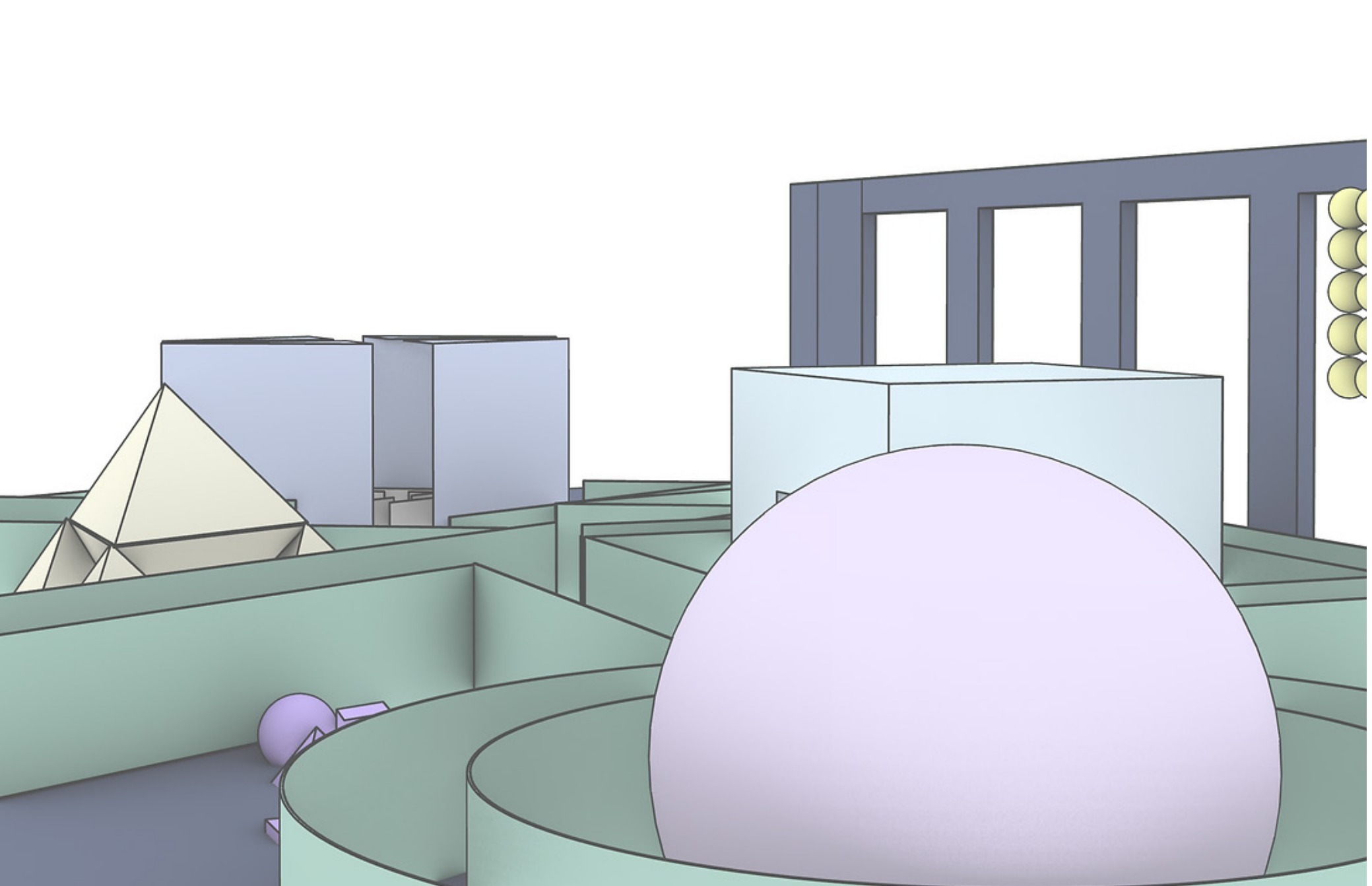
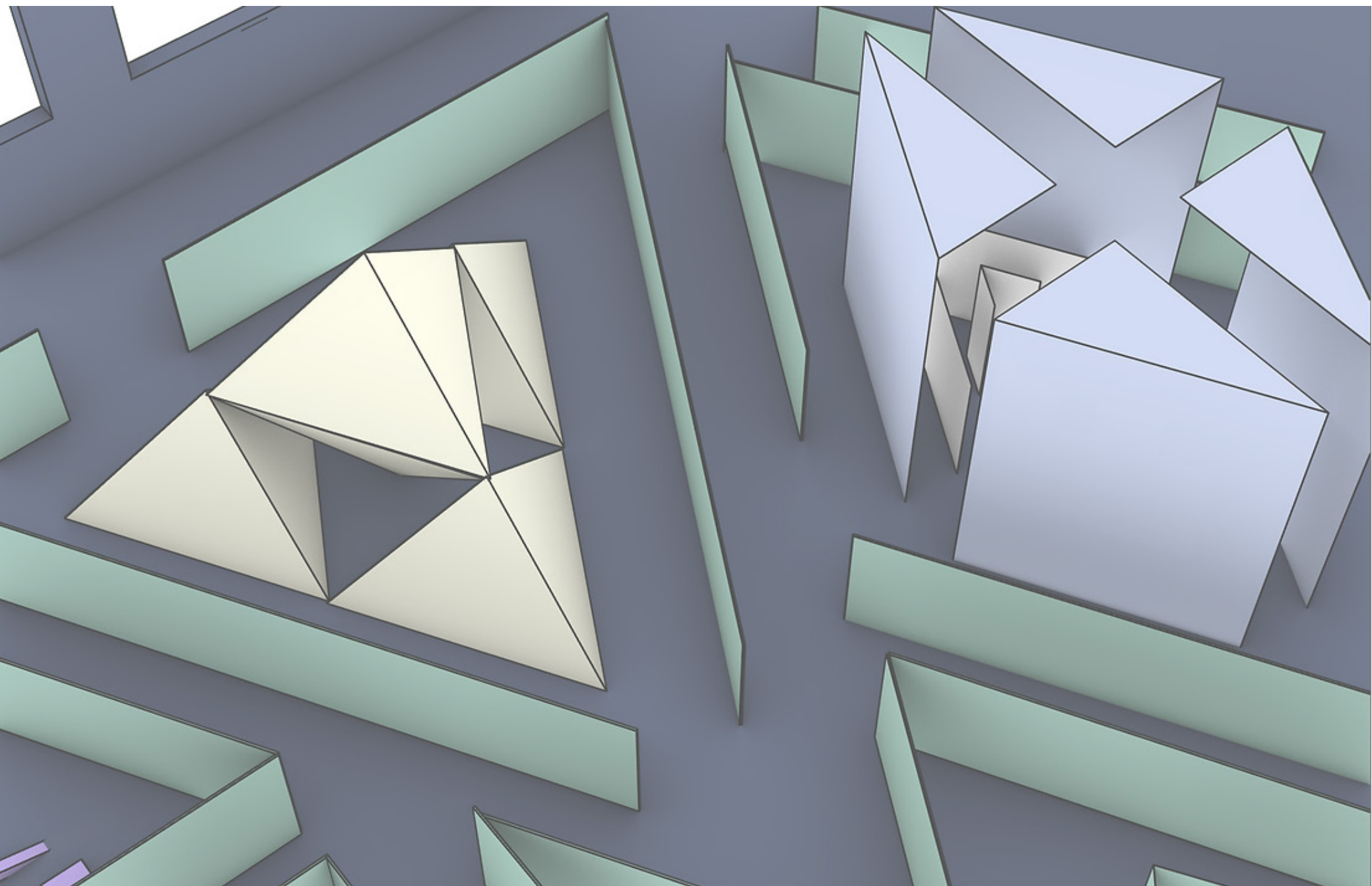
