

CASTING A RECONNECTION
THE CELEBRATION OF UK CONSTRUCTION

ALMANAC

BY JACK HOVELL

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INTRODUCTION

My chosen programme, which will be situated in the territory of the West Pier and seafront in Brighton, is an association of educational spaces, that celebrate traditional British engineering and architectural systems whilst demonstrating modern, sustainable approaches.

The installation will be located above the sea level between the pier and shoreline; as the design of the spaces would guide groups of students, tourists or public through a journey of British history, artefacts, environmental analysis, creative areas and materials workshops.

The specific theme of my programme is to honour British culture and the building/design industry through ecological understanding and representations of construction systems, methods and materials.

To elaborate on the specific activities that would occur on the pavilion; the user would be led through an initial archive/museum room, with the most celebrated design, construction and engineering achievements in Britain. Aiming to provide rich diversity, relevant information and an underlying message of the environmental impact of these items.

The next space the user would enter is a lesson in climate change, global warming and the predicted outcomes for our industry and the natural world. Whilst acknowledging the impacts, it would also instruct and inform the achievements of those who have chosen to tackle climate change with sustainable methods or creations. Lastly, the user will have the opportunity to interact with the process of modern construction and alternate materiality. This workshop could include forming or making ecological building components from environmentally friendly sources or organic produce.

The spatial qualities of the pavilion would be an enclosed structure with innovative use of light and fluid directional layout. The spaces would travel through a gradient from dark to light, representing the optimism of our future global state, an inspiration journey to educate and honour what can be achieved for Britain and nature.

An extruded enclosed pathway towering over the sea towards the prosperous, enlightening viewpoint of the west pier structure. Surrounded by unique, exciting pavilions throughout the festive which crowds around and on the derelict west pier structure and foundations.

AOI
PROGRAMME RESEARCH

TASK A - Programme Requirements

01 - CURATE

This project development stage of this brief, focuses on the understanding of my programme and spatial requirements. The introductory task was a workshop in understanding the programme timeline of a temporary festival and a representation of space or context.

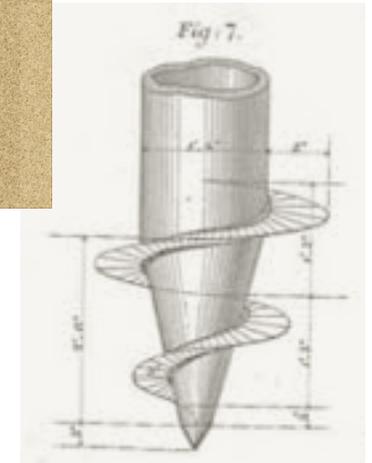
My initial key elements in the chosen precedents for this process are the systems and technologies use in the existing west pier screw piles and the experience, forms, materials and structure of the Kew Garden treetop walkway.

With the screw pile foundations, my ideas could be influenced by the engineered pointed forms and the installation process which screws into the seabed, as it could become my construction method to support the pavilion.

The elevated walkways could be an approach for my design as it progresses. Potentially using the material qualities of weathered steel and metal mesh with allows full visibility for the viewer and user.



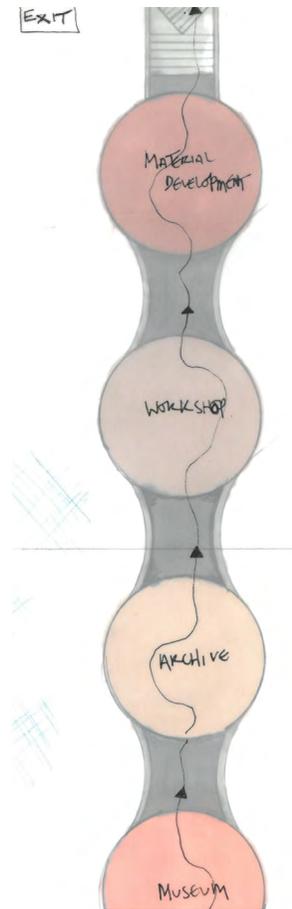
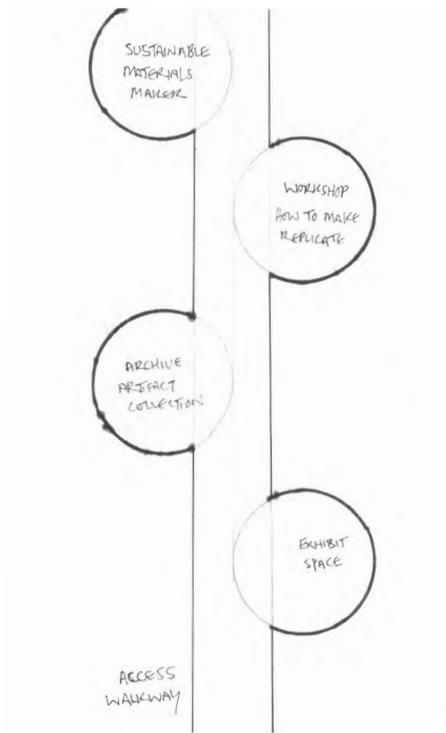
WEST PIER SCREW PILE FOUNDATIONS
PILE SHOE - HELIX BLADE - SCREW POINT



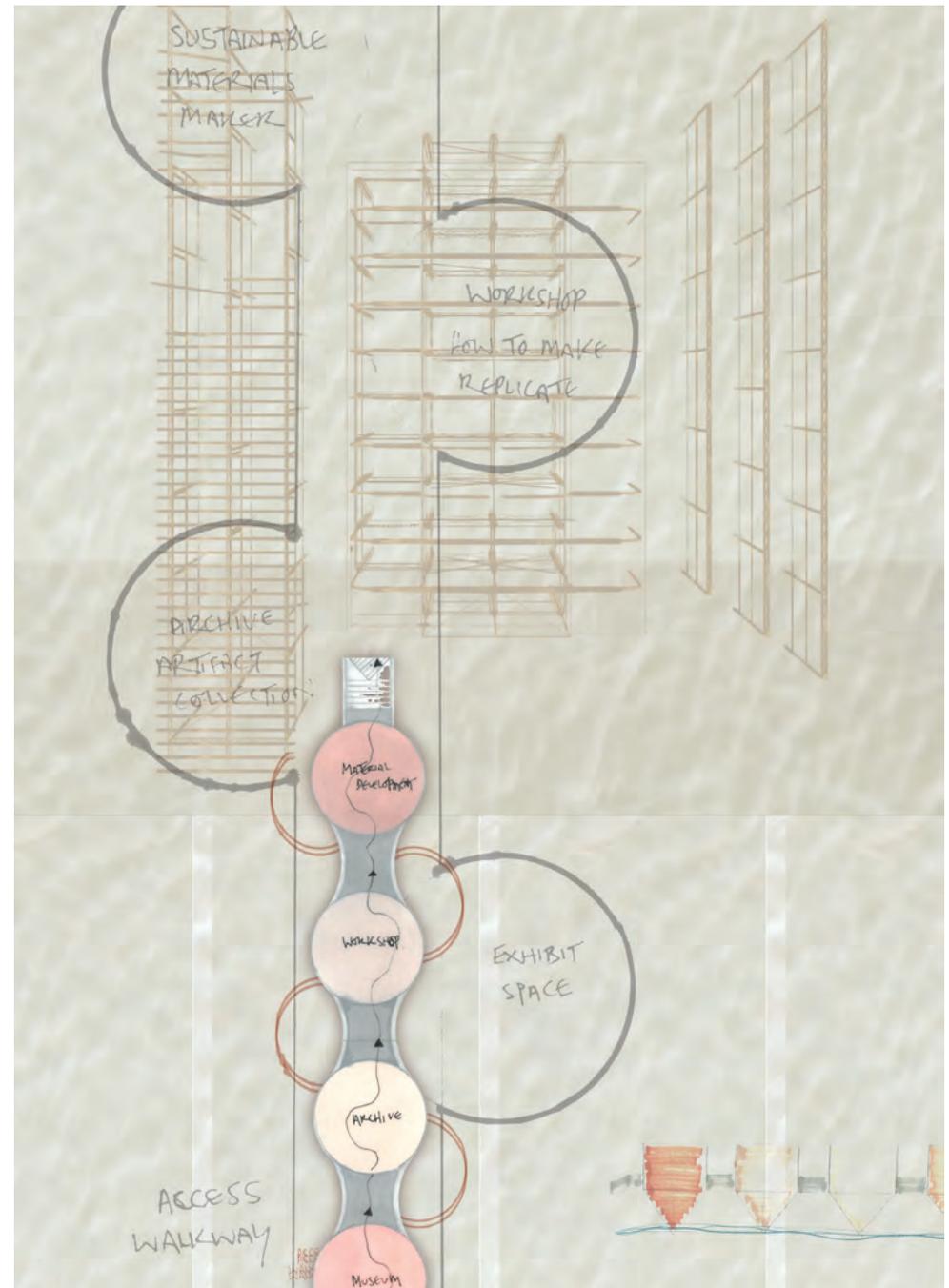
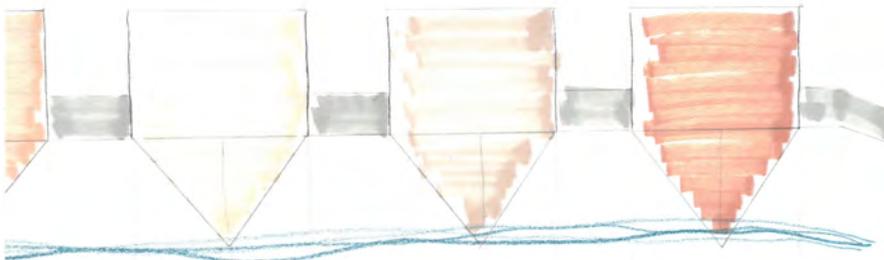
KEW GARDENS TREETOP WALKWAY
LONDON, UK



Spatial experimenting and design development: the initial inspirations from Kew Garden's towering walkway and the existing foundations of the west pier have influenced my first iterations



Individual pavilion spaces could be based on the form of the west pier screw pile foundation - bridging between each stage of the programme.



TASK A

Programme Requirements

When considering my pavilion's needs, I initially realised that I would require 5 spaces or sections which each differ between theme, function, interaction and use.

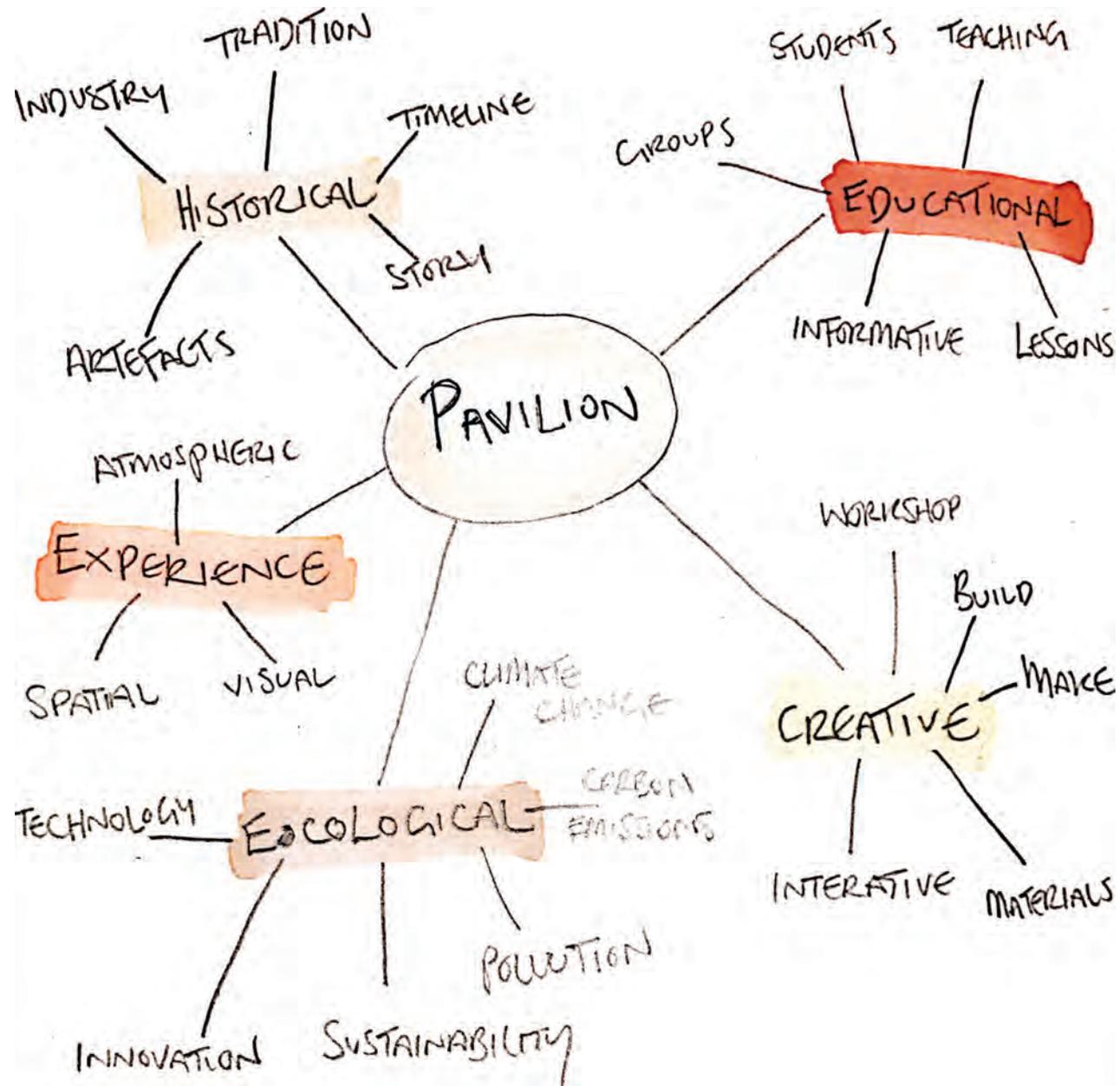
This allowed me think about them individually, based on what activity would present within the 5 parts of my temporary, educational workshop pavilion.

These must sections must accommodate the needs and space for:-

- History of Industrial Examples
- Ecological Impact Analysis
- Educational Presentations/Talks
- Experience Sustainable Materials
- Creative Makers Workshop

As this stage of the programme development is theoretical, my assumption is that these 5 focus areas will overlap and adapt.

The overall intention of my programme is to provide an inspirational, visual and creative experience for the younger generations, to educate what sustainable solutions are available in construction.



Rubric of Requirements for the Replication + Innovation Pavilion

Requirements	MUSEUM	CLASS	INFORMATION	GUIDE	MAKER
	HISTORY OF BRITISH BUILDING	EDUCATING THE NEW + OLD PROCESS	UNDERSTANDING ECOLOGICAL IMPACT	EXPERIENCE SUSTAINABLE METHODS	CREATE REPLICATED MATERIALS
FUNCTION:	<ul style="list-style-type: none"> - DISPLAYING ARTIFACTS - EXAMPLES OF TRADITIONAL ENGINEERING + CONSTRUCTION - TIMELINE OF ERAS - STORAGE AREA - HONOUR CULTURES 	<ul style="list-style-type: none"> - CLASS ROOM - TEACHING FACILITIES - STUDY AREA - PROJECTIONS OF EXAMPLES 	<ul style="list-style-type: none"> - PRESENTATION - FACTS + FIGURES - PREDICTED INFORMATION! 	<ul style="list-style-type: none"> - LEARN NEW TECHNIQUES - CONSTRUCTIONS MATERIALS - WAYS OF LIFE 	<ul style="list-style-type: none"> - MAKER SPACE - WORKSHOP - FINAL VIEW OF WEST PIER
SPATIAL:	<ul style="list-style-type: none"> - ELEVATED WALL SPACE - CENTRAL PODIUMS - TALL - NARROW - GUIDED BY SPACE 	<ul style="list-style-type: none"> - WIDER SPACE - WALLS AVAILABLE - SEATING AREA - SURFACE SPACE 	<ul style="list-style-type: none"> - MEDIUM SIZE SPACE - FORM ONTO ONE WALL - BIG GROUPS 	<ul style="list-style-type: none"> - SMALL INTRO SPACE TO WORKSHOP - PRESENTATION AREA - WALL SPACE - MATERIAL EXAMPLE 	<ul style="list-style-type: none"> - WIDER LARGE SPACE - VENTILATION - CLEAN WORKING ENVIRONMENT
ENVIRONMENTAL:	<ul style="list-style-type: none"> - DARK - ATMOSPHERIC - 'LIGHT AT THE END OF THE TUNNEL' - ENCLOSED 	<ul style="list-style-type: none"> - LIGHTER - SMALL OPENINGS OF NATURAL LIGHT - INTERNAL - EXHIBIT SPACE 	<ul style="list-style-type: none"> - REDIRECTED LIGHT ON TO GROUP - HIGH LIGHT - DARK SPOT ON WALL 	<ul style="list-style-type: none"> - LIGHT DIRTIES DIRTIES TO MAX. SPACE - IN + OUTSIDE CONNECTIONS 	<ul style="list-style-type: none"> - NATURAL LIGHT
USER:	<ul style="list-style-type: none"> - STUDENTS - PUBLIC - SCHOOL GROUPS - FLAT, GRADUAL EDUCATION FOR ALL ACCESS 	<ul style="list-style-type: none"> - STUDENTS - TOURISTS - YOUNG GROUPS - PUBLIC 	<ul style="list-style-type: none"> - PROFESSIONALS ENVIRONMENTALISTS - LOCALS - SCHOOL GROUPS - STUDENTS - TUTORS 	<ul style="list-style-type: none"> - YOUNG - SCHOOL TRIPS - STUDENTS - PROFESSIONALS 	
OTHER:	<ul style="list-style-type: none"> - WEIGHT DISTRIBUTION - BALANCE - FOUNDATIONS IN BEACH - LEVEL OF SEA + TIDE CHANGE 	<ul style="list-style-type: none"> - TEACHING EQUIPMENT - WINDOWS - GLASS OPENINGS - DISPLAY UNITS - FREE WALL SPACE 	<ul style="list-style-type: none"> - PROJECTOR - LARGE WALL - SOUND SYSTEM - ATMOSPHERIC LIGHTING 	<ul style="list-style-type: none"> - EXHIBIT SPACE + EQUIPMENT - MACHINERY FOR MAKING - EXAMPLES OF MATERIALS 	

TASK A Programme Development

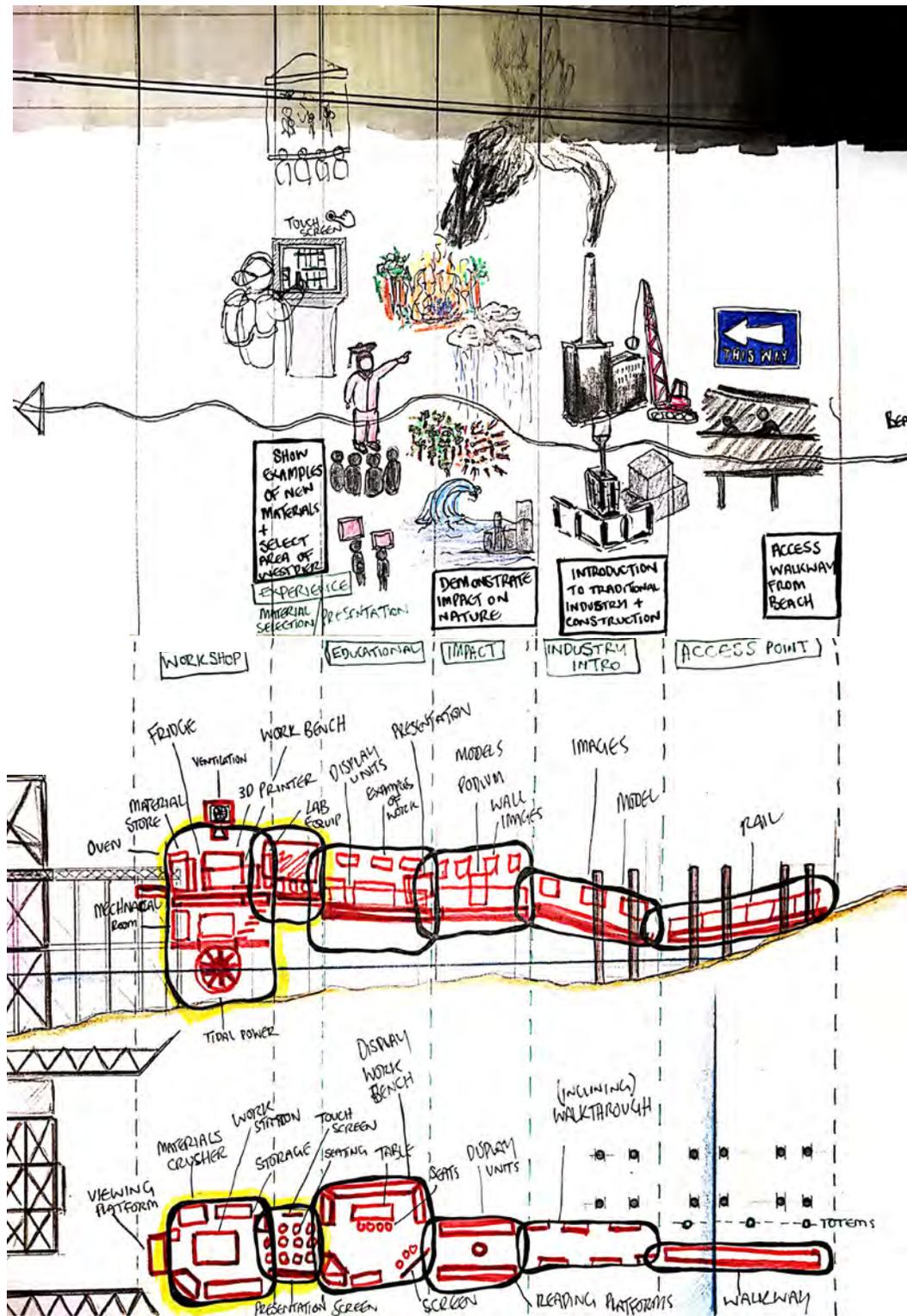
The educational and making programme of should retain the concepts I developed from Semester One: 'Remove, Replace and Replicate'. This concept adapted tradition engineered materials with