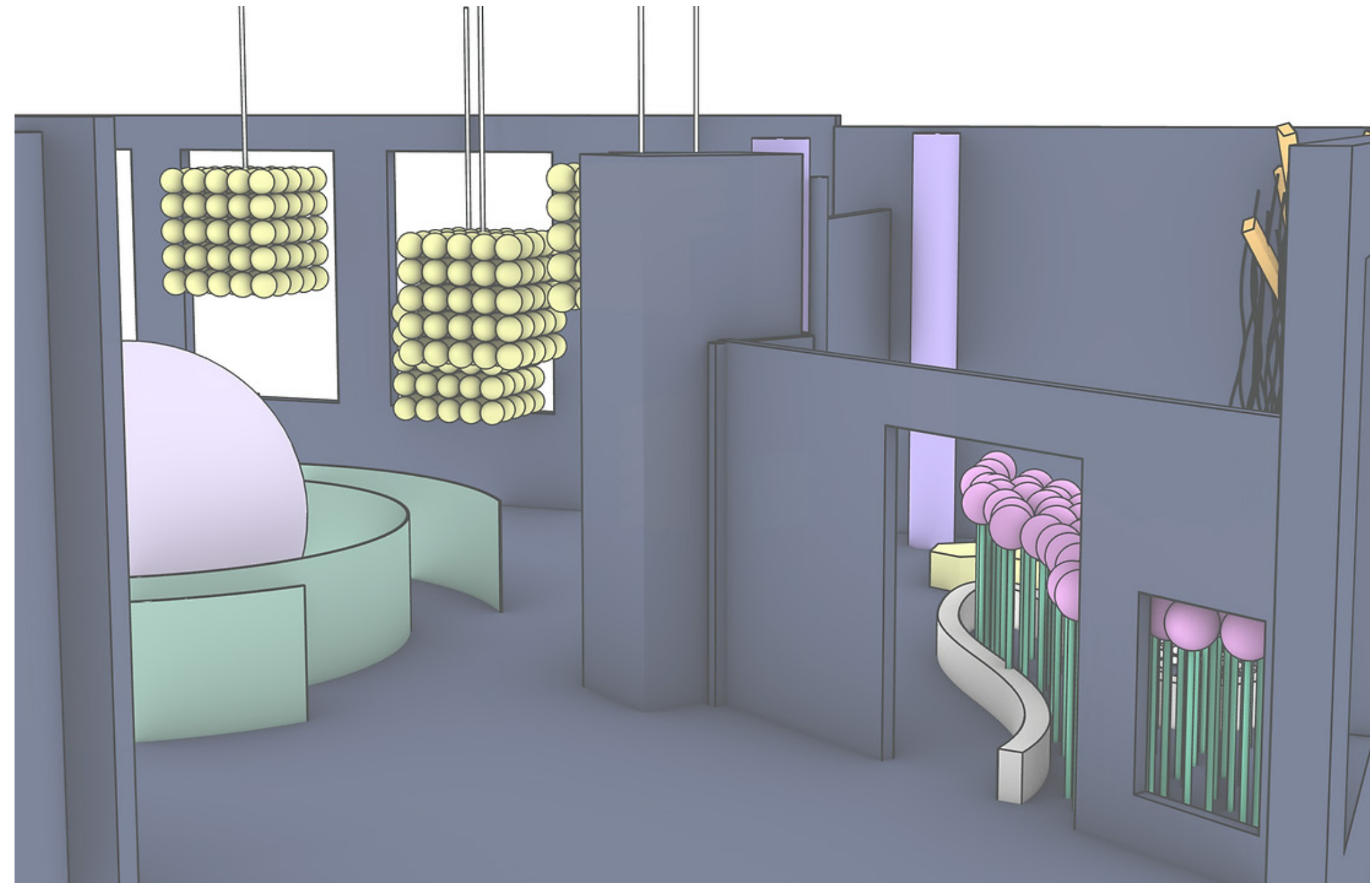
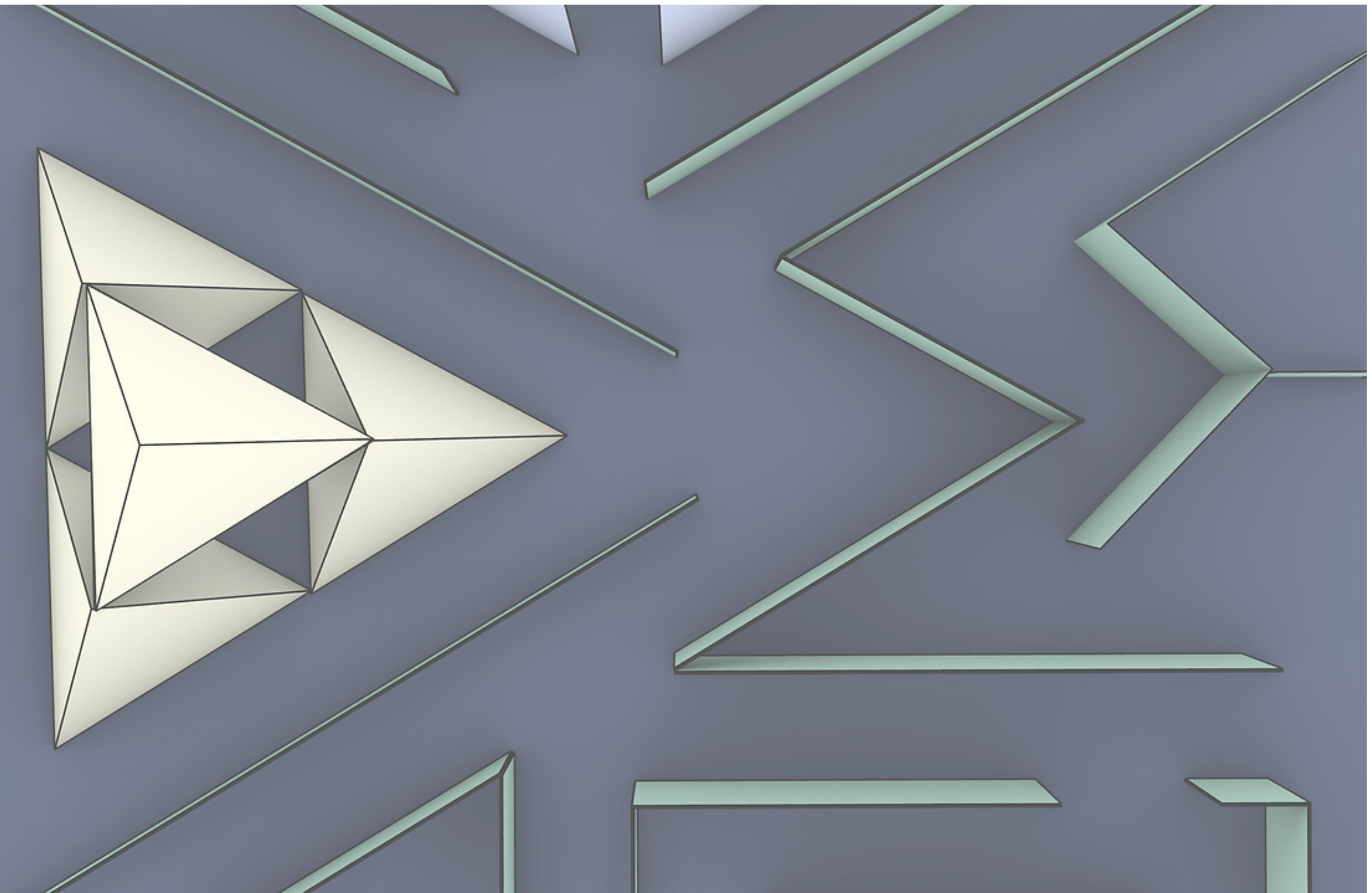
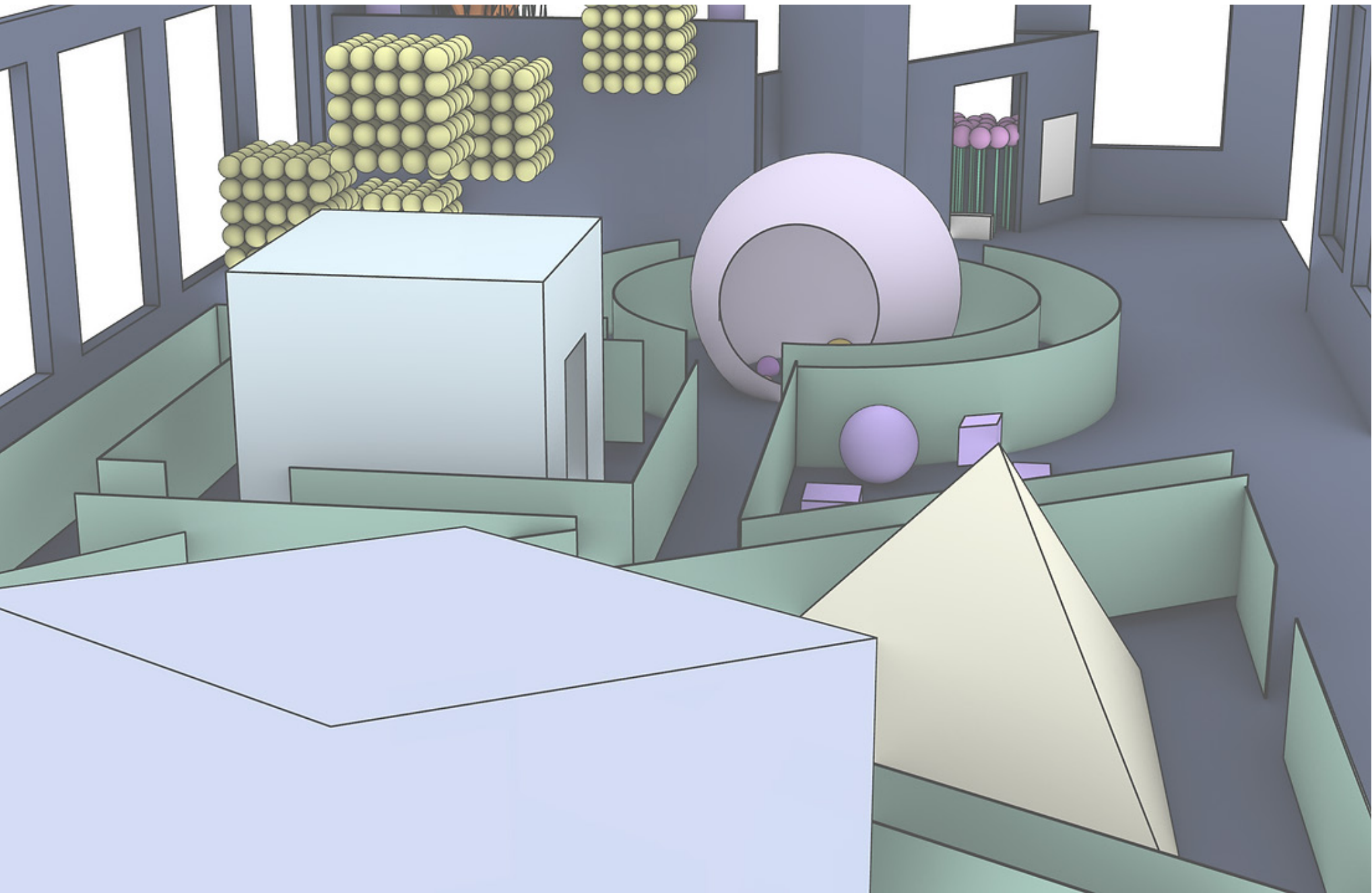
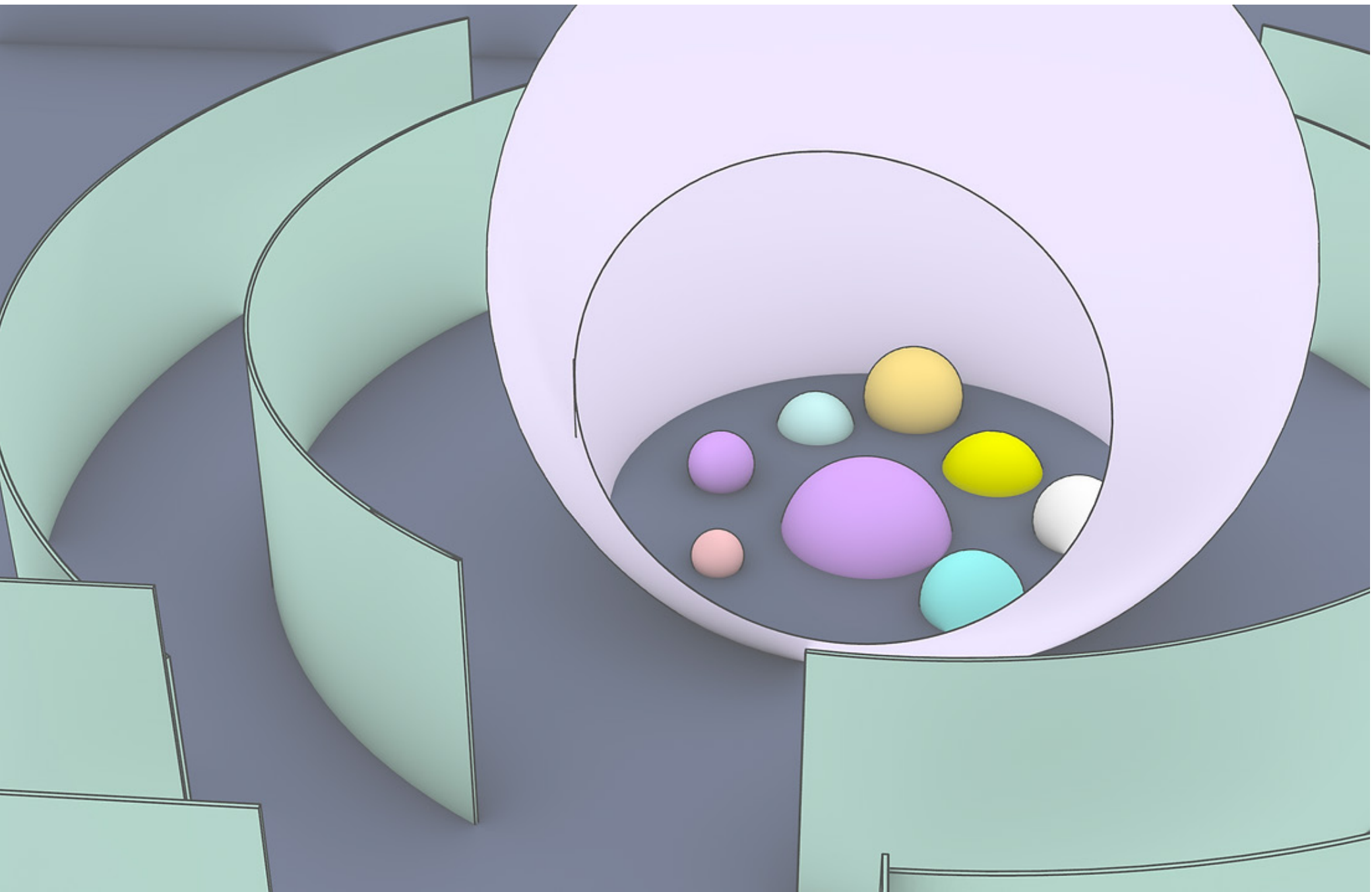