Stage 1 - Educating groups on how to design, make and create eco-friendly components which will replace and replicate eroded parts of the pier

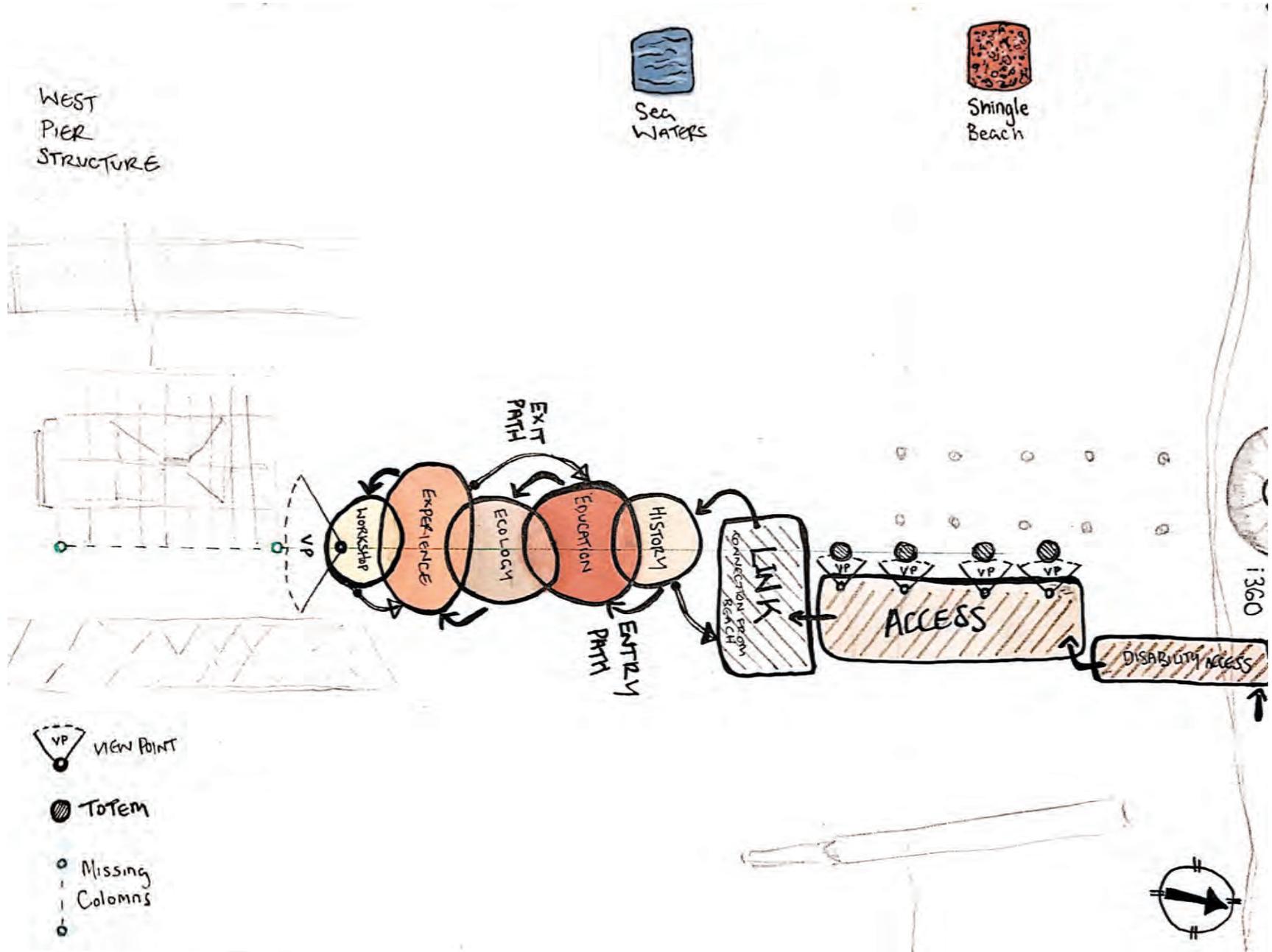
Stage 2 - The pavilion will lead the groups through the process of tradition/history in construction, then engaging in the existing environmental impacts; in preparation for the constructive, interactive and creative workshop.

Stage 3 - The workshop will give each member of the group, components from the original west pier structure, to replicate or reform but only using sustainable materials/methods.

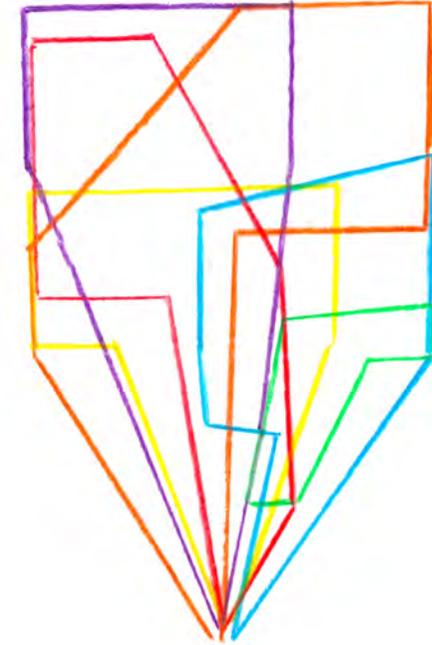
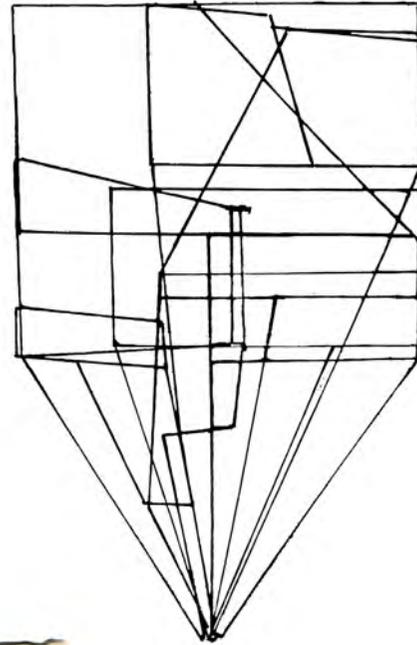
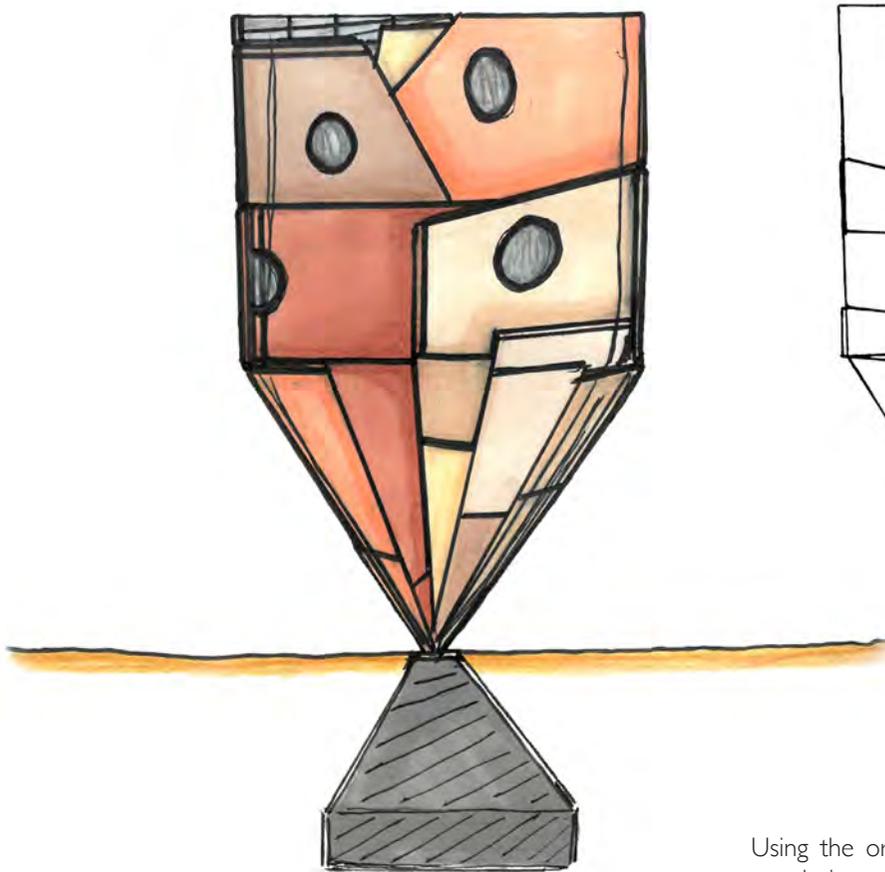
Stage 4 - The re-manufactured components will be placed back on to the west pier, so that as the festival goes on the west pier will become less fragmented.



Refined Diagram of Spatial Requirements

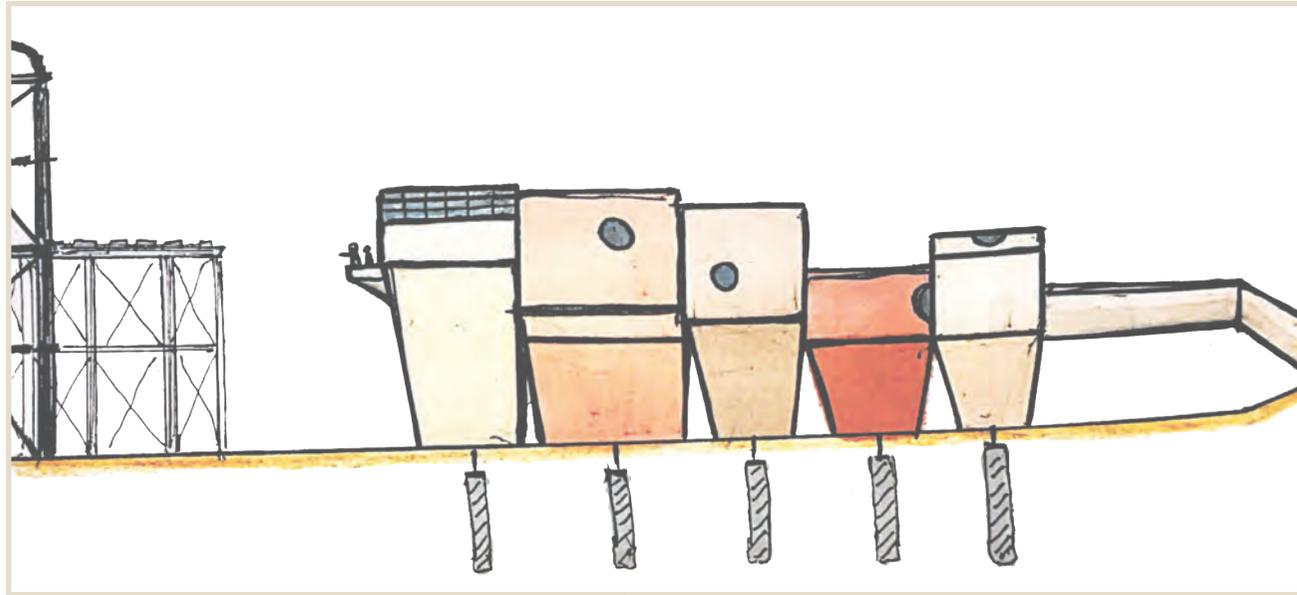


Explored Concept of Pavilion Design



- ACCESS BALCONY
- HISTORY
- EDUCATION
- ECOLOGY
- EXPERIENCE
- WORKSHOP + VIEWPOINT

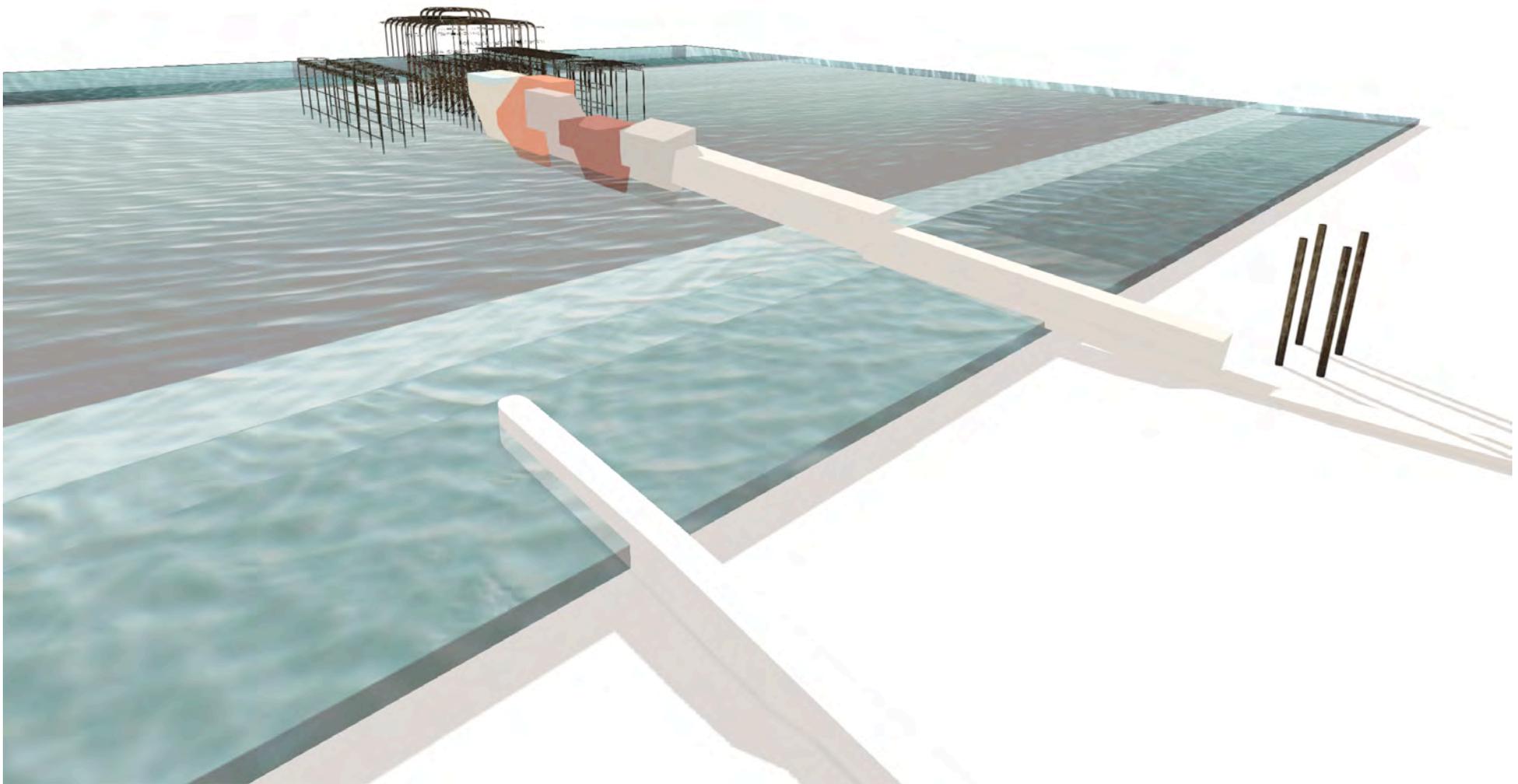
Using the original screw pile shoe shape as a form to base my design on; then by dividing the 'upside down house' into fragmented sections - this has given me the perspective alignment of each space in the pavilion. The parallax has informed my depth of each room, but is only visible from the view point on the beach.



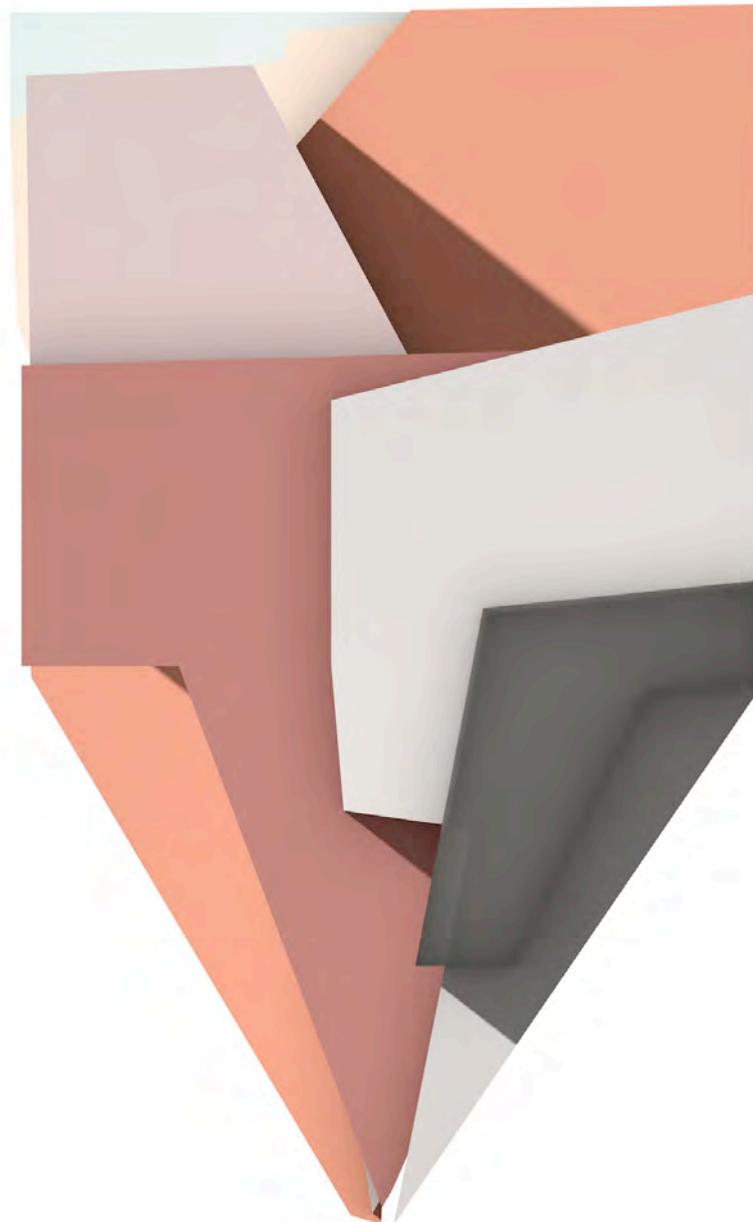
This graphically demonstrates the ability to transfer a sketch into a CAD Model, and allows me understand the design further.



Perspective CAD Model of Pavilion Design in situation of the West Pier



-  *Materials and Components Workshop*
-  *Technological and Construction Experience*
-  *Ecological and Environmental Impact Display*
-  *Sustainable Education Presentation*
-  *History of Construction and Engineering Room*
-  *Access Walkway and Entrance Tunnel*



Initial Exterior Concept Design

Aligning the pavilions individual rooms through the beach view-point, to create a parallax form of the screw pile shoe.

This early design has encouraged my development of the programme and its location in the festival.

The individual spaces could become housed within this idea eventually, but this is a concept I would have to return to, as the spatial requirements will create entirely altered measurements, scale and programmatic systems and materials.

The following page includes a precedent from Kengo Kuma.
- The Yure Pavilion in Jardin des Tuileries in Paris.

This is a lattice structure made from identical wooden pieces. The temporary pavilion achieves an organic parallax form through the use of geometric elements and references a Japanese expression for a nomadic shelter.

01 TASK A - Continued Development of my Programme Requirements

The Replication and Innovation Workshop Pavilion

Function

The functions of the pavilions 6 spaces will be designed to accommodate large groups of students, creatives, tourists and pupils. The use of each room is specific the programme and will require research on standard public conditions.

Spatial

The pavilion would need to allow the appropriate space for at least 10-20 people to be able to walk, pause, stand, sit and work. The disable access would run through the entire pavilion at an incline in some areas. Must have large storage, facilities and utilities spaces.

Environmental

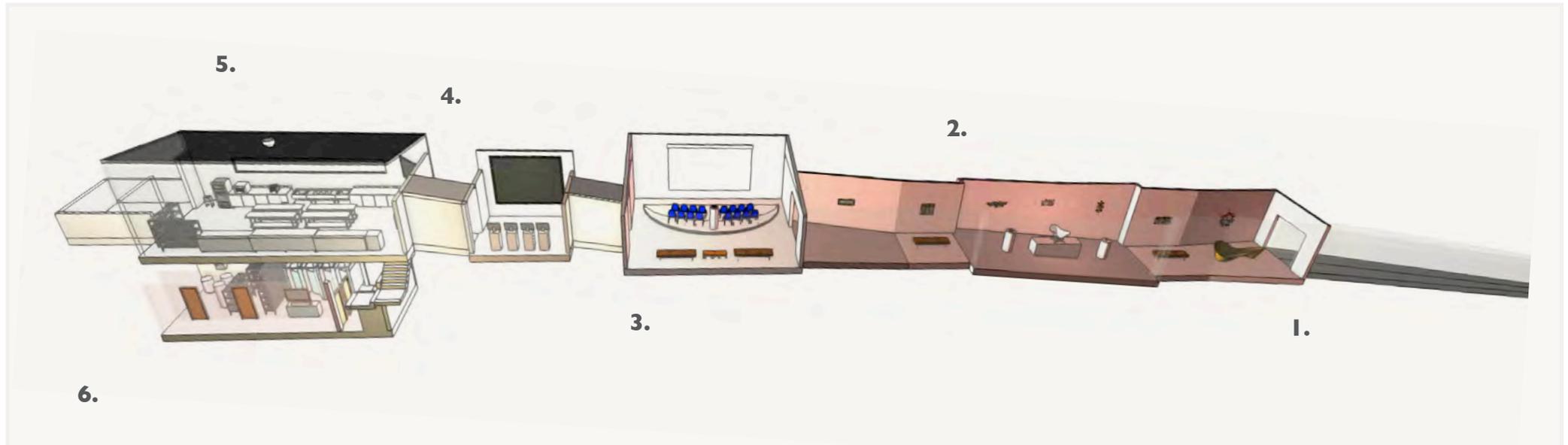
The natural elements are crucial for the atmospheric qualities in the journey through the spaces. As the enclosed darker walk-through progress towards the semi-exposed rooms, then ending in a fully lit workshop area. The varied tides are a vital systematic condition.

User

As the groups progress through the pavilions, the ultimate view of the west pier will always be in site, but through glimpses and apertures. The views will be important in directing the user towards different elements of the coast. Health and Safety is a key consideration for a working area for public use.

Other

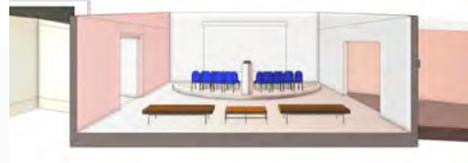
The key additional features are the renewable energy sources and material supply. The location of the pavilion is essential for depth, exposure and distance between the coast and the west pier structure. The end platform will allow exit to festival and showcase display of crafted components.



5. Materials and Components Workshop



3. Sustainable Education Auditorium

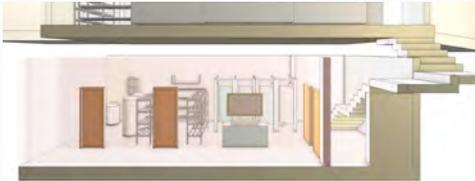


1. Access Walkway and Entrance



Utilities/Storage/Lavatories

6.



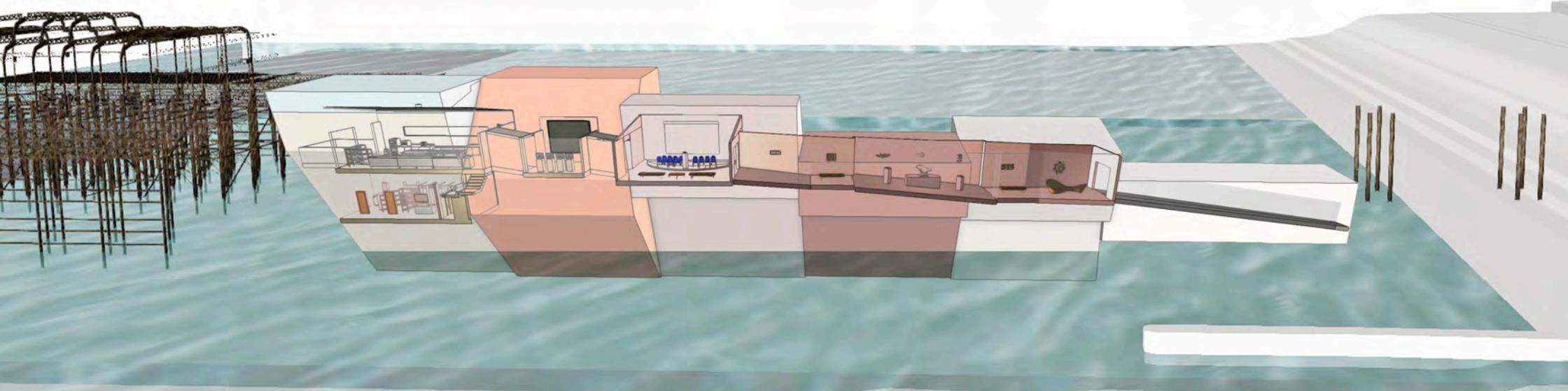
Component Selection Zone

4.

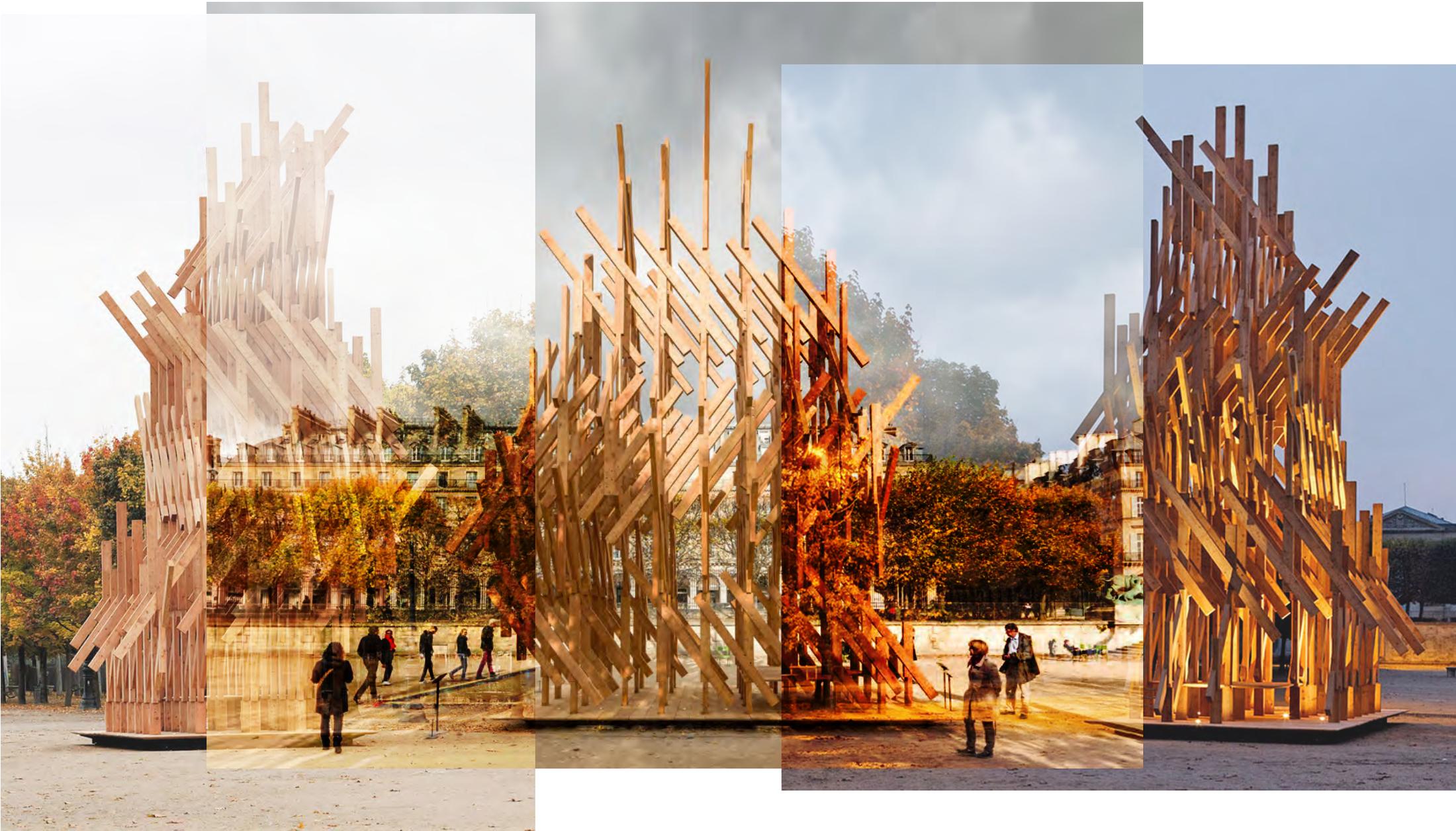


Exhibition Walk-through

2.



Kengo Kuma's, Yure Pavilion in Jardin des Tuileries, Paris.



This is collaged image with 3 different perspectives of the pavilion...

FESTIVAL OF BRITAIN 2022

The celebration of Britishness through a temporary event supported by an array of unique pavilions - each developed by an individual designer.

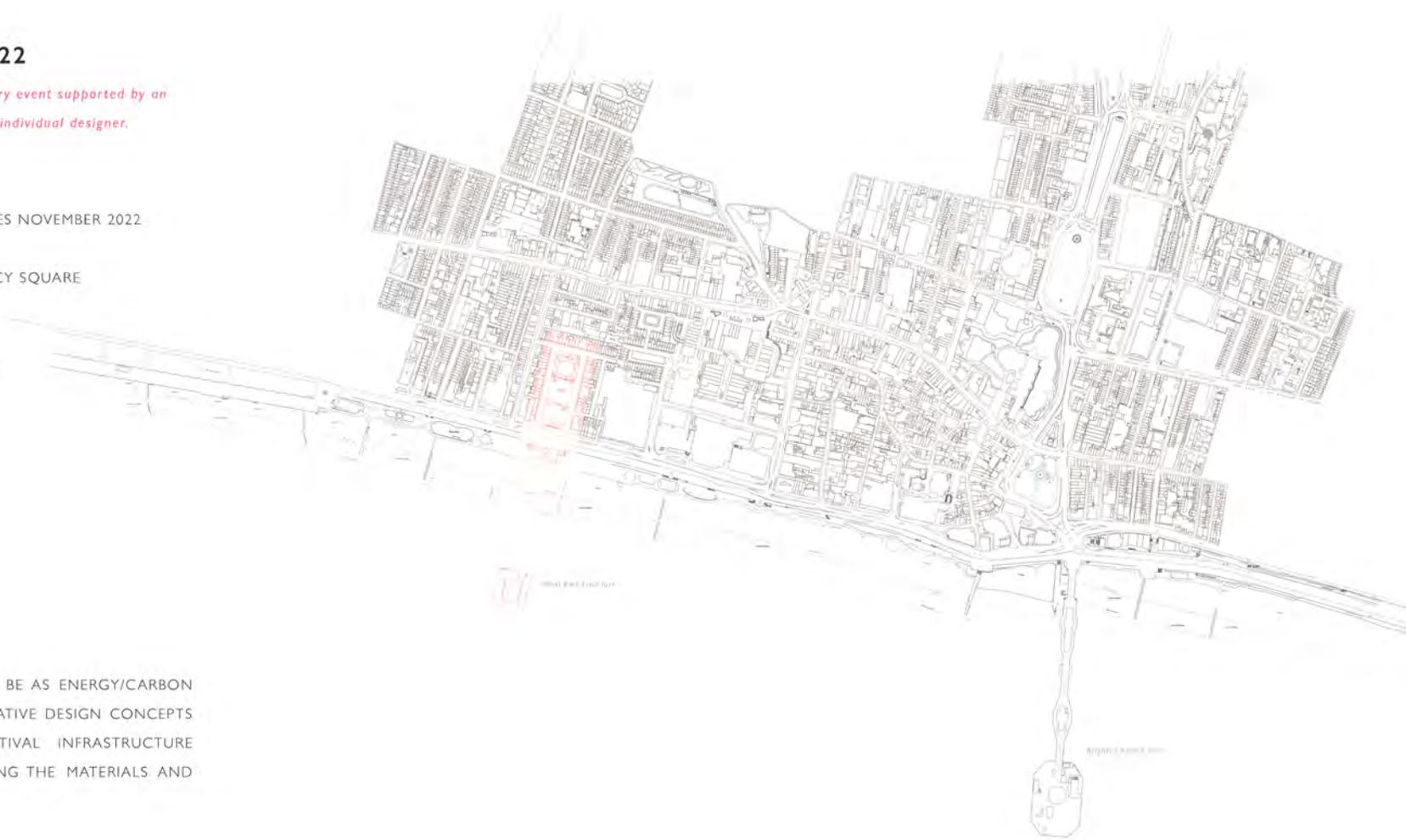
WHEN: FESTIVAL OPENS APRIL 2022 - CLOSES NOVEMBER 2022

LOCATION: BETWEEN WEST PIER & REGENCY SQUARE
KINGS ROAD, BRIGHTON

FEATURING: THE FESTIVAL WILL INCLUDE:-

- TAKEAWAY RESTAURANT
- EXPERIMENTAL LABORATORY
- SUSTAINABLE WORKSHOP
- CINEMA/AUDITORIUM
- VISUAL EXHIBITION
- ACTIVIST WORKSHOP
- RELAXATION SPACES
- KINETIC INSTALLATION
- + ACCESS AND FACILITIES

STRUCTURE: THE FESTIVAL PROPOSES TO BE AS ENERGY/CARBON EFFICIENT AS POSSIBLE, THROUGH INNOVATIVE DESIGN CONCEPTS AND FORWARD-THINKING OF THE FESTIVAL INFRASTRUCTURE LIFE-SPAN BY RE-USING AND RE-PURPOSING THE MATERIALS AND TEMPORARY PAVILIONS.



Festival of Britain Map: Highlighting the potential pavilion locations + the common routes.

THE REPLICATION WORKSHOP PAVILION:

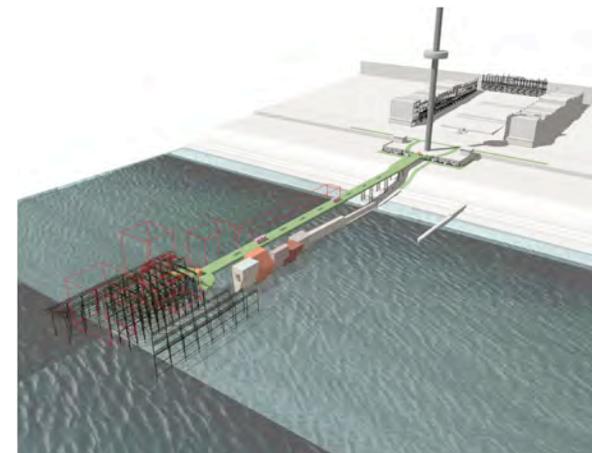
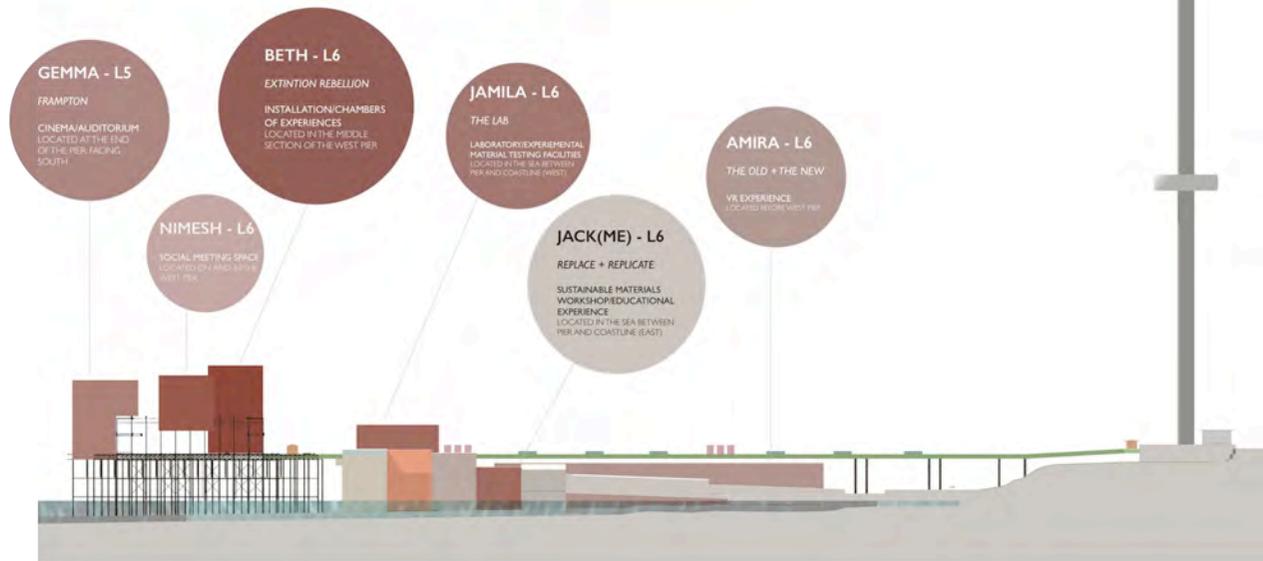
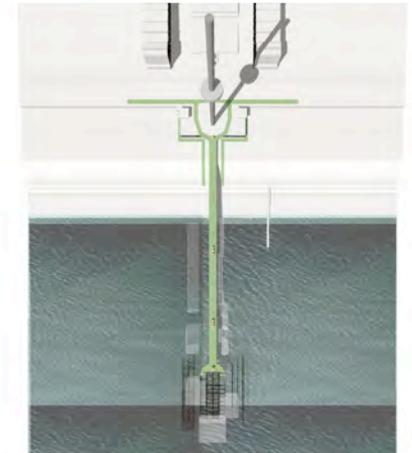
MY PAVILION IS A COURSE OF SPACES, SITUATED BETWEEN THE BEACH AND THE WEST PIER STRUCTURE.

AIMED AT STUDENTS, SCHOOL GROUPS, CREATIVES AND GENERAL PUBLIC, THE PAVILION WILL GUIDE GROUPS OF 10-20 IN A SESSION THROUGH AN EDUCATIONAL JOURNEY ON SUSTAINABLE CONSTRUCTION AND ENVIRONMENTAL IMPACT.

THEN ULTIMATELY INTO THE WORKSHOP TO REPLICATE AND MAKE NEW FORMS TO REPLACE THE BROKEN SECTIONS OF THE WEST PIER; WHICH ARE PRESENTED IN THE EXHIBITION PLATFORM NEXT TO THE WEST PIER STRUCTURE.

INFRASTRUCTURE INVENTORY

- WALKWAY ENTRANCE ACCESS - 
- TICKETS + INFORMATION POINT - 
- REST POINTS + BENCH SEATING - 
- TOILET CUBICLES + RESTROOMS - 
- STAIRS TO BEACHFRONT ACCESS - 
- ACCESS PLATFORM ON WEST PIER - 

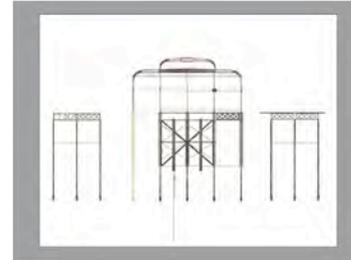


Final chosen programme: **The Pavilion of Innovative Replication**

-Celebrating the qualities of British construction through the west pier sustainable development workshop and exhibition

Interactive Screen

Component selection screen:
This system will allow the user on the pavilion to choose a part of the west pier that has eroded or broken away, then create a replica out of sustainable materials in the workshop

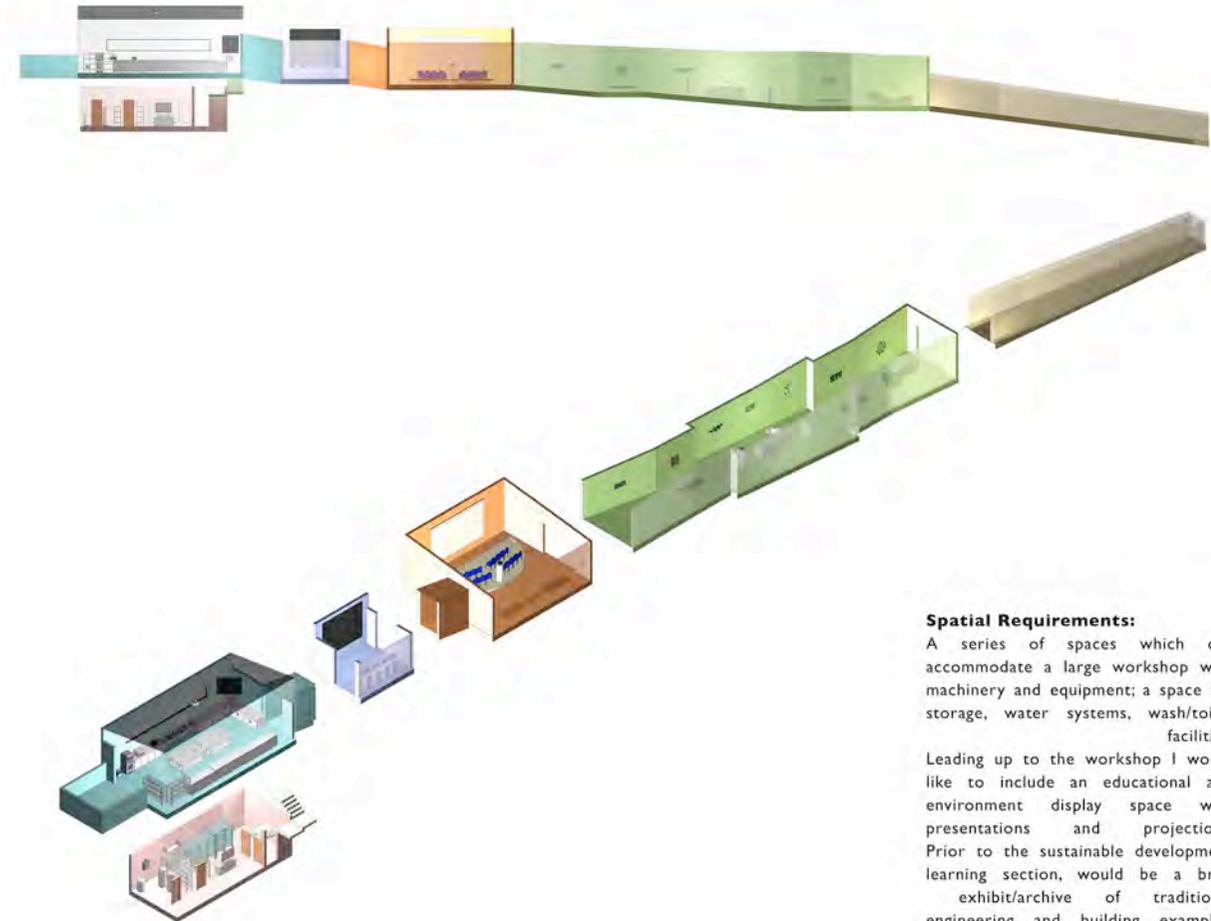
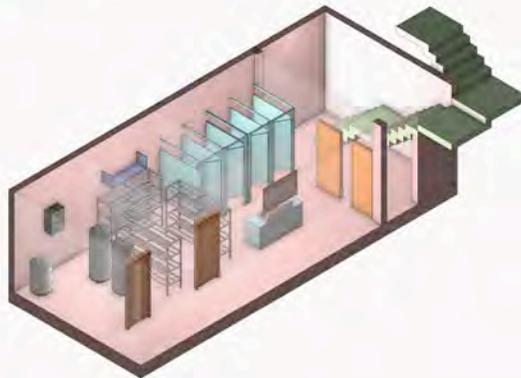
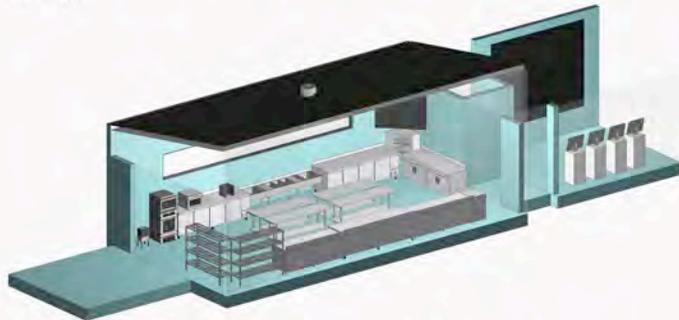


Tidal Turbine

Engineered to the screw piles:
this system will support my structure and provide energy to the public spaces.
The location of the piles will have to be deep enough to function.