PYRAMID PUZZLE

Puzzles are good for the child's mental development and provide the opportunity to work directly with their environment. These pyramid puzzles will help children learn more about triangle in both 2D and 3D form.

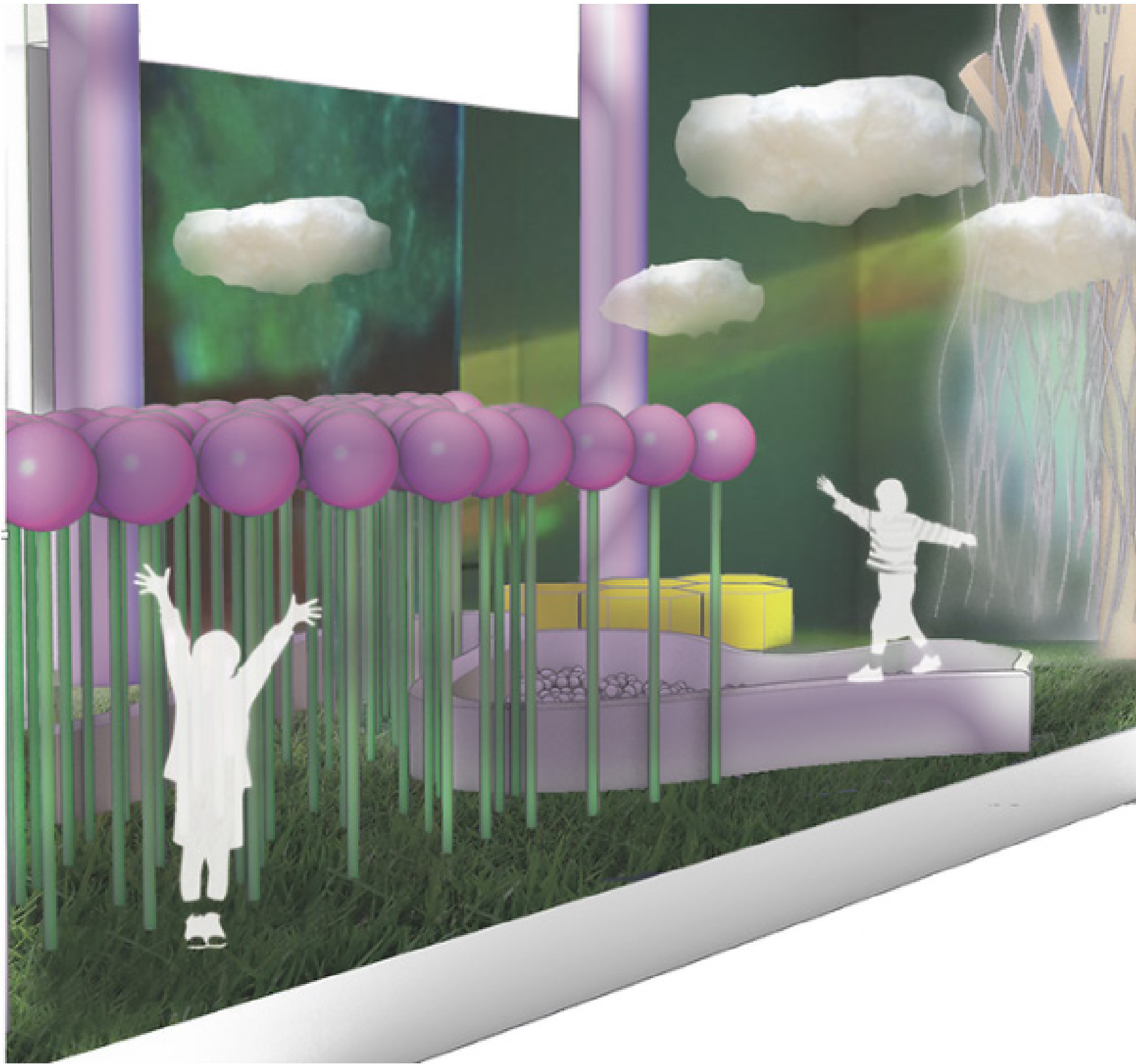
S C A L E O F T H E W O R L D

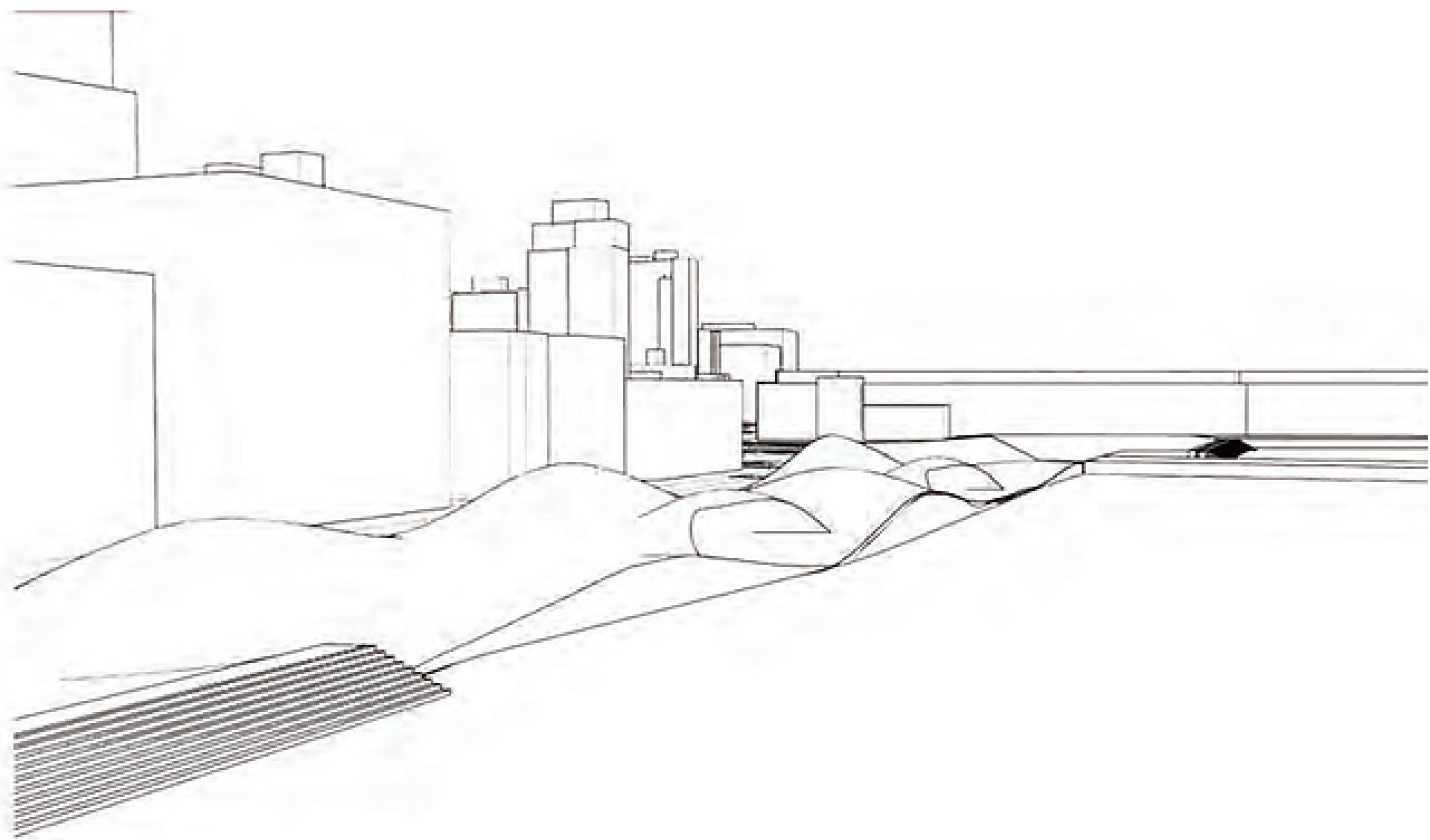
Spatial & Immersive Experience Design



INSTALLATION

Phase 1 sensory room is being installed on Dec, 2019
at 169 Weybosset St , Providence, RI 02903





Due to the sea-level rise, west chelsea is at risk of getting flooded. In order to prevent flooding, we need something high enough, like a seawall, to block the water.

However, people feel streessful and depressed when surrendered by a series of seawalls. In addition, seawalls don't look appealing, and people would not be able to get close to the water because seawalls blocks everything.

The main idea of edgeless is using elements like stairs, elevated walkways instead of sea walls to block water.

People will be able to get close to the water. Stairs can be used as seating so people can get feel of siting in the water.

The curved walkway covered with grass gives people opportunities to get together and enjoy the beautiful view of the water. There will also be two wetland areas on the site that people can walk pass by.



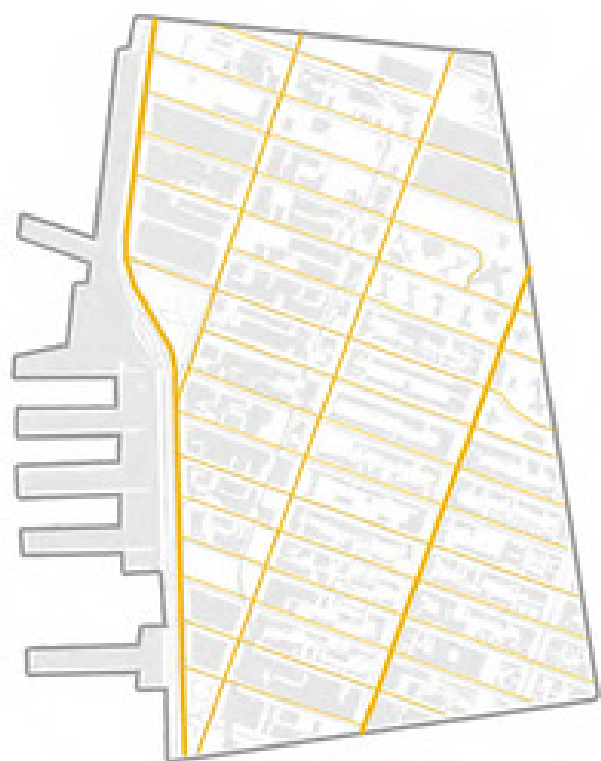
STREET TREES



GALLERIES



PUBLIC SPACES



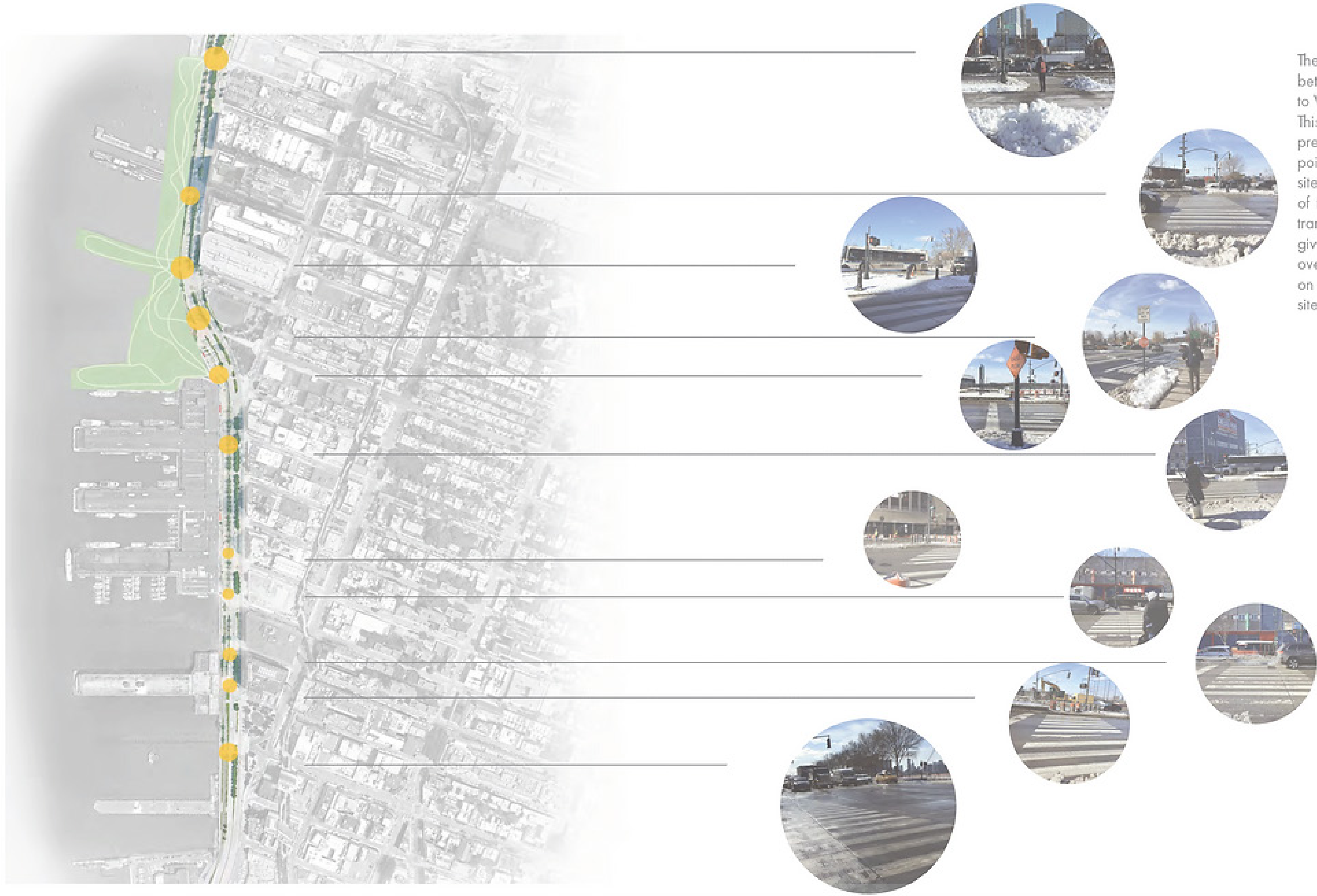
STREET NETWORK



PEOPLE FLOW

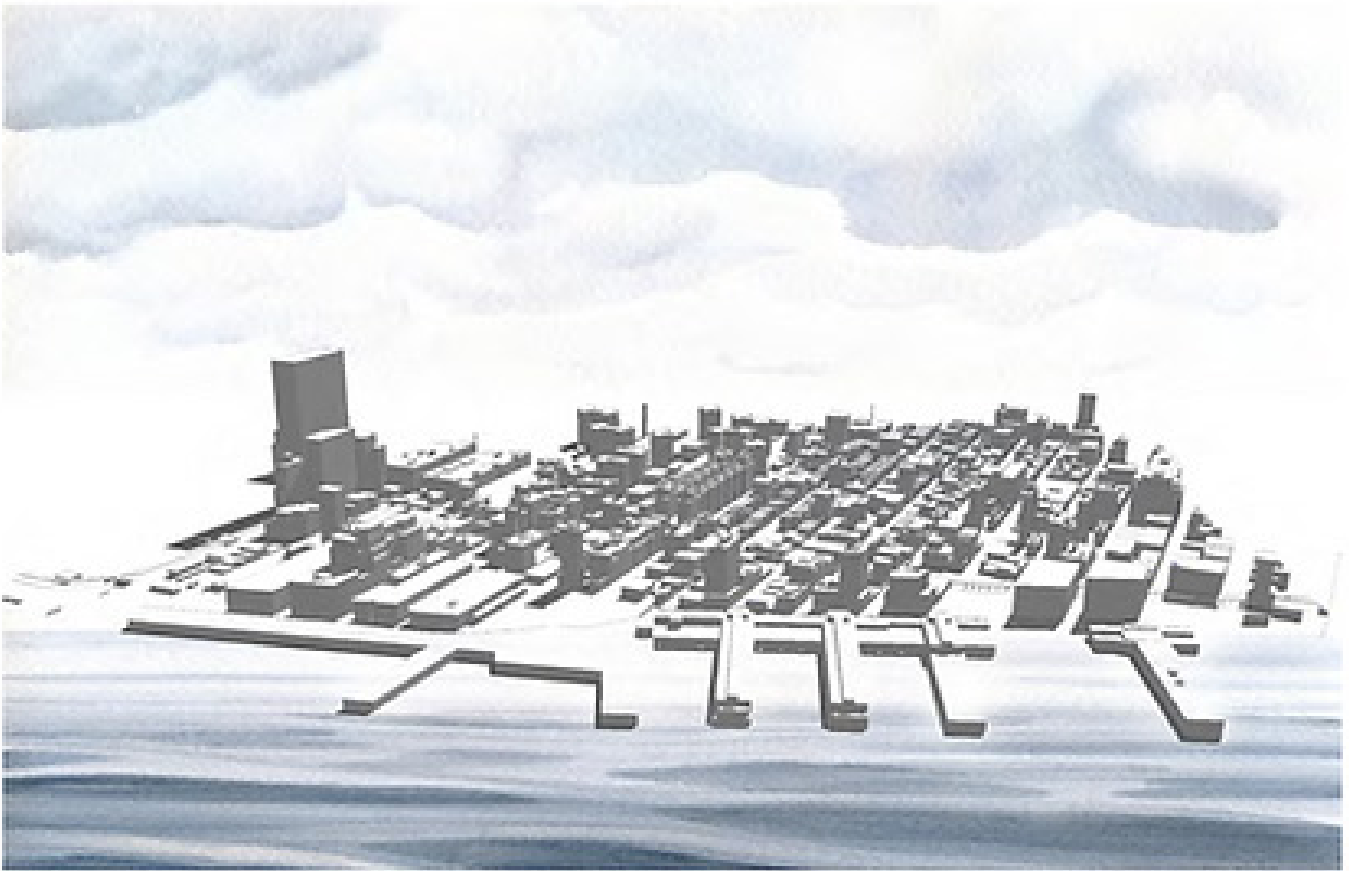


SOUND

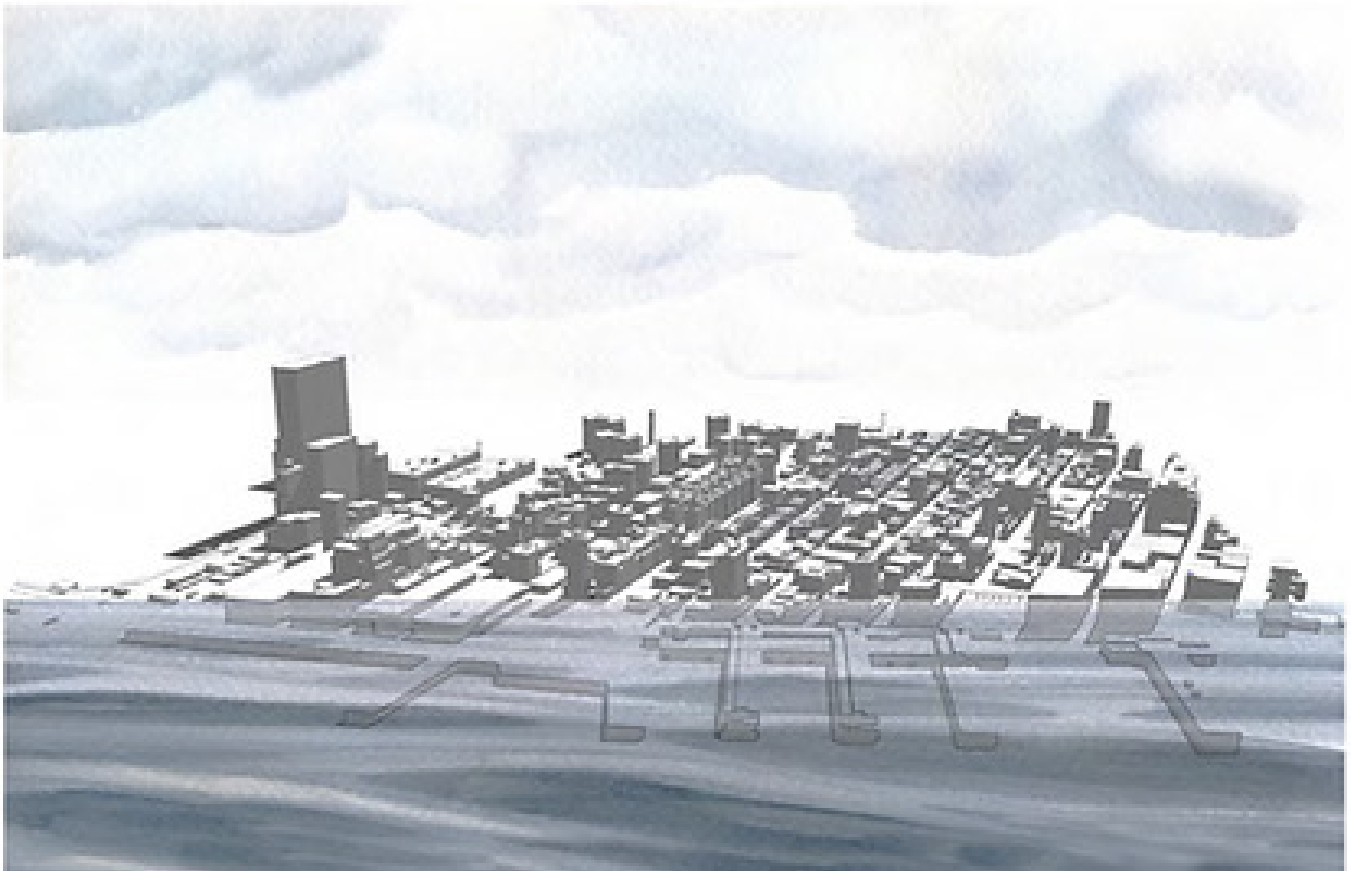


The site is located between W22th St to W29th St. This context plan presents crossing points around the site, accessibility of the site, and the transit of the site. It gives a sense of the overall movement on and around the site.