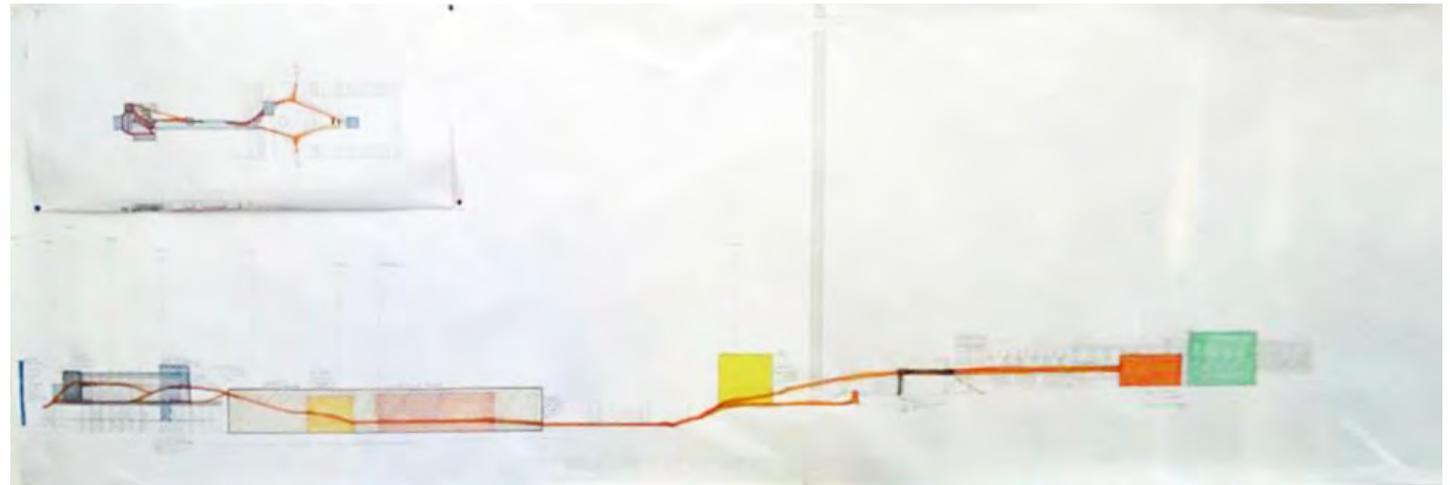
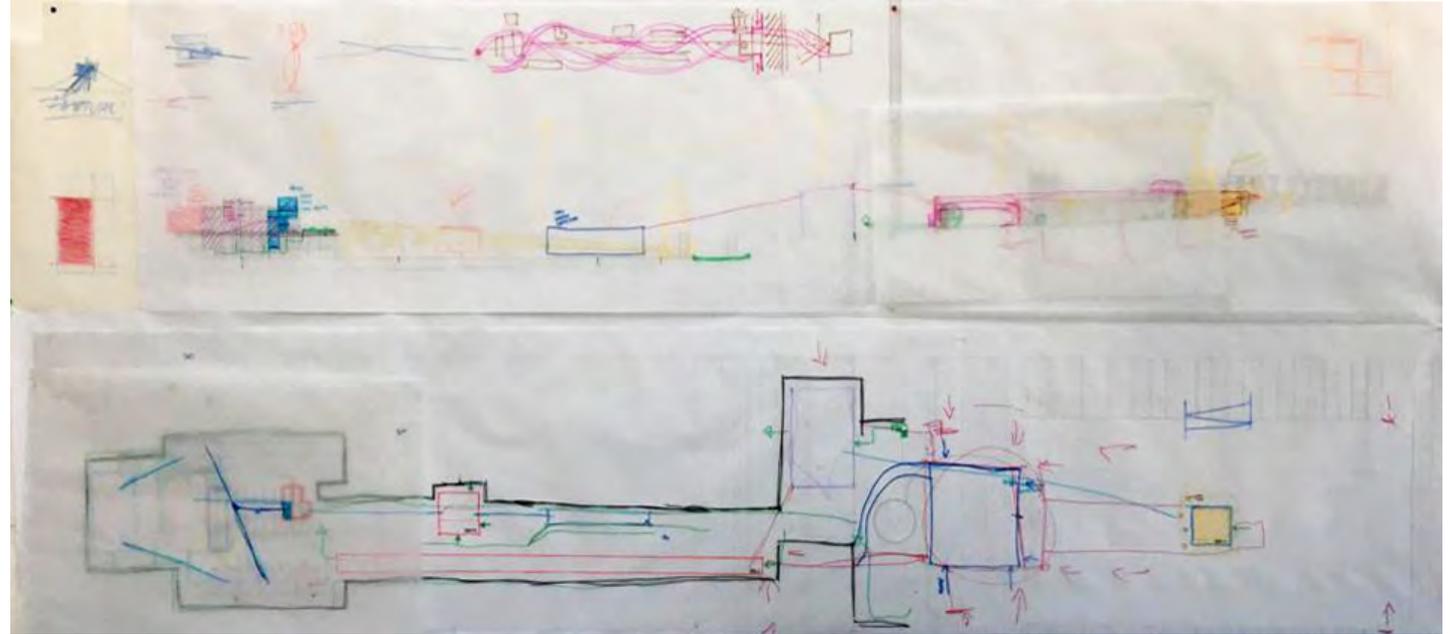
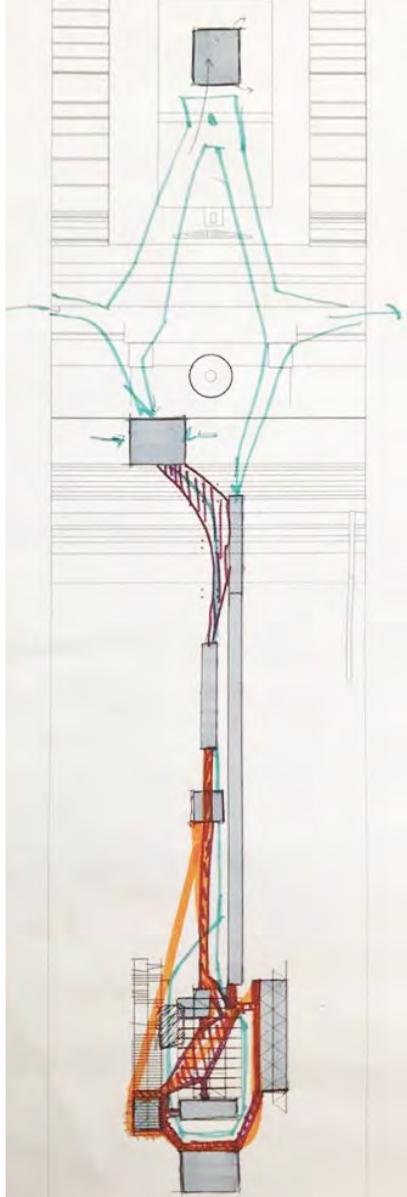


Sustainable Materials Workshop + Storage

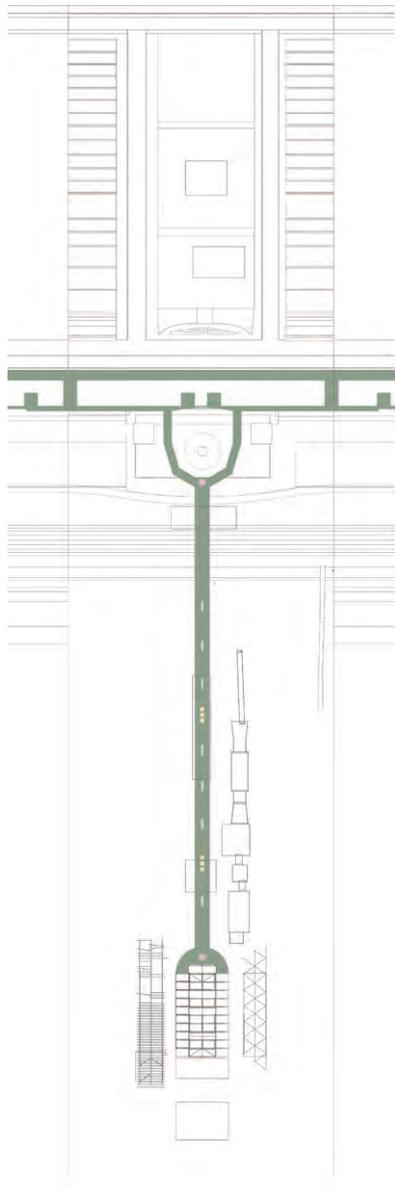


Spatial Requirements:

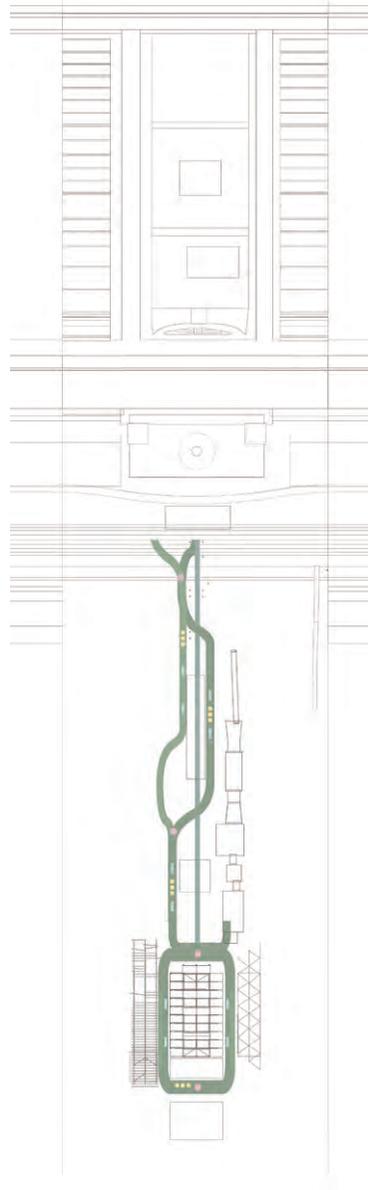
A series of spaces which can accommodate a large workshop with machinery and equipment; a space for storage, water systems, wash/toilet facilities.
Leading up to the workshop I would like to include an educational and environment display space with presentations and projections. Prior to the sustainable development learning section, would be a brief exhibit/archive of traditional engineering and building examples.



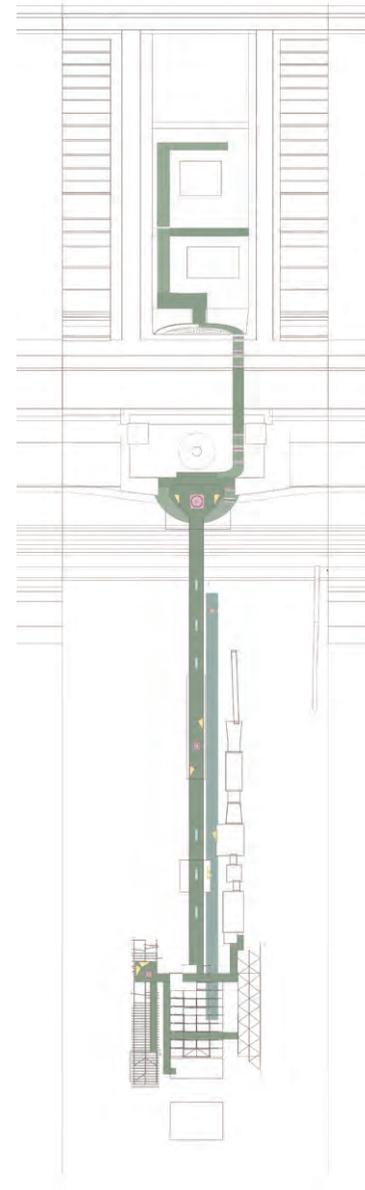
Iteration No. 1



Iteration No. 2



Iteration No. 3



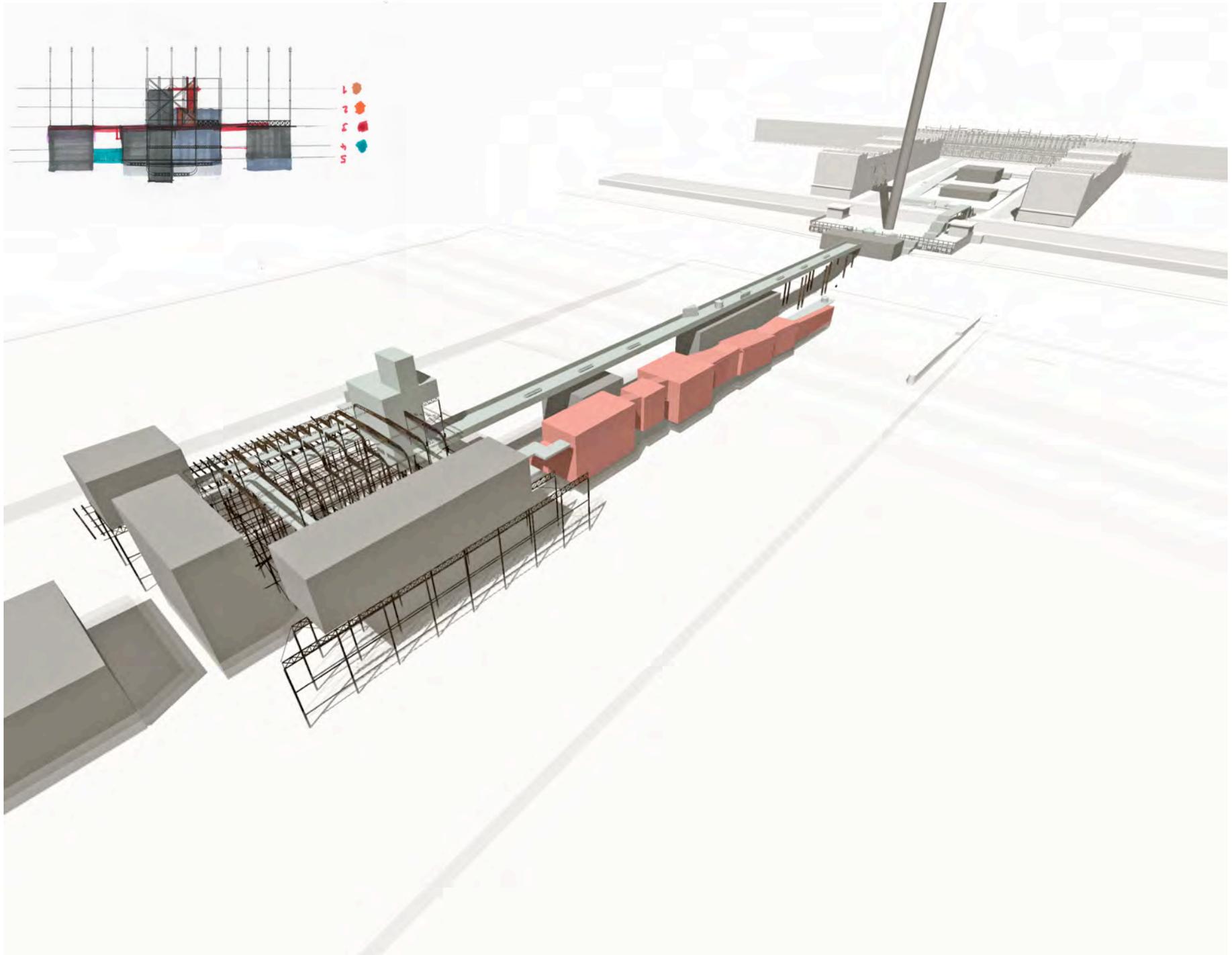
The development process of the festival masterplan has consistently altered, iterated and redesigned to suit the needs of every pavilion.

As collaborative task, the festival must work for every students spatial and functional requirements.

My pavilion will connect from two parts; the entrance will adjoin from the beach and exit will lead onto the festival hub, on the west pier structure.