From 1800 to 2000, the chances of Sandy-level floods have tripled from once every 1,200 years to once every 400 years due to factors such as the slow sinking of the land in the mid-Atlantic region in response to the end of the last ice age. In addition, based solely on how the rate of sea-level rise is expected to accelerate over the 21st century, the researchers estimated that flooding on a par with Hurricane Sandy would become 4.4 times more likely by the end of this century. The level of flooding depends on which category the hurricane belongs to. There are 3 levels of flooding. Potential flooding from category 1 hurricane, potential flooding from a category 2+ hurricane, and potential flooding from a category 3-4 hurricane hitting just south of NYC.



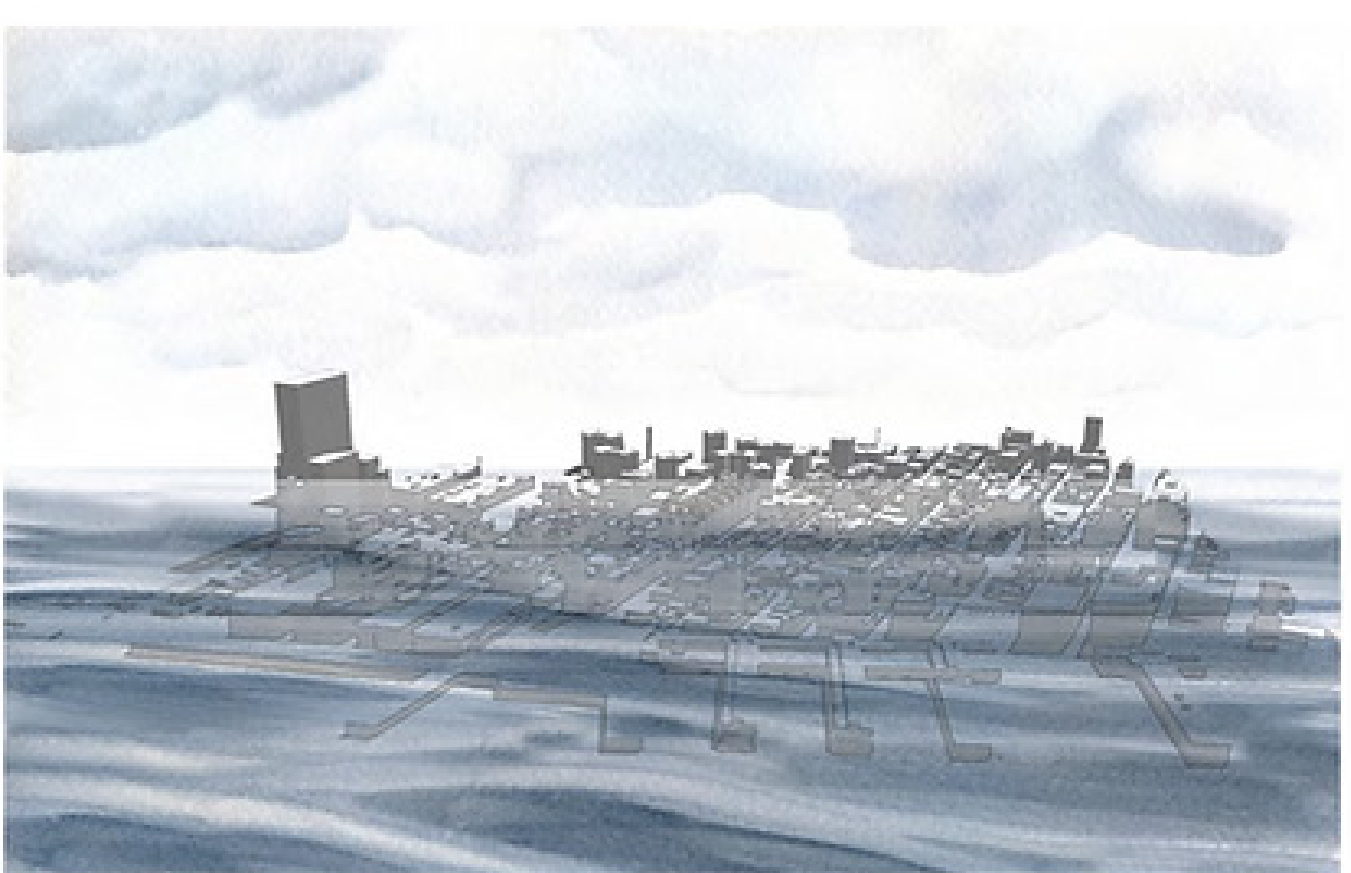
NO FLOODING



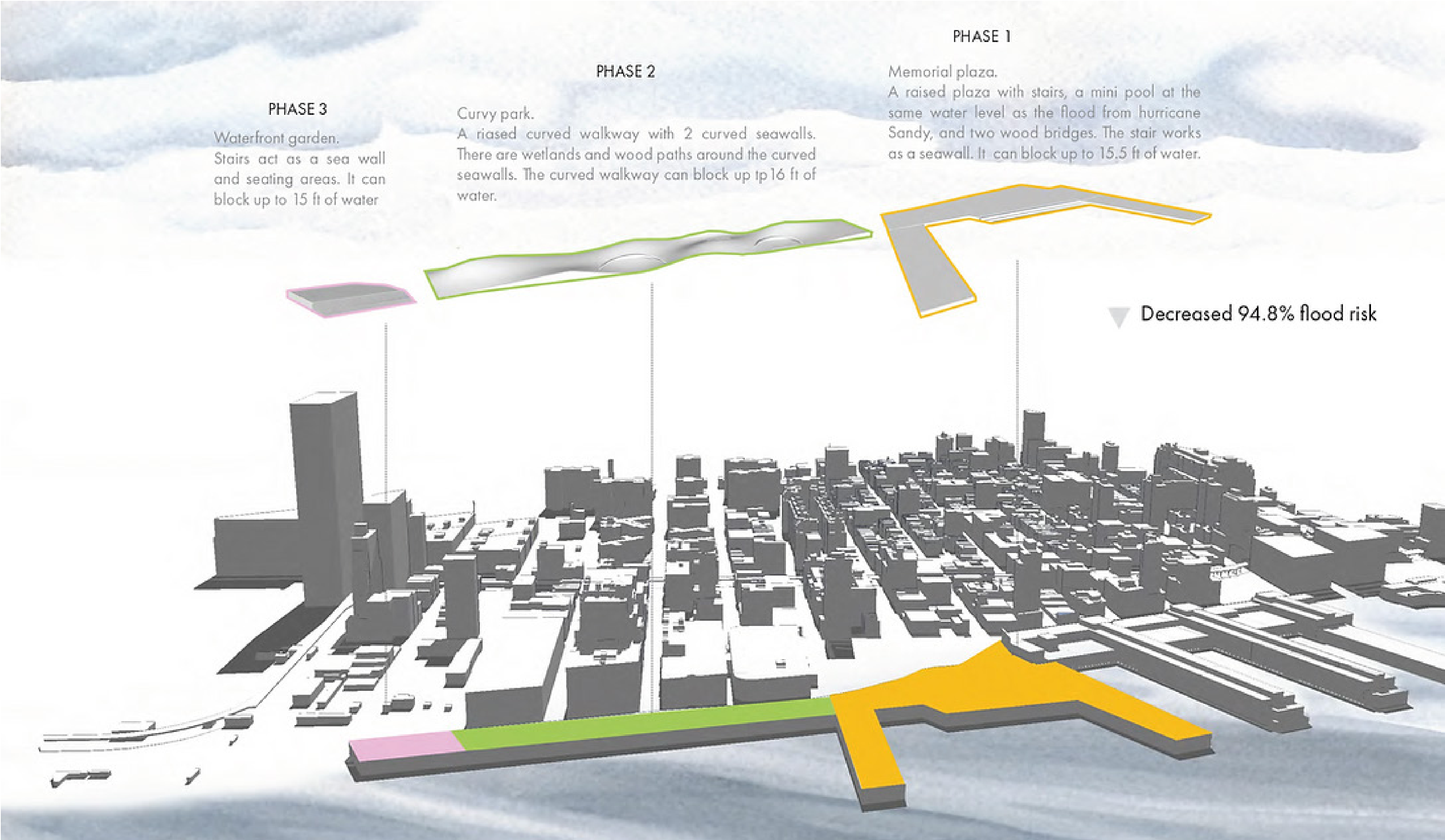
POTENTIAL FLOODING FROM CATEGORY 1 HURRICANE