KEY

- Rest Point/Bench
- Access/Walkway
- Toilet/Restroom
- Lower Tide Access
- Tickets/Information

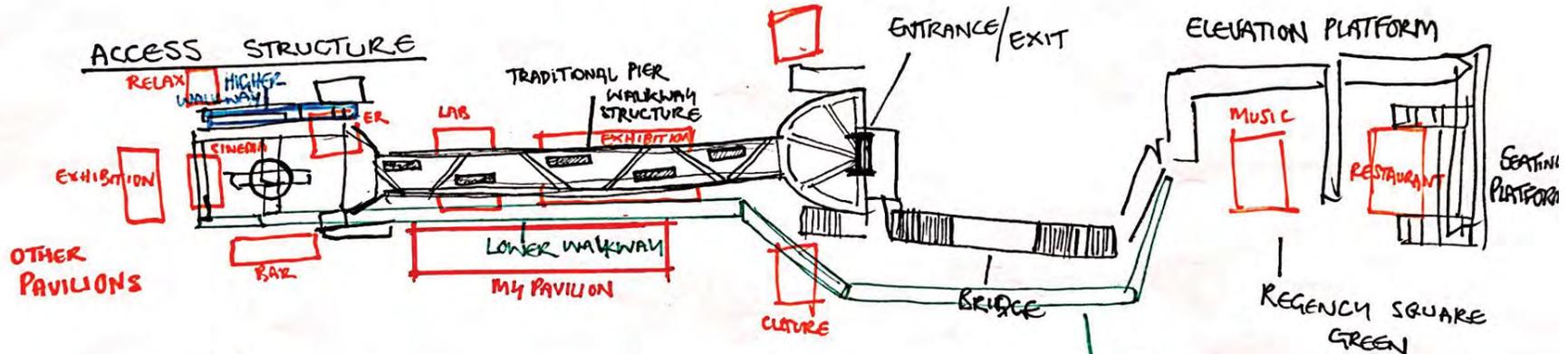


Southend Pier Inspiration



FESTIVAL B

WOODEN SLATS LAYED ONTO A STEEL STRUCTURE/FRAMEWORK SUPPORTED BY AN ARRAY OF SCREEN PILE FOUNDATIONS

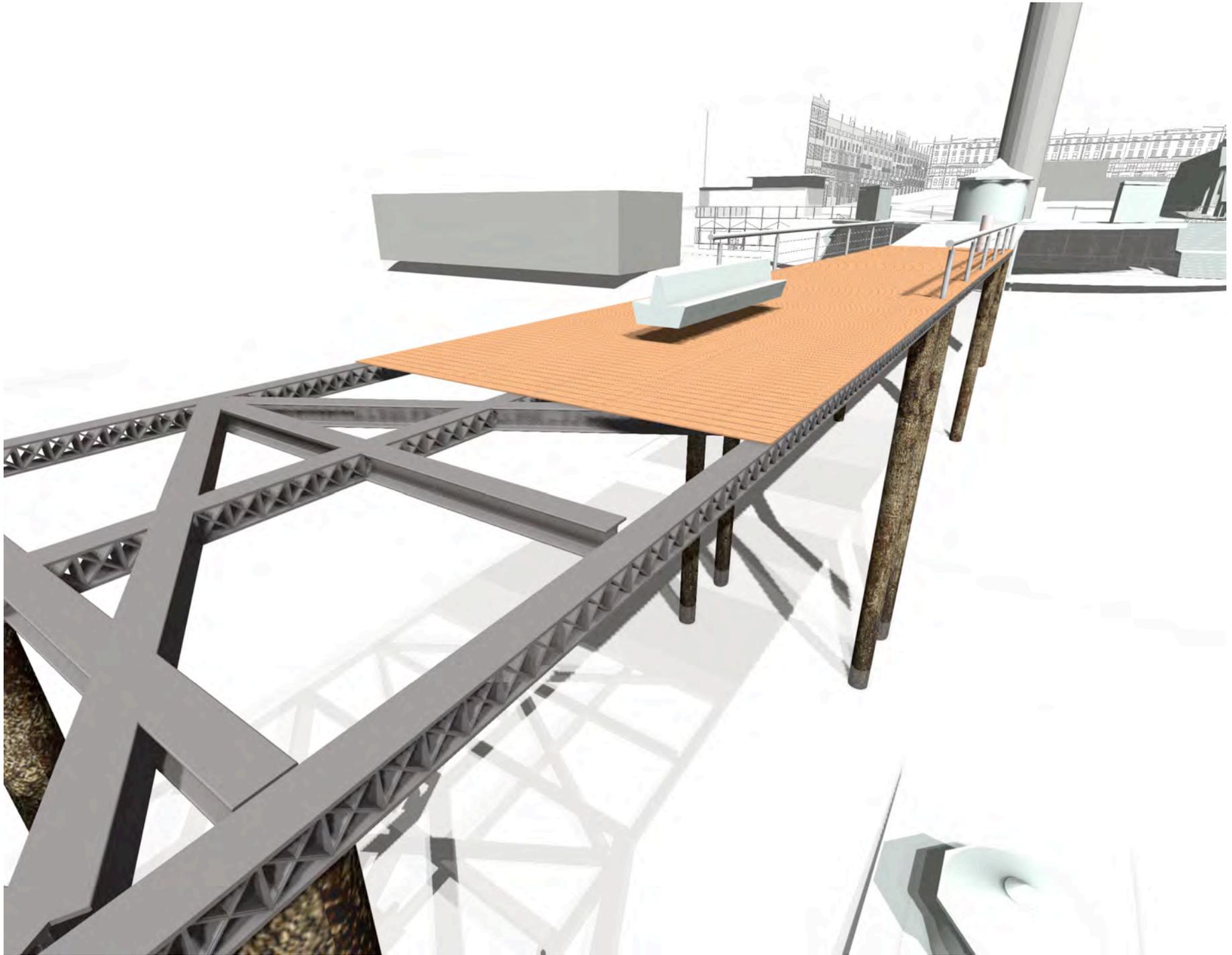


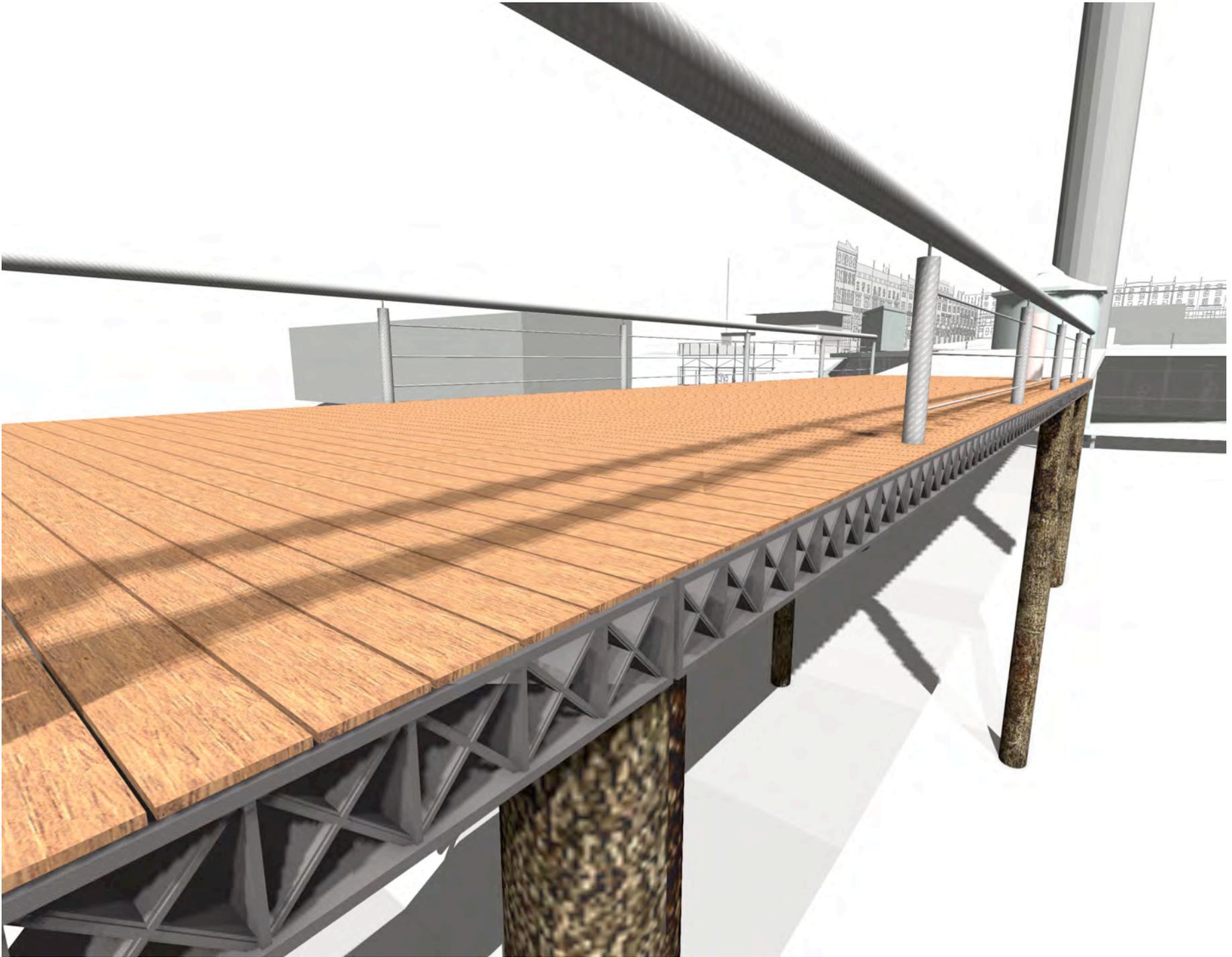
TICKETS / INFORMATION

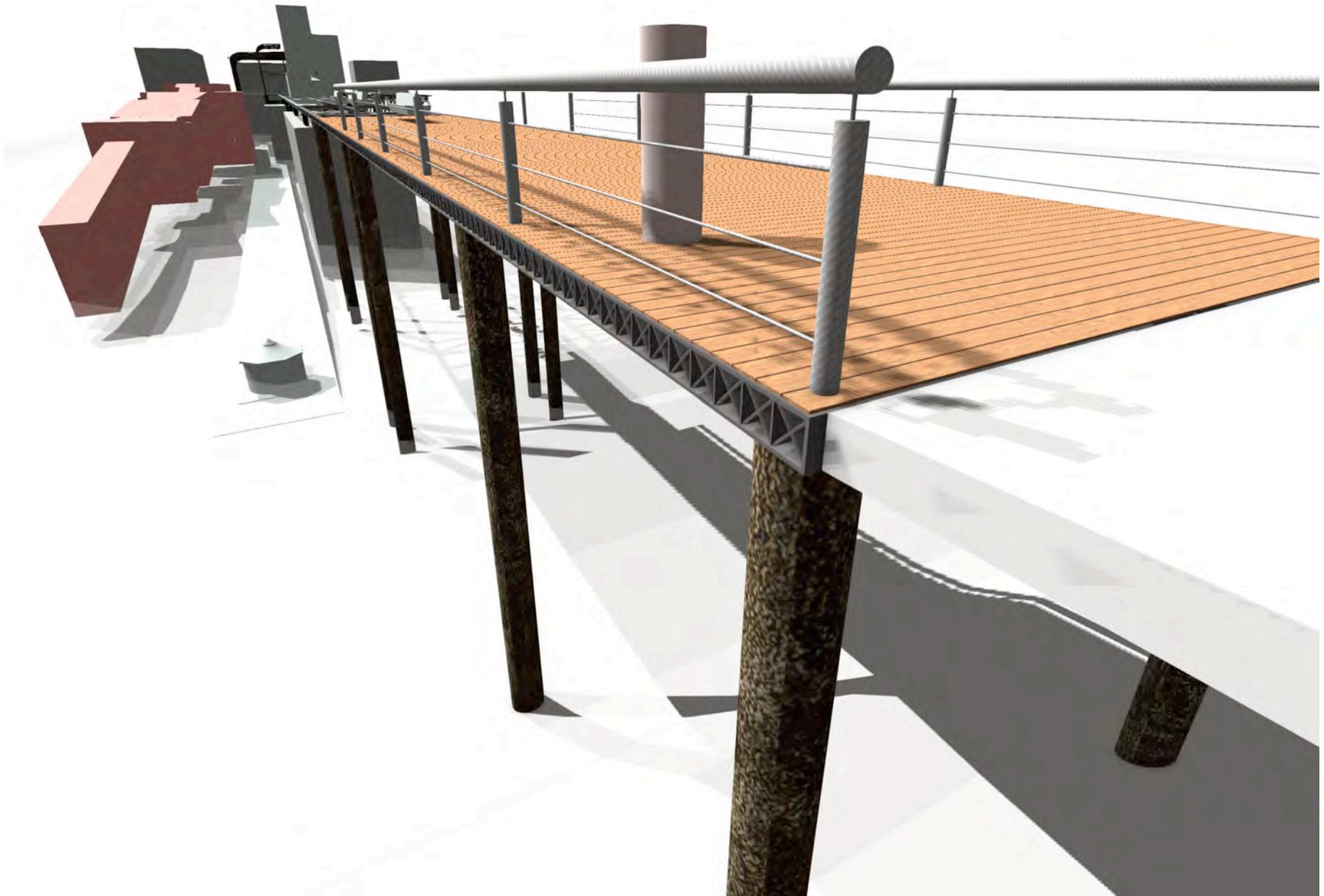
BENCHES / RESTPOINTS



TOILETS / FACILITIES







AOI

PROGRAMME RESEARCH

TASK B - Festival Research

THE GREAT EXHIBITION | 85 |



FESTIVAL OF BRITAIN 1951



FESTIVAL OF BREXIT 2022



SOUTH BANK EXHIBITION

L O N D O N



FESTIVAL OF BRITAIN

The Sziget Festival [*“Sziget” meaning “Island”*] is one of the largest music and cultural festivals in Europe. Every August in northern Budapest, Hungary, on Óbudai-sziget [*“Old Buda Island”*], a leafy 266-acre island on the Danube.

The week-long festival has grown from a relatively low-profile student event in 1993 to become one of the prominent European rock festivals, with about half of all visitors coming from outside Hungary, especially from Western Europe. It also has a dedicated “party train” service (with resident DJs) that transports festival-goers from all over Europe.

Sziget Festival increasingly labelled as a European alternative to the Burning Man festival due to its **unique features**. [*“an electronically amplified, warped amusement park that has nothing to do with reality”*]



2. Seven Points by Marc van Vliet / theater TUIG, 2015



Photo by Drie Streken van Lucas Steenhuis

Born out of a fascination with solstice gatherings, this land art object floated on the tide at the Noordsvaarder, occupying the landscape out as far as the horizon. The installation revealed a different aspect of the landscape with each passing hour and day.

Sziget Festival—Sziget Festival is a week-long music fest held on Budapest's Old Buda Island every August and offering a wide variety of musical genres. While music is definitely the focus, over the last couple of years the organizers have also involved a variety of artists who have created some memorable installations.

“Structures of Freedom” winners announced — Valerio De Santis + Andrea Capiello to design illuminating 2017 Sziget Festival pavilion



The top three winning entries of “Structures of Freedom”. Image credit: METALOCUS, courtesy of Archtalent.

Architectural platform [Archtalent](#) and Budapest's [Sziget Festival](#) teamed up to establish the “[Structures of Freedom](#)” competition. Architects younger than 40 were invited to submit their best proposals for a temporary pavilion for the festival, focusing on the elements of design, innovation, context, recyclability, and sustainability. For the 2015 festival, French practice [Atelier YokYok](#) was commissioned to bring their illuminating “[Tredom](#)” to life.



1st Prize: Valerio De Santis (IT) and Andrea Capiello (IT). Image © Archtalent



1st Prize: Valerio De Santis (IT) and Andrea Capiello (IT). Image © Archtalent

- 1. Waste Production and Management** Reducing and recycling waste created throughout the festival. About 30-40% of the waste produced during the event can be reused. The goal is to minimise waste and achieve a 50% recycling rate at least. They strive to achieve this by: Selling drinks in reusable cups, allocating freshwater points for water refill; asking vendors to distribute napkins, take away boxes, utensils, plates and straws made from biodegradable materials only. Promoting the Don't suck! program, encouraging attendees to refuse straws. Handing out pocket ashtrays; Collecting cardboard; Installing recycling bins throughout the island. Distributing trash and recycling bags to attendees; Collecting tents, sleeping bags and mats on the last day of Sziget at the three Recycling Centers and donating them to local charities; Working with volunteers who help picking up waste from the site and recycling at the Recycling Centers; Collecting and composting food waste at the mobile composting plant located on the island; Collecting cooking oil separately and disposing of it properly.
- 2. Energy and Emissions** Repurposing, redistributing and monitoring energy where possible. Energy use is a necessity at festivals, therefore using the most efficient methods to put the least pressure on the environment is of paramount importance. Sziget will create a dining block where environmentally-conscious vendors gather and where meal preparations will produce lower CO₂ emissions. Commercial units will be equipped with standalone meters, providing them with energy efficiency advice. Volunteers will help to monitor which of the proposed measures were implemented by festival partners; LED lighting throughout the festival site; Renewable energy to power various elements of the festival, as well as city power used throughout the site (no aggregators) and ensuring green energy is used where possible.
- 3. Transportation** Promoting shared travel and sustainable travel methods. Transportation is one of the largest contributors to the festival's impact on the environment, thus Sziget is supporting the use of sustainable travel methods to reduce the impact, they are: Promoting train services and special shuttle trains for all visitors. Providing a shuttle bus service between Budapest Airport and Sziget; Promoting the Sziget Boat which runs between Jászai Mari Square and Sziget Festival. Encouraging attendees to use public transport in the city, which runs more frequently during the festival. Providing free bike storage and a quick repair facility, offering bike rental services, encouraging festival staff to use the bikes allocated for them; Introducing electric vehicles for festival staff to use on-site. Bringing attention to other types of sustainable transport, such as carsharing.
- 4. Water Green Shower Initiative, ECO toilets, Ecocamping.** Conscious water use is a must in today's world and Sziget Festival is applying measures to protect watercourses. The festival is committed to minimise water use and take care of the waterways by: Applying the Green Shower Initiative, in which we encourage attendees to cut back on their shower time; Monitoring the Danube riverbank more closely to make sure that no waste gets in the water; Using ECO toilets with vacuum flushing technology to save 85% more water at the Ecocamping; Encouraging the use of biodegradable cleaning products; Using time-limited push stop taps to prevent the wasting of precious water.
- 5. Land Use** Recultivating the land and introducing biodegradables. As Sziget Festival takes place on the beautiful island of Óbuda every year, they are dedicated to do everything in order to come back and experience the breath-taking diversity of nature year after year. The measures taken to achieve this, are: Assessing the environmental impacts of the festival; Recultivating the territory of the festival, to give it back to the public in the condition they received it; Introducing biodegradable cleaning chemicals to ensure we do not harm the soil; Preparing a public Sustainability Report to keep track and monitor all progress, in order to learn more about how effective their policies and measures have been. Further to this, Sziget has also taken the following steps: Employing a sustainability and technical manager, who coordinates all eco-friendly measures to enable them to run as smooth and successful as possible; Preparing and teaching hired volunteers about the diverse sustainability measures, to help them rebound environmentally friendly practices and behaviours; Providing space for lectures and workshops promoting environmental sustainability at the Green Sziget Center; Organizing workshops with the Climate-KIC Alumni Association and The Climate Reality Project Europe; Dedicating time to bring awareness to environmental issues at the Main Stage during the daily Climate Special Party programming, influential climate activists and organisations to take part; Organizing art workshops where attendees can learn about sustainability measures while having fun.

Sziget recognizes that reducing their impacts require unabated efforts to establish the best practices. Therefore, this Sustainability Policy will be reviewed and updated annually.

The Largest Music Festivals in the World

Total (aggregate) attendance of the largest music festivals in the world*



* 2018 or most recent available information; list compiled to the best of our knowledge

** total attendance for Glastonbury was estimated based on the number of tickets sold (135,000)



@StatistaCharts

Sources: Organizers' websites, Press reports

statista

Sziget Festival Structures



*“Freedom” by
Atelier YokYok.
The geometric
wood forest pop
up centrepiece.*

Festival Colosseum - Made from 700 pallets and 65 feet tall.