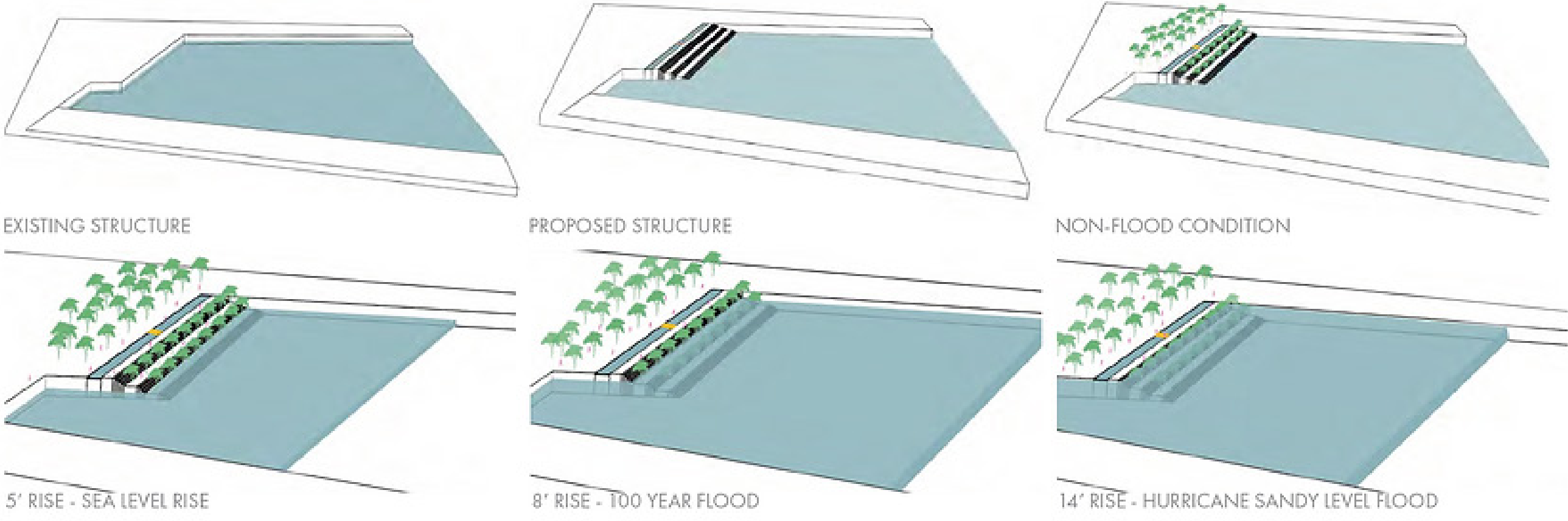
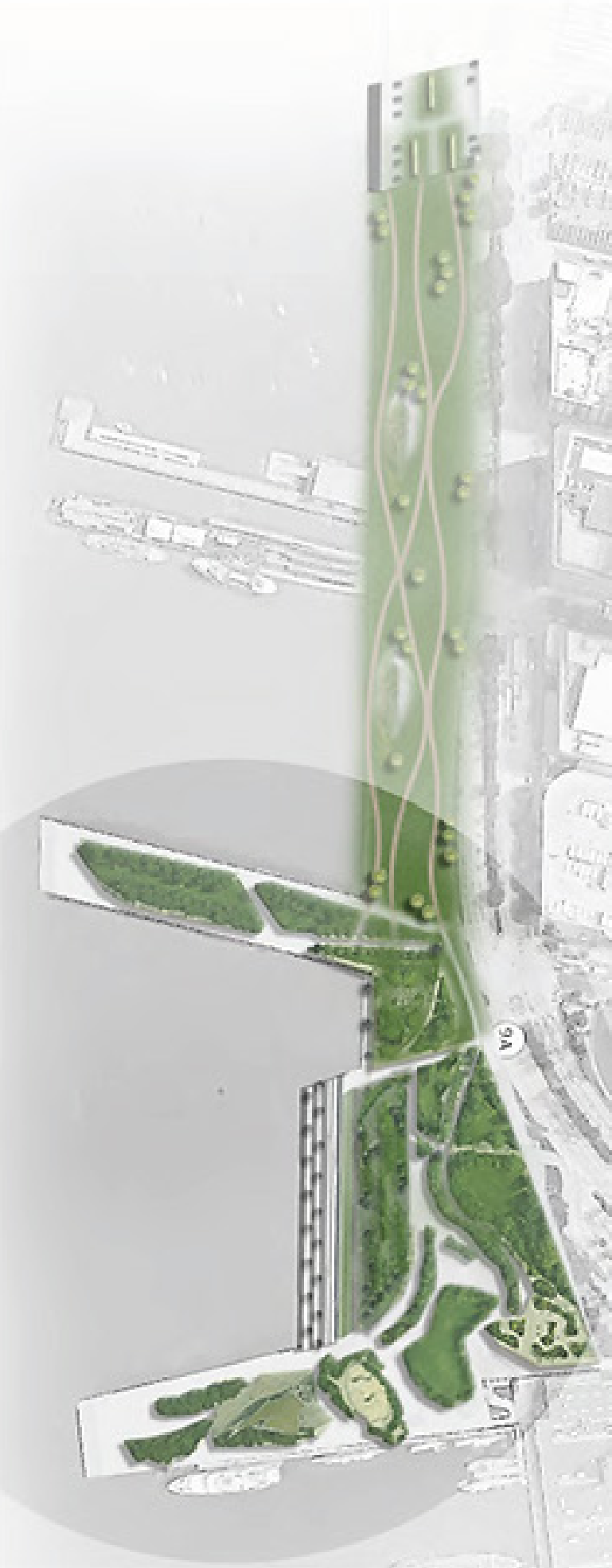


POTENTIAL FLOODING FROM CATEGORY 2+ HURRICANE

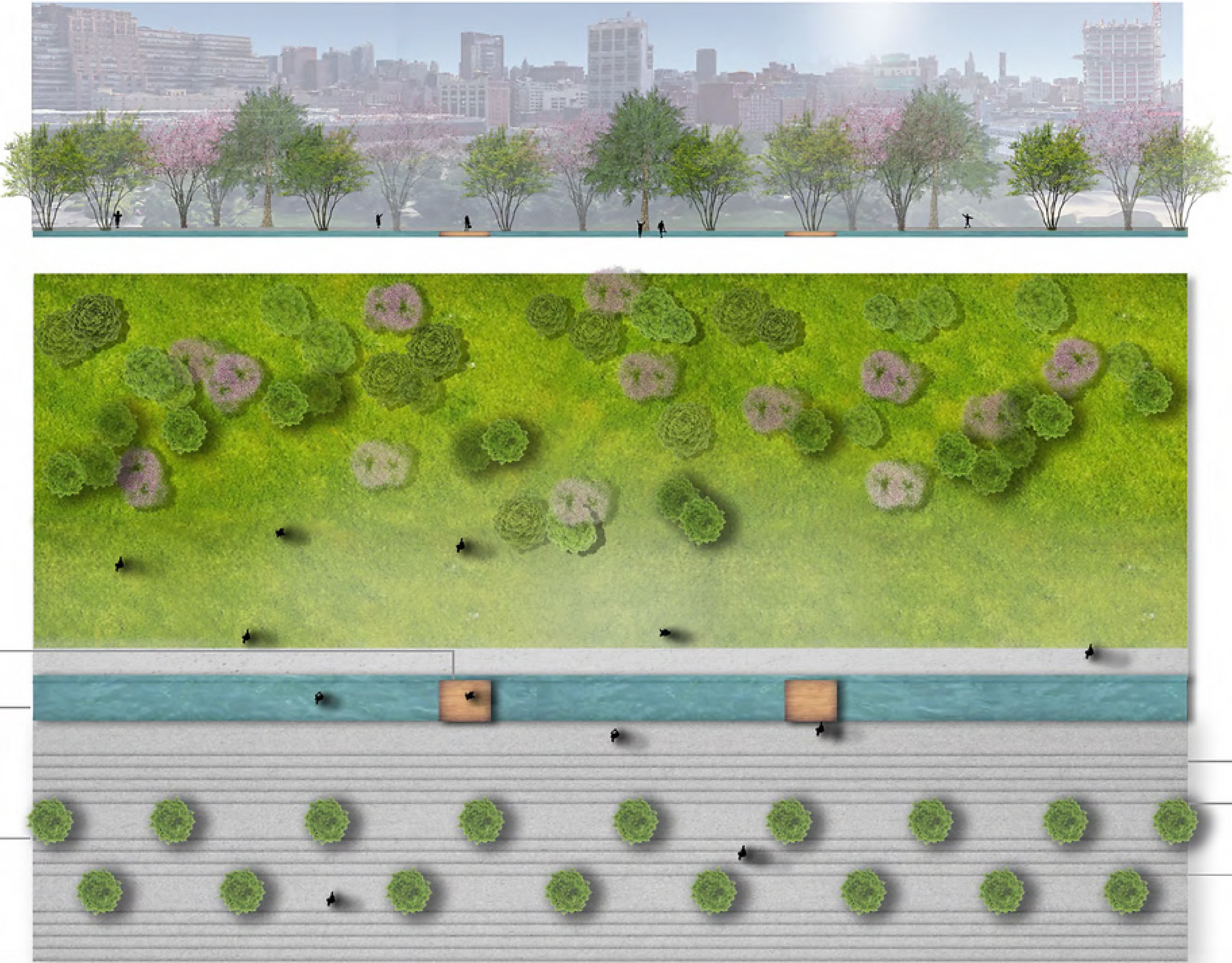


POTENTIAL FLOODING FROM CATEGORY 3-4 HURRICANE





The memorial plaza contains a park, a pool, and stairs. People can sit on the stairs to enjoy great views of the waterfront. The water pool is at is 14' from the street level, which is the same height as the water level during Sandy. The water pond is there to give people a sense of how much flood can impact. The water pond is about 6" deep. People can play with the water or stand on the wood bridges to enjoy the view. People can also sit and relax on the grass and enjoy the shade of the beautiful trees.