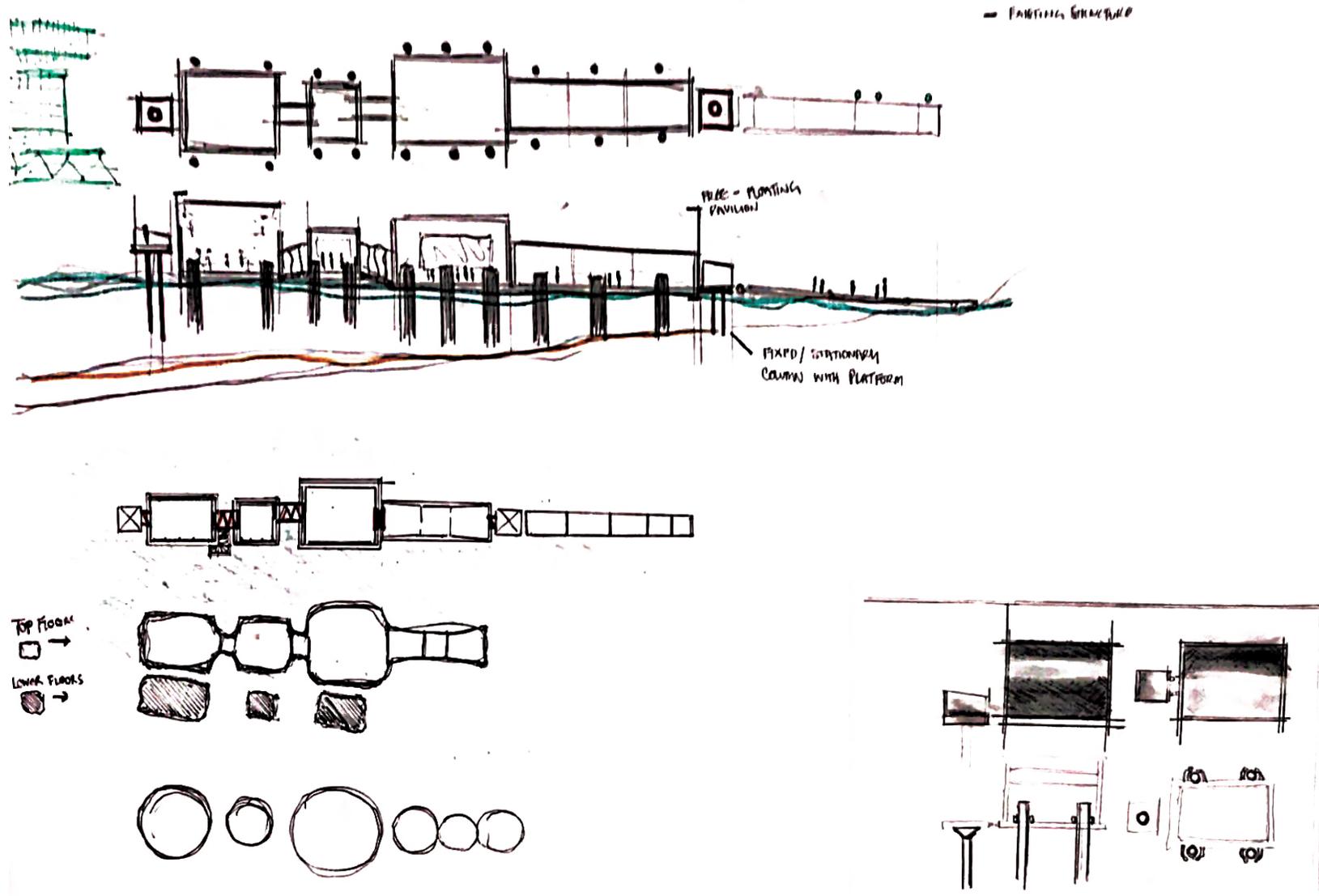


AO2

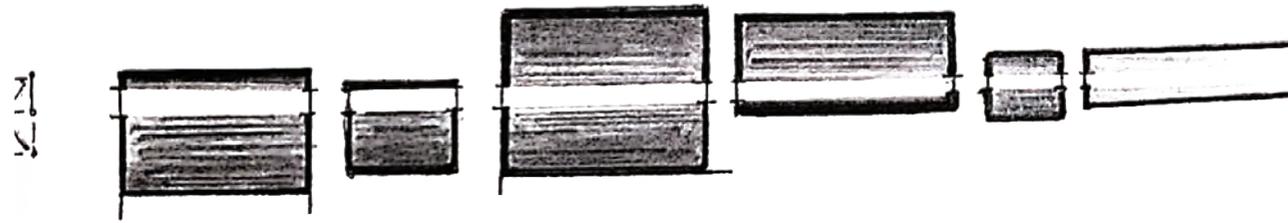
DESIGN DEVELOPMENT

TASK A - Spatial Agency

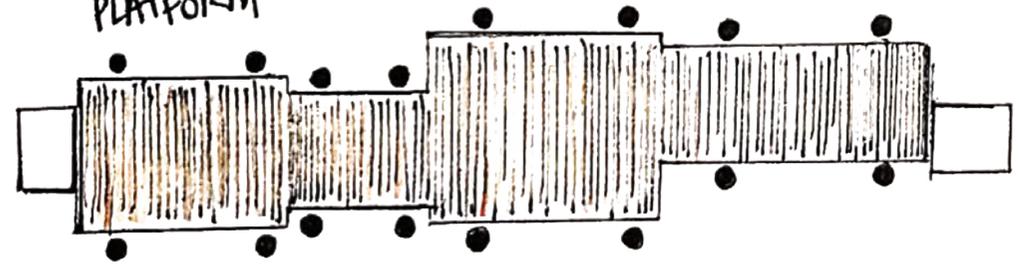
TASK A - Spatial Agency



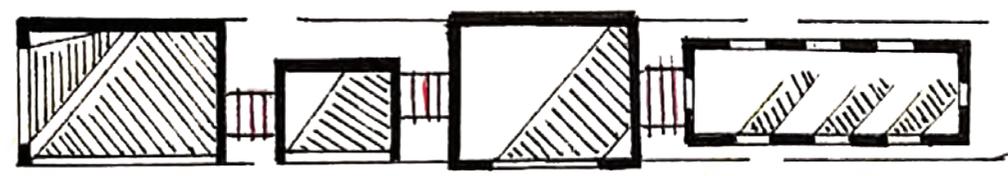
LINE OF VIEW



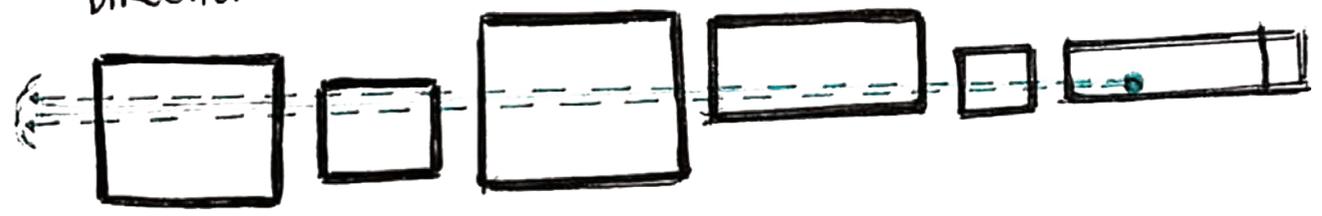
PLATFORM

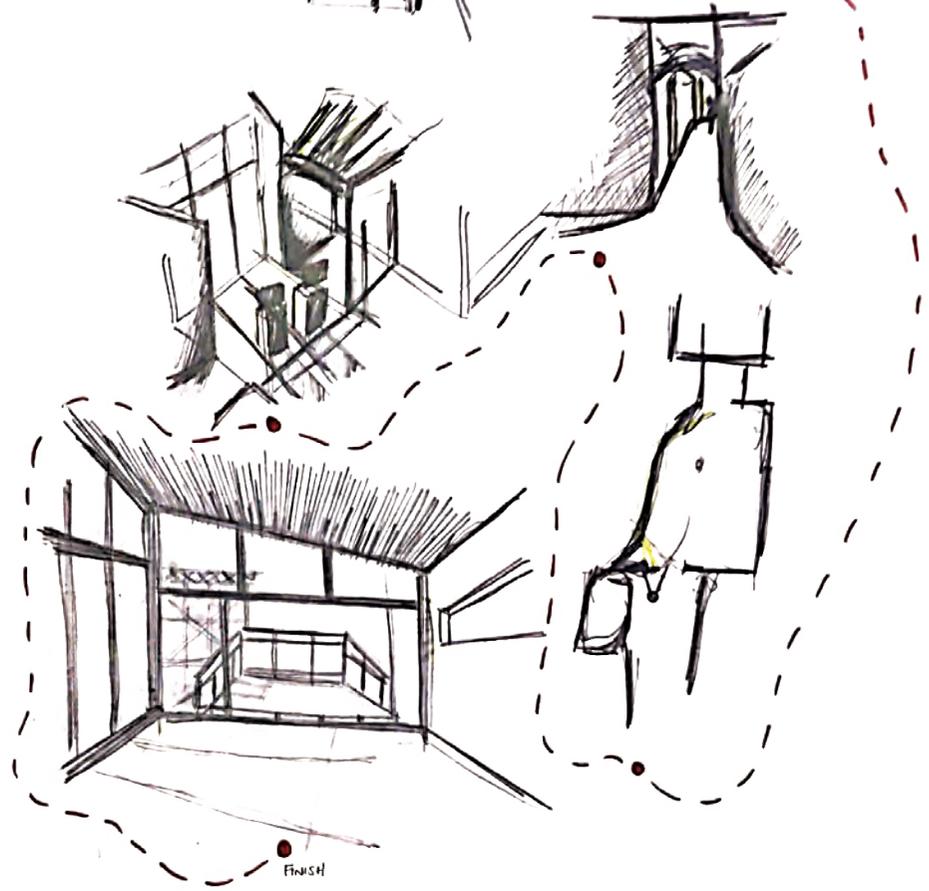
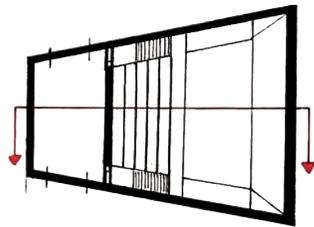
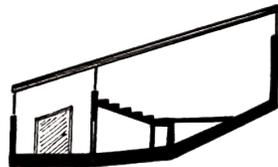
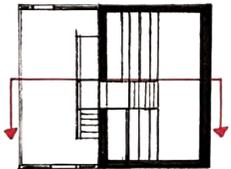
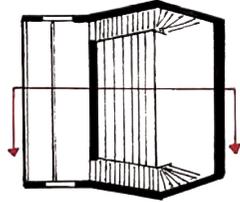
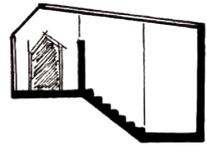


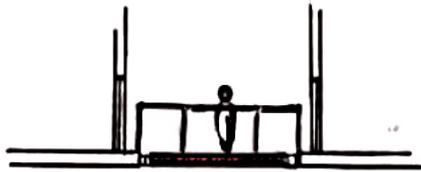
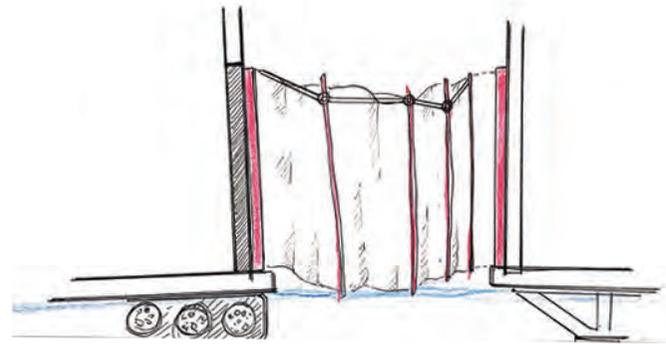
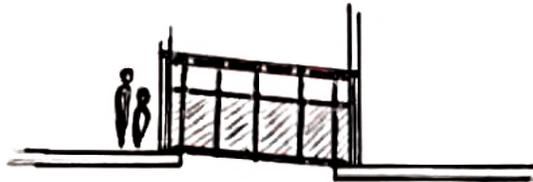
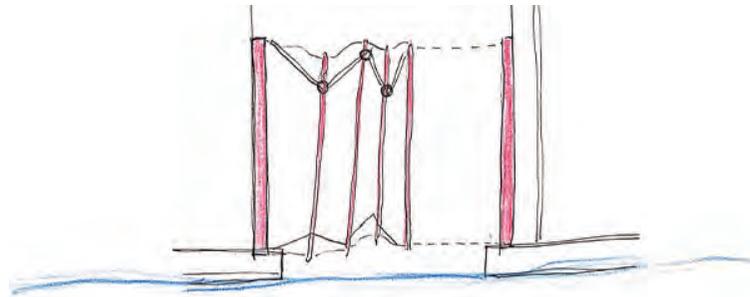
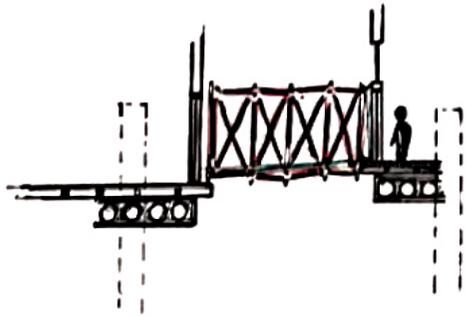
LIGHT + SPACE



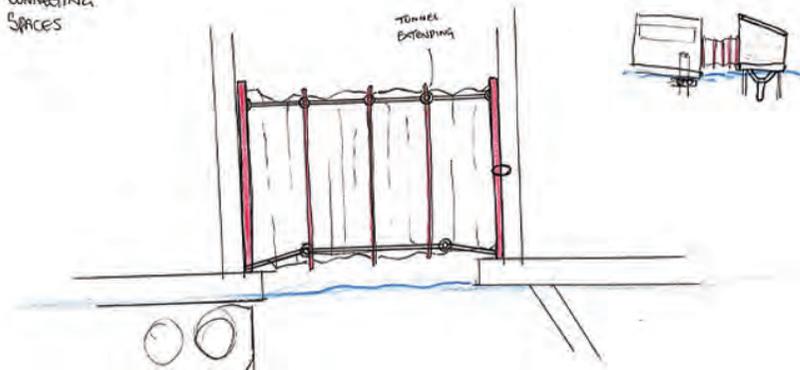
DIRECTION

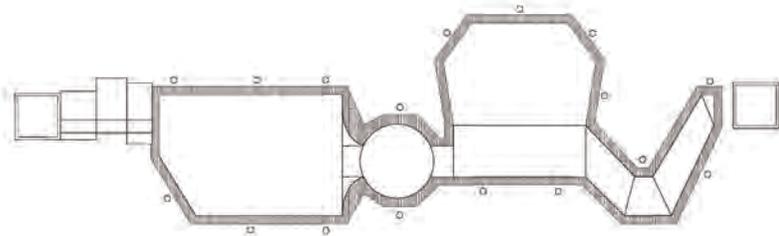
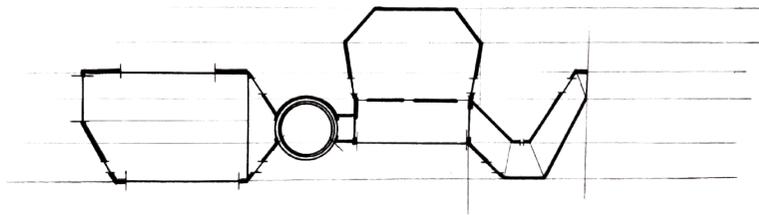
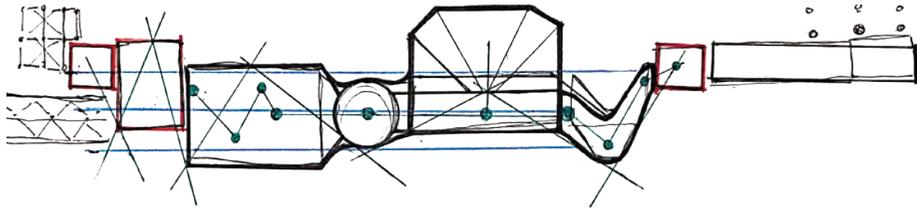
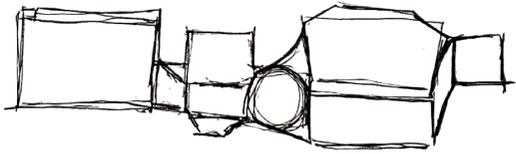






CONNECTING
SPACES

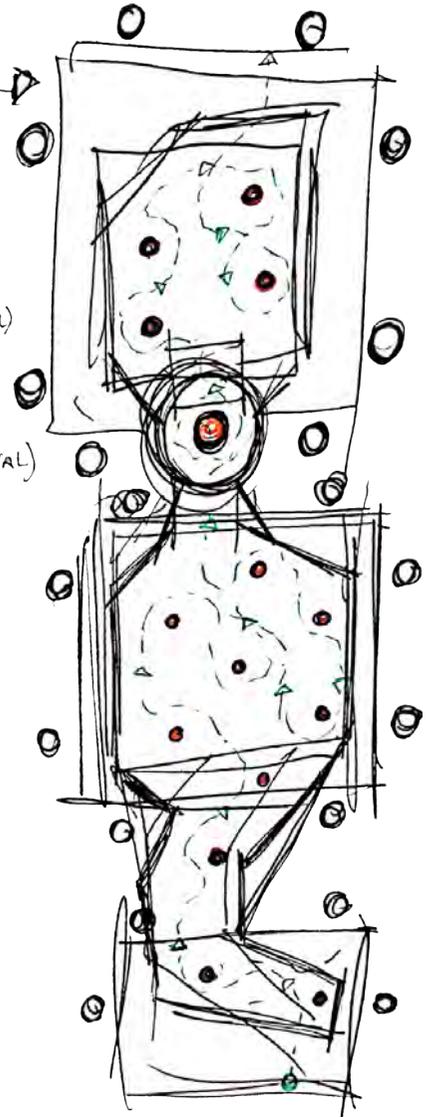


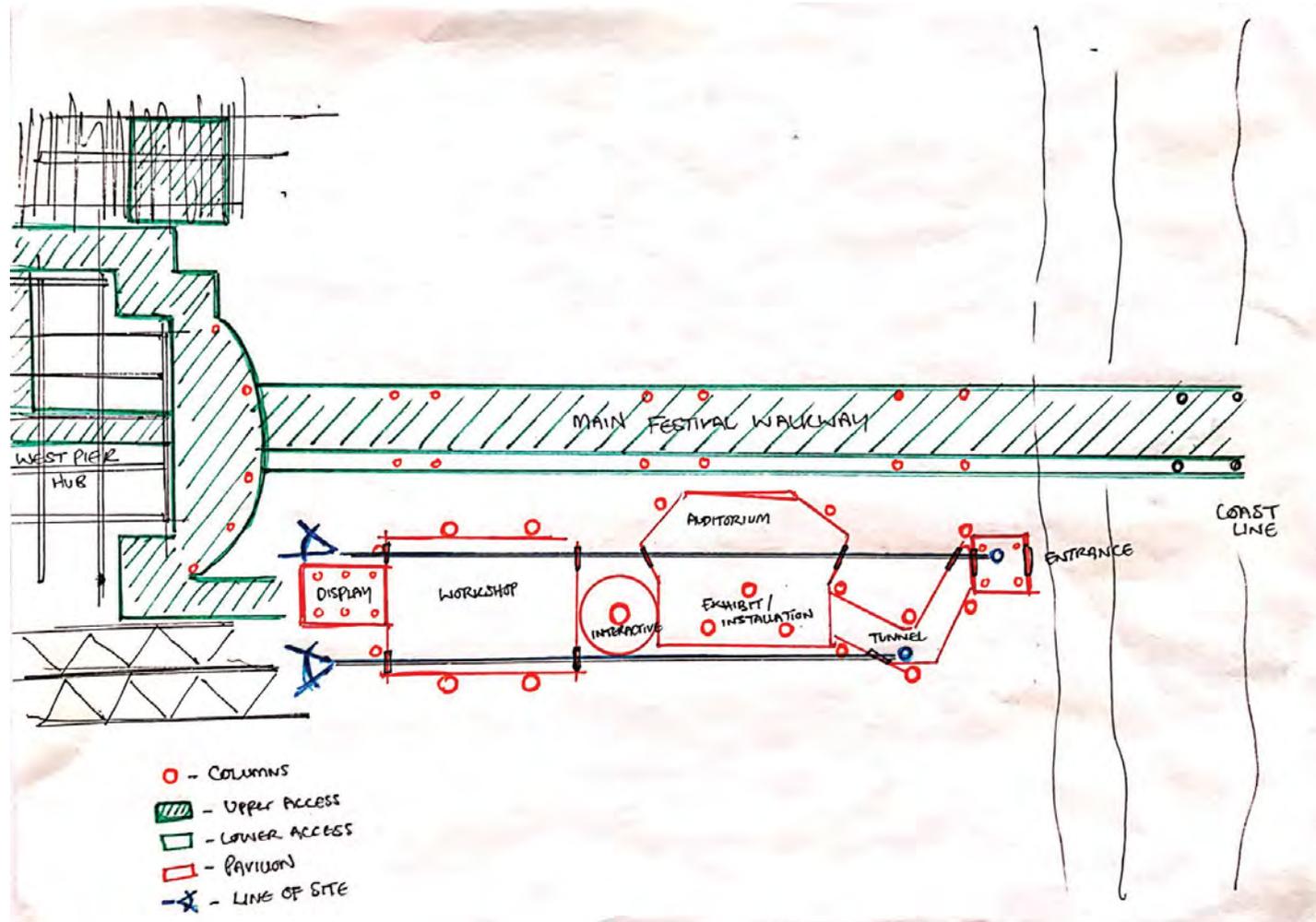


MADE OFF SITE

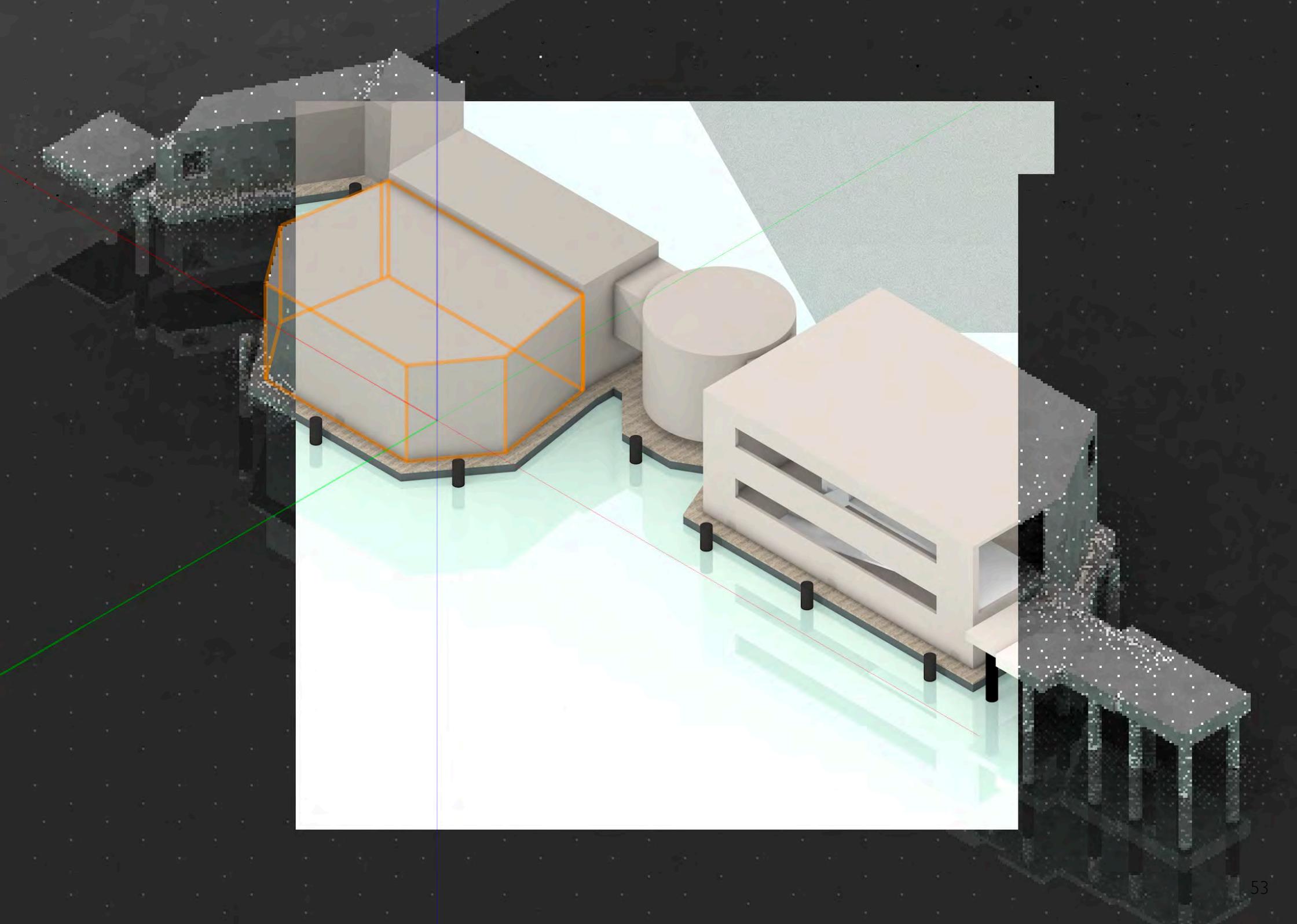
JACK-UP BARGE PLATFORMS

- DISPLAY COLUMNS
(WILL STAY AFTER FESTIVAL)
- STRUCTURE COLUMNS
(REMOVED AFTER FESTIVAL)