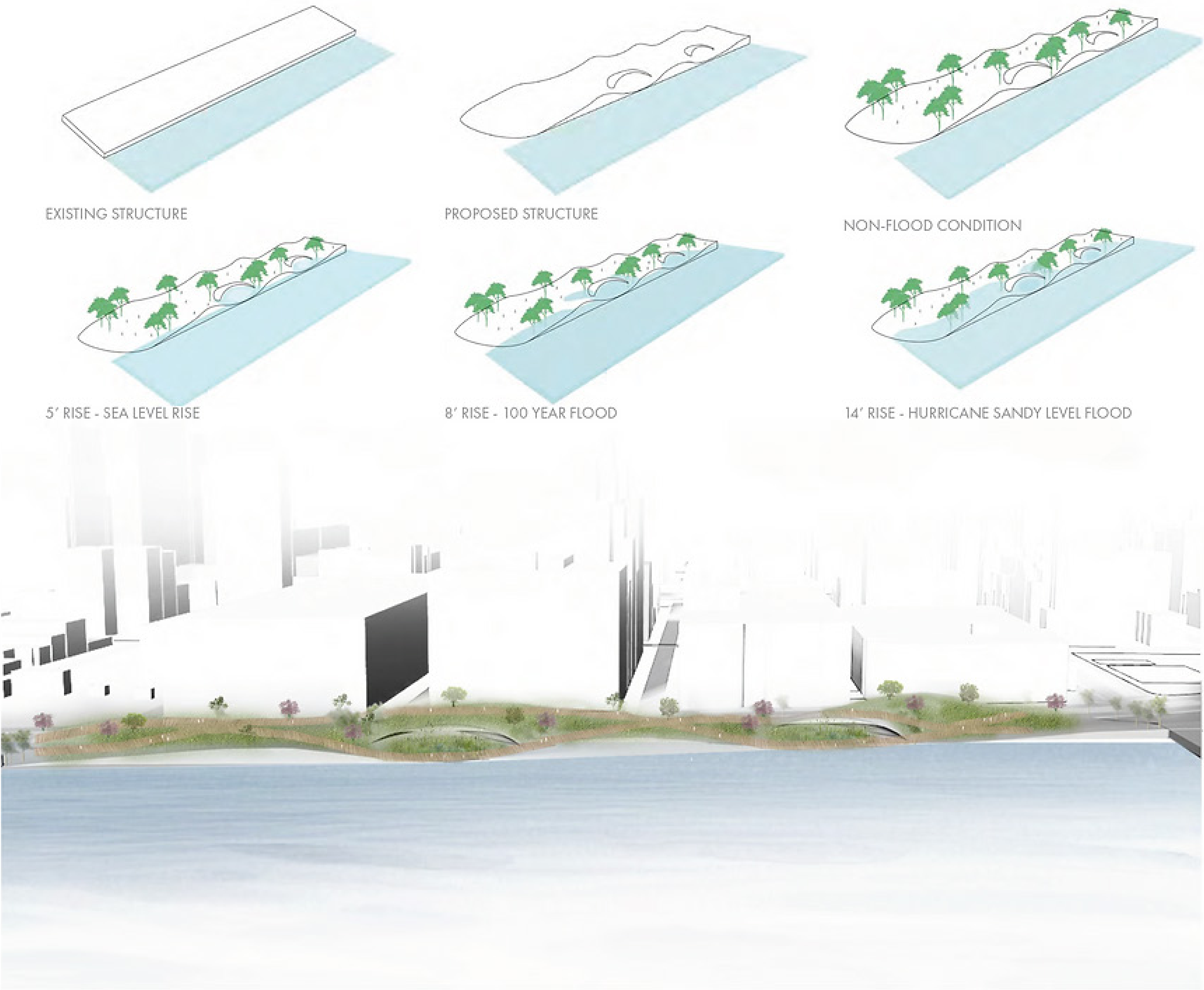
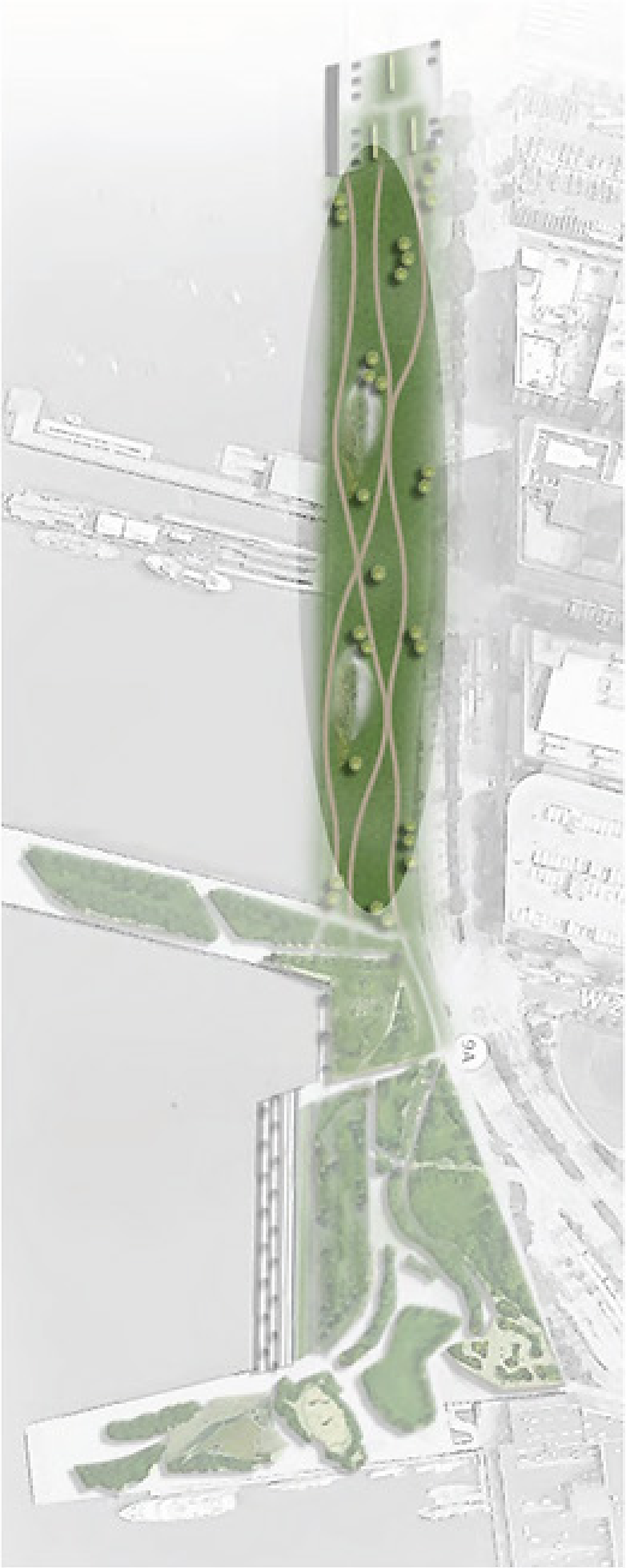


WOOD
ELEVATED
WALK

MEMORIAL
WATER POND
AT THE SAME ELEVATION
AS THE WATER LEVEL
DURING SANDY

GRANITE STAIRS

14' FLOOD
8' FLOOD
5' FLOOD



The curvy park is designed to block water by using curved topography and curved walls. The plants in the park are mostly salt and wet tolerant plants as well as wetland plants. The areas in front of the curved walls will be wetland habitat, and the curved wall will block access water from flooding. People can walk on the wood path or sit on the grass and relax. In the curvy park, people can enjoy the view of wetland habitats, curvy walkways, and open grass fields. There are many good views of the waterfront from the curvy parks. The highest point of the curvy park is 25' and the lowest point is 10' above the street level.