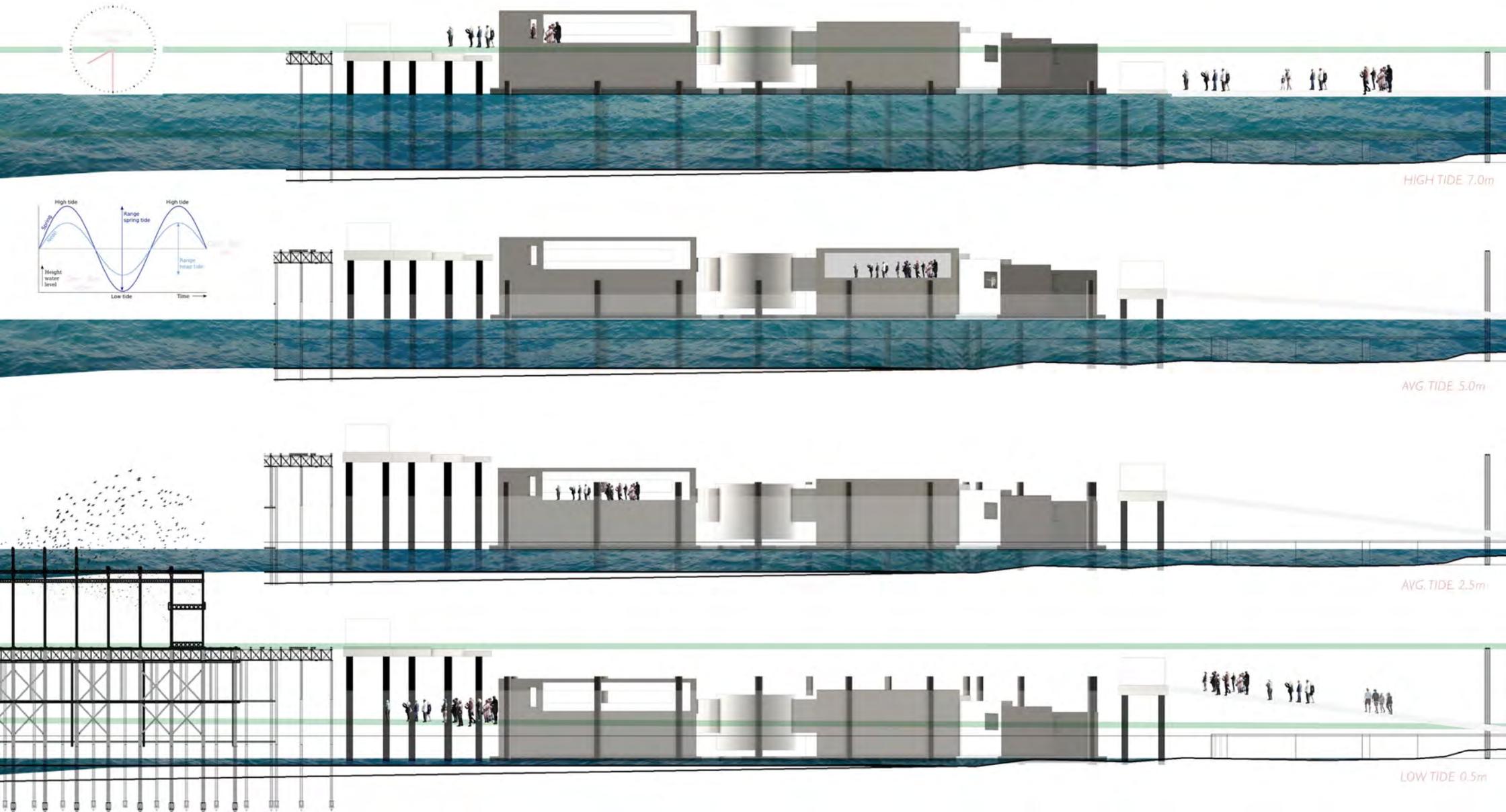




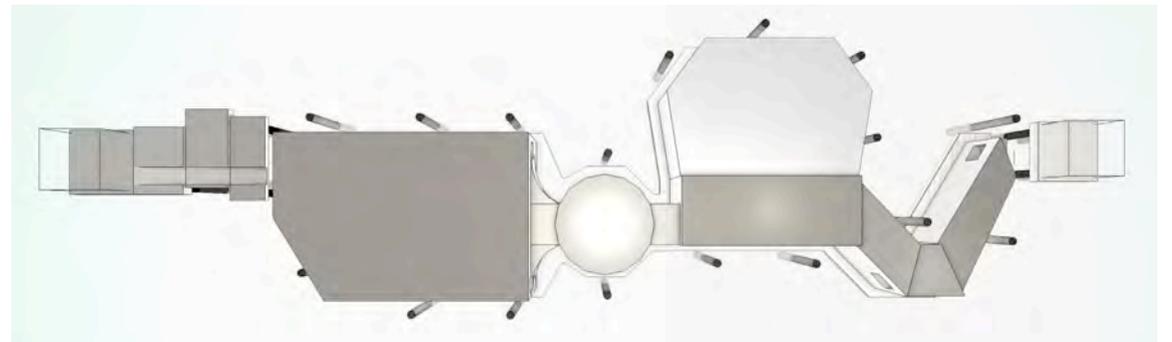
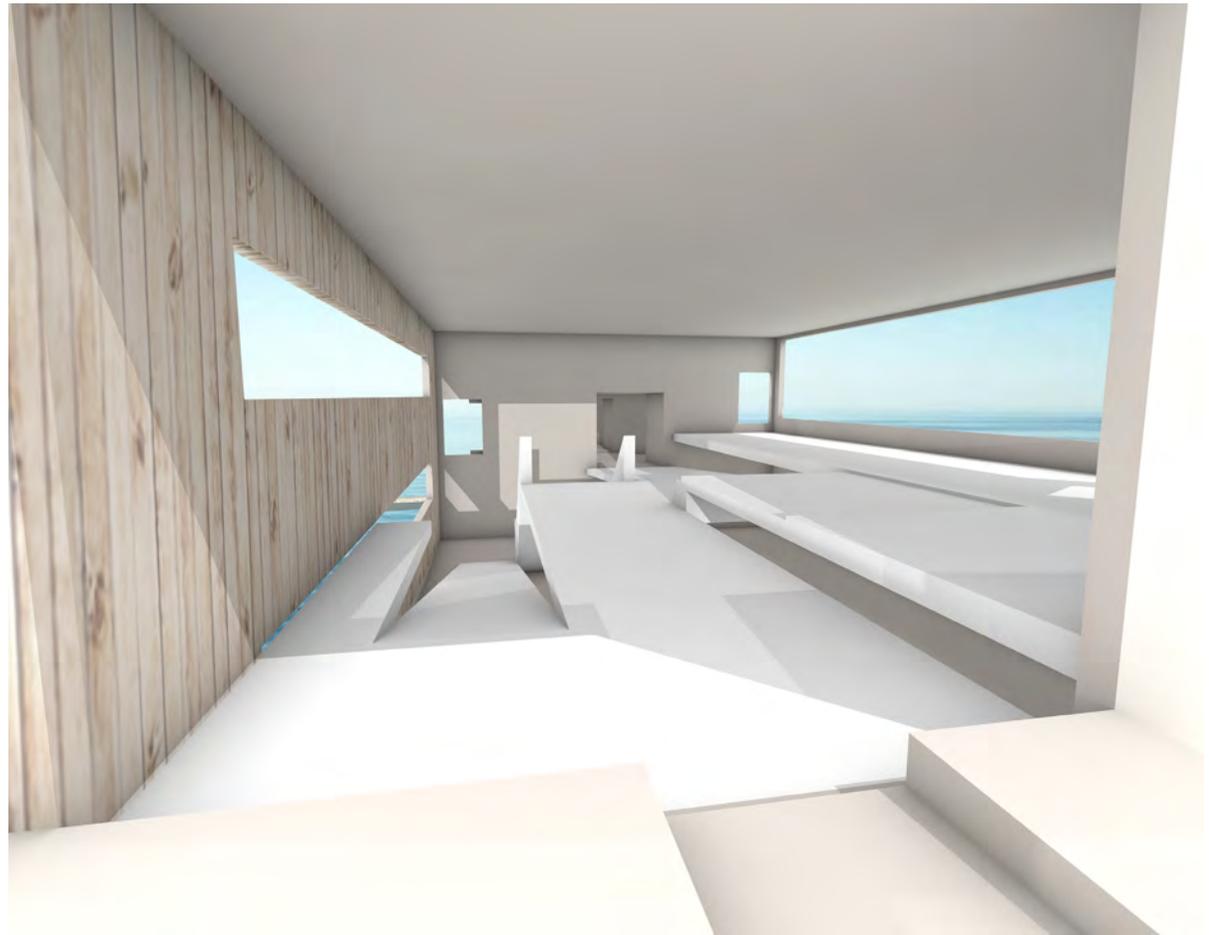
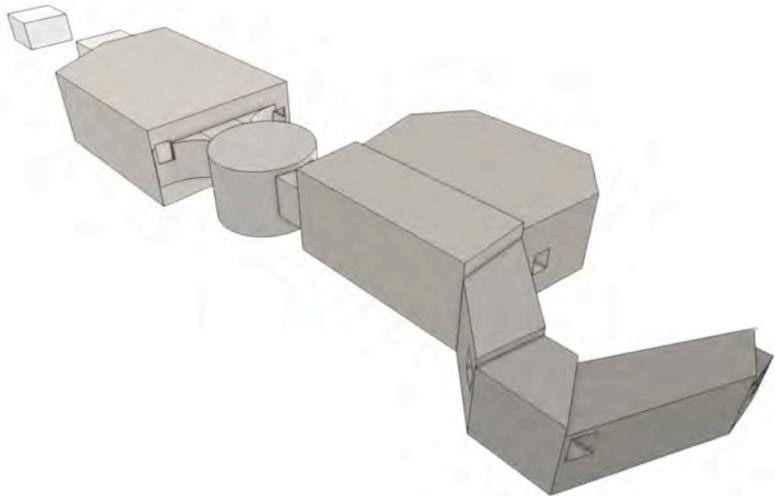
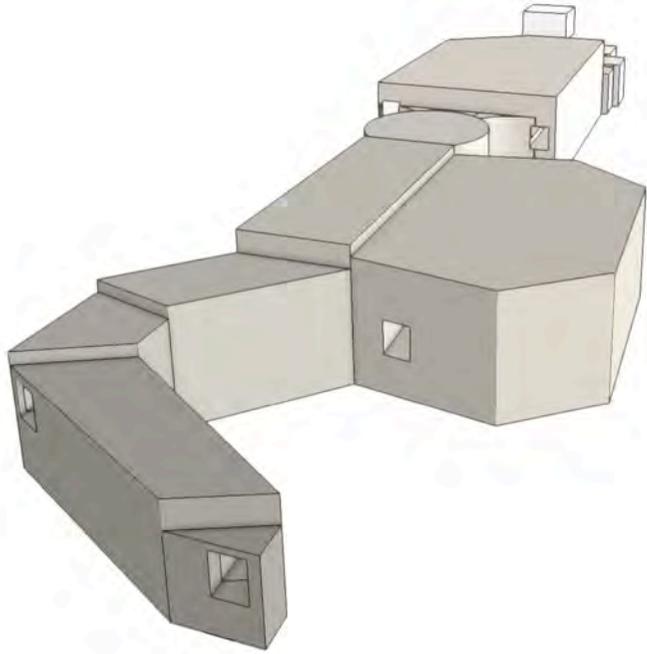


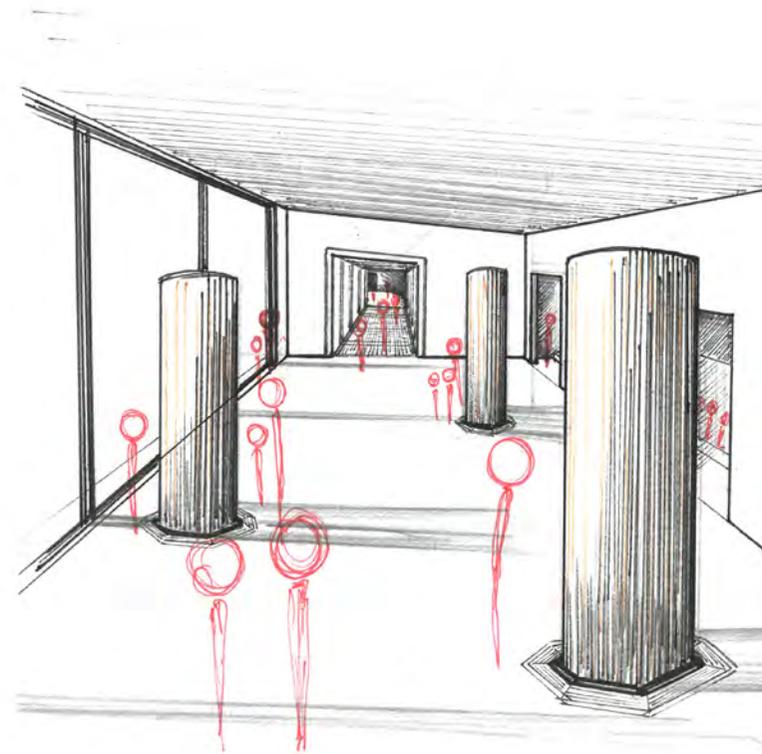
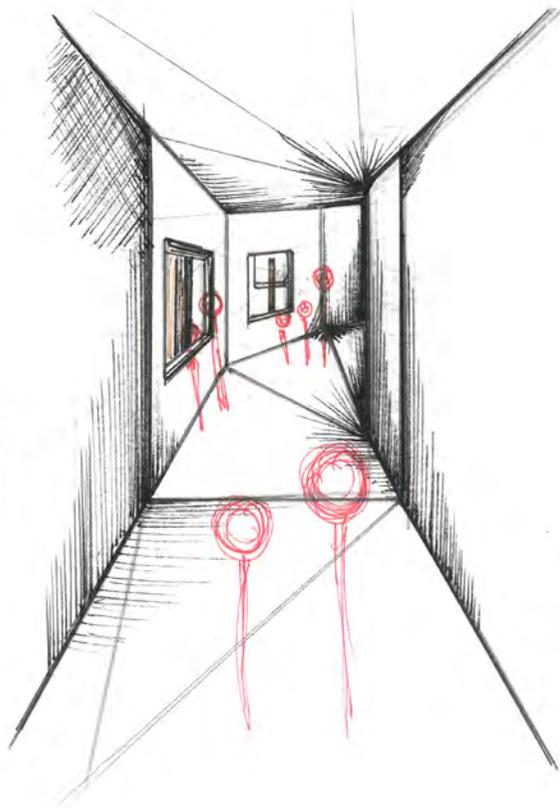
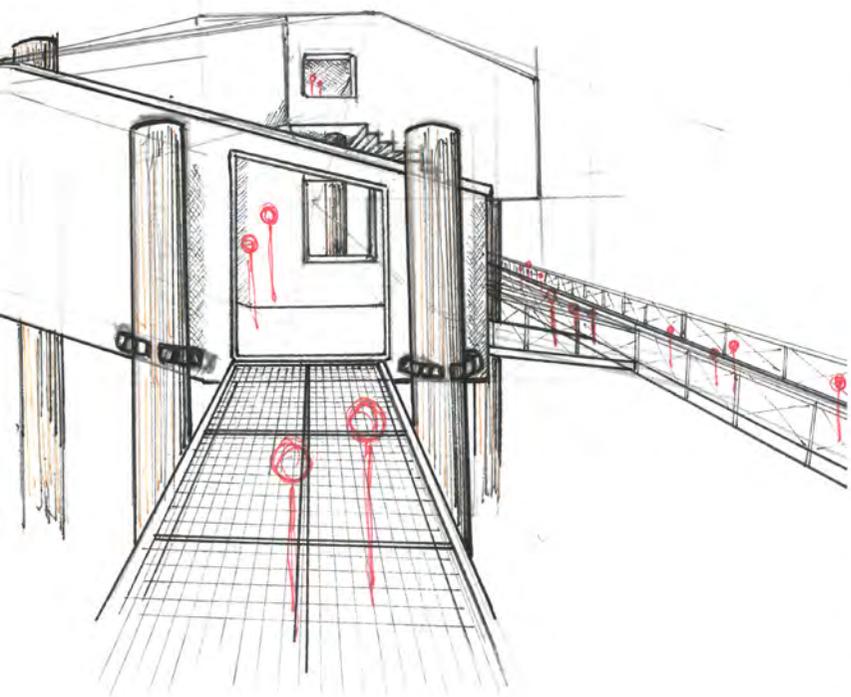


Pavilion in Tidal Diagram



Concept Design from Iteration











AO2

DESIGN DEVELOPMENT

TASK B - Sysmat Investigations

power systems and energy source

groyne by palace pier is a river outlet

water head running through middle of brighton

preston brewery tap lower/lever

asbuilt drawings

AC REGULATOR

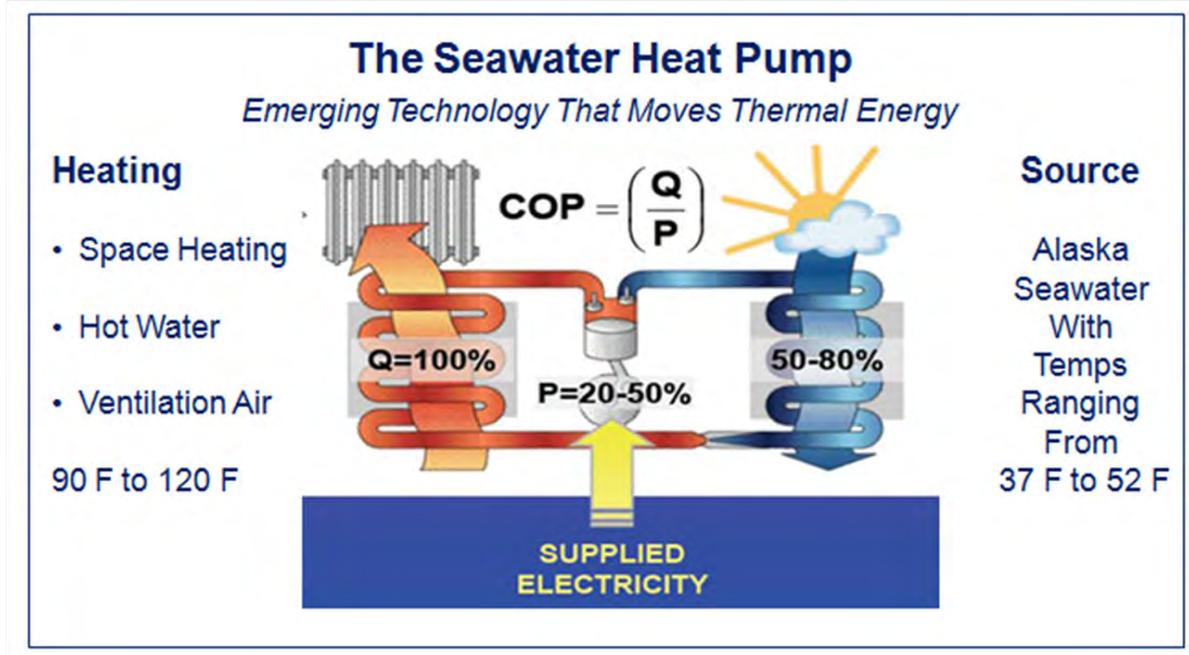
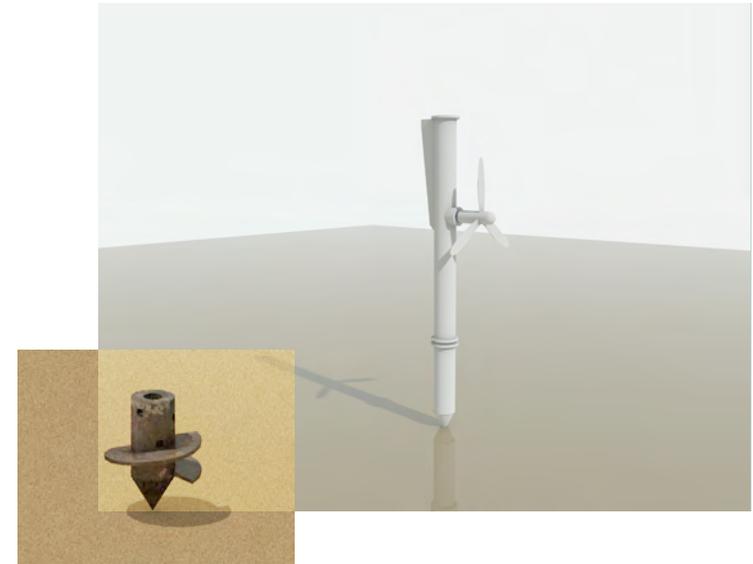
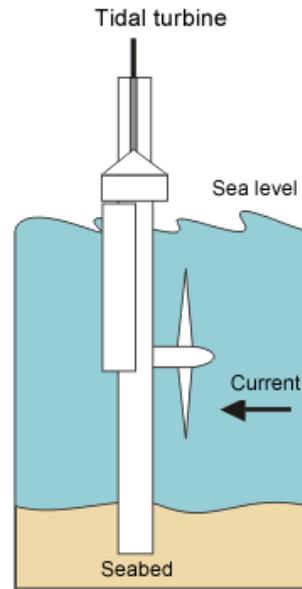
CRITICAL PATH ANALYSIS

THERMOGENIC
TAKING WATER DOWN TO
WARMER DEEPPER TEMP.
AND BACK UP

tidal turbines
seawater heat pump
solarpower cladding

steel

marine grade timber



Technologies available to use, craft and create in the workshop could be:

- Agra Loop
- Lupin
- Plastics Forming
- Mycelium Growth Incubation
- 3D Printing
- Oven Forming
- Bio-Material Experiences
- Collection of Ocean Waste
- Eco-Touch Screen Tablets
- LED Bulbs



Ferrock: 'The green alternative to concrete', a glass cement which acts a sponge for carbon dioxide.

Materials available to use, craft and create in the workshop could be:

- Bio-plastics
- Recycled Ocean Plastics
- Recycled Metals
- Marine Grade Wood
- Off-cuts from local building suppliers
- Ferrock
- Timber-Crete
- Hemp; Insulation, Wool, Crete
- Mycelium
- Chalk Paint



Sea Chair: Studio Swine have produced this stool from recycled ocean waste.



Agralooop: Bio-Refinery: the company that transform textiles and products from food waste.

Renewable Energy Sources compatible with the site location:

- Geothermal
- Biomass
- Solar Power
- Wind Power
- Tidal Power

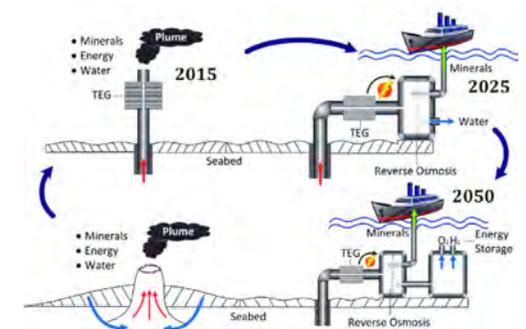
Natural sources of ventilation, sunlight, openings and windows, internal and external spaces.

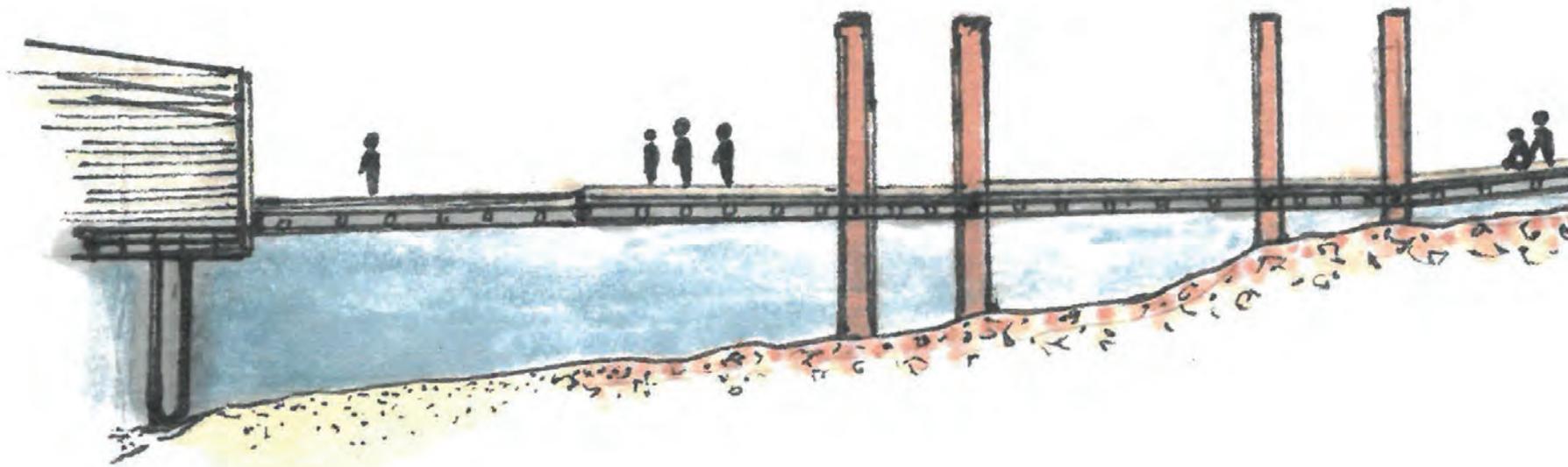
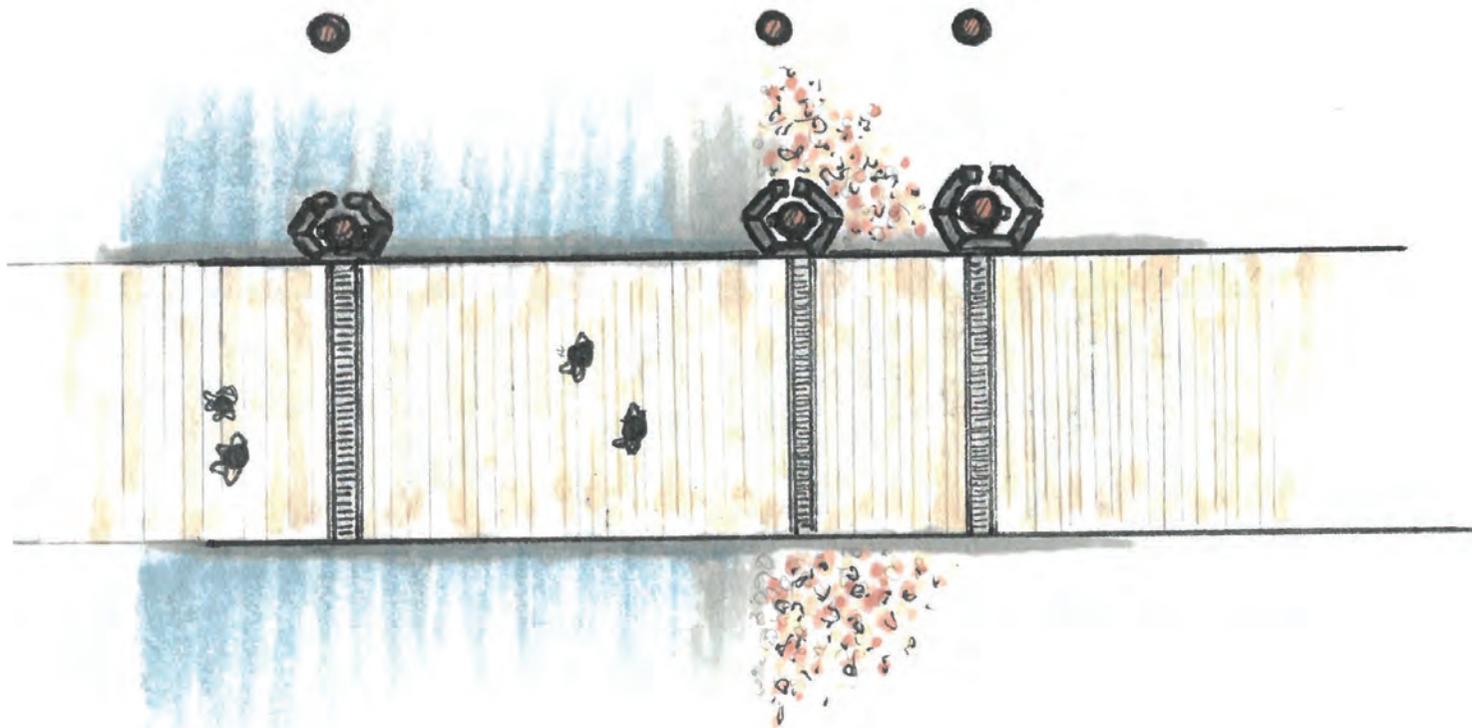
The material to consider for the construction of the pavilion could be:

- Steel
- Reclaimed Infrastructure
- Recycled Marina/Nautical Equipment
- Recycled Rubber
- Wooden Panels or Lengths

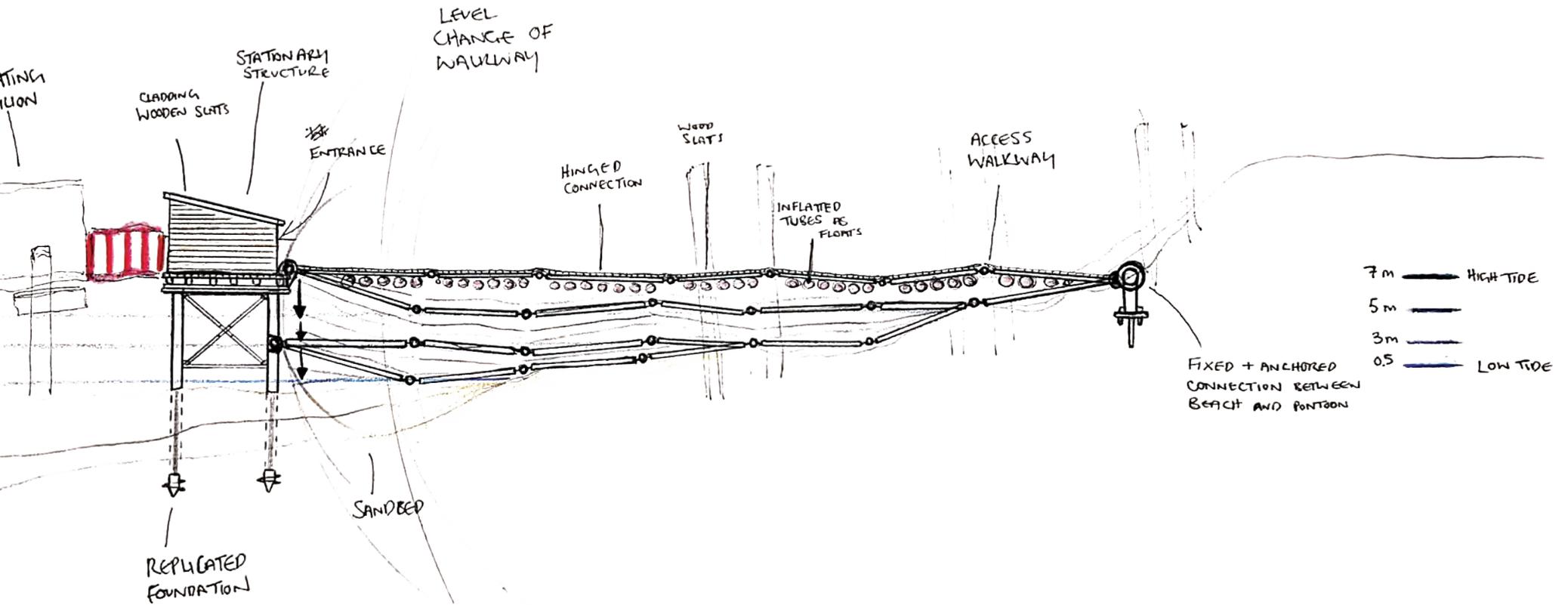
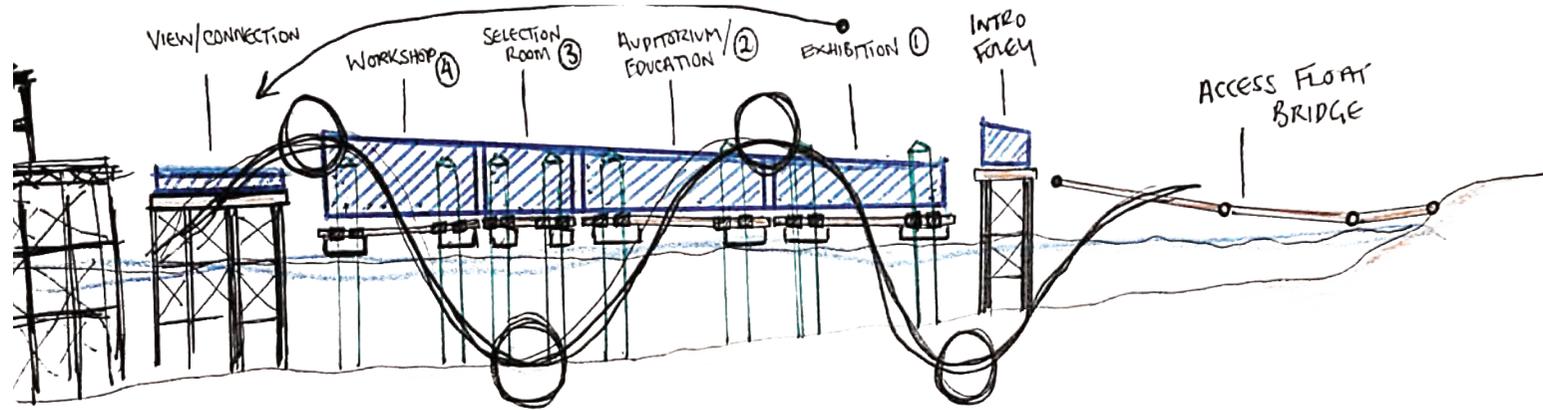
By using local resources and reclaiming materials from building suppliers, the reduction of carbon footprint is essential.

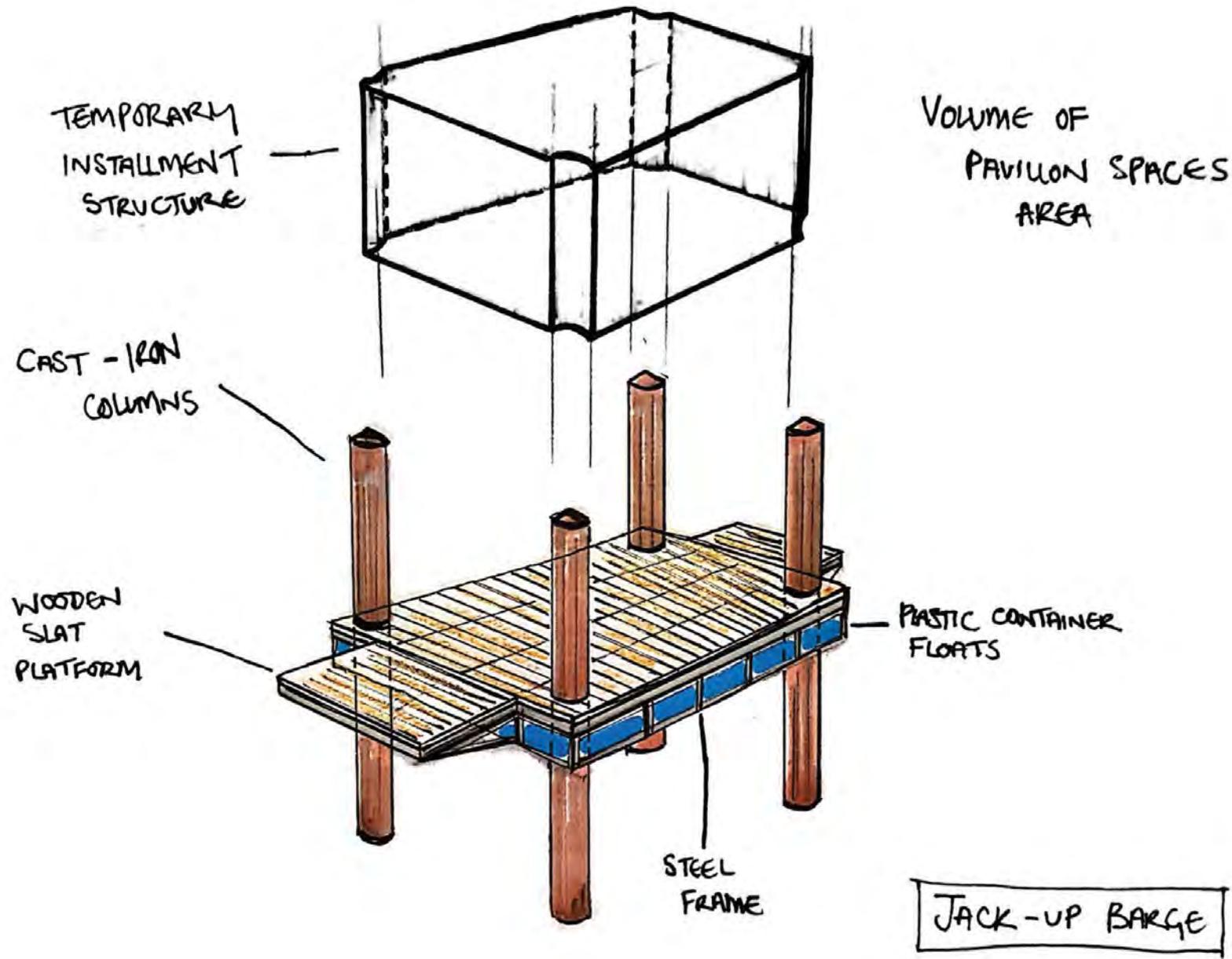
The differences are made by change traditional methods of energy production, such as geothermal energy sources >





FLOOR
PAV

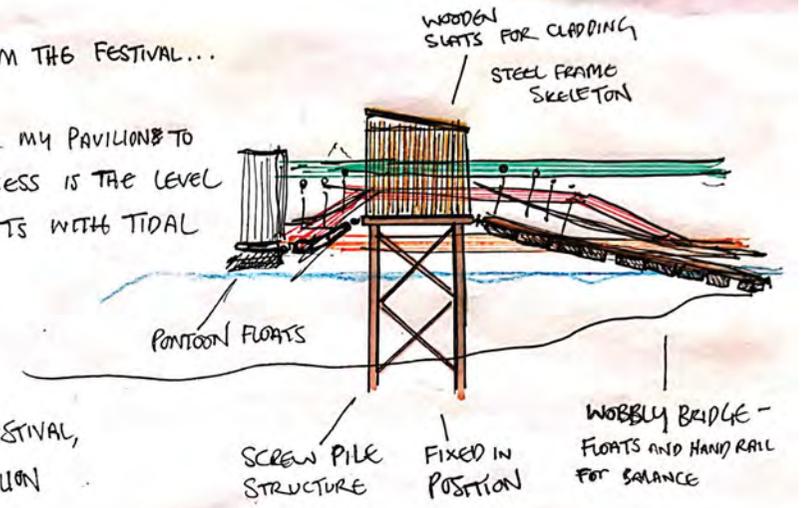




TO ACCESS MY PAVILION FROM THE FESTIVAL...

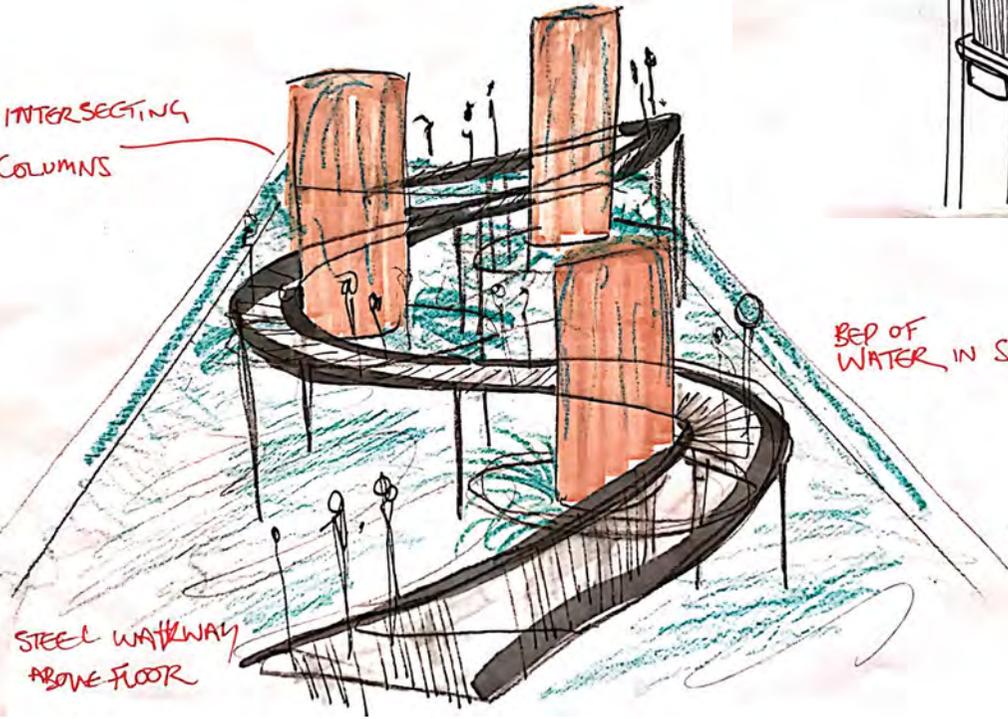
THE KEY REQUIREMENTS FOR MY PAVILION TO CONNECT TO THE FESTIVAL ACCESS IS THE LEVEL CHANGE ~~AND~~ IN COMPLIANTS WITH TIDAL CHANGE.

ENTRANCE HUT
STATIONARY STRUCTURE
LINK BETWEEN COAST OR FESTIVAL,
WOBBLY WALKWAY AND PAVILION

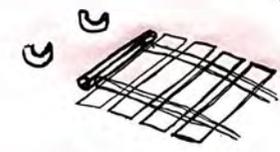
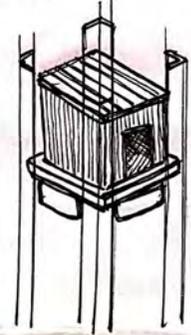


ALTERNATIVE CONCEPT IN INSTALLATION SPACE...

INTERSECTING COLUMNS



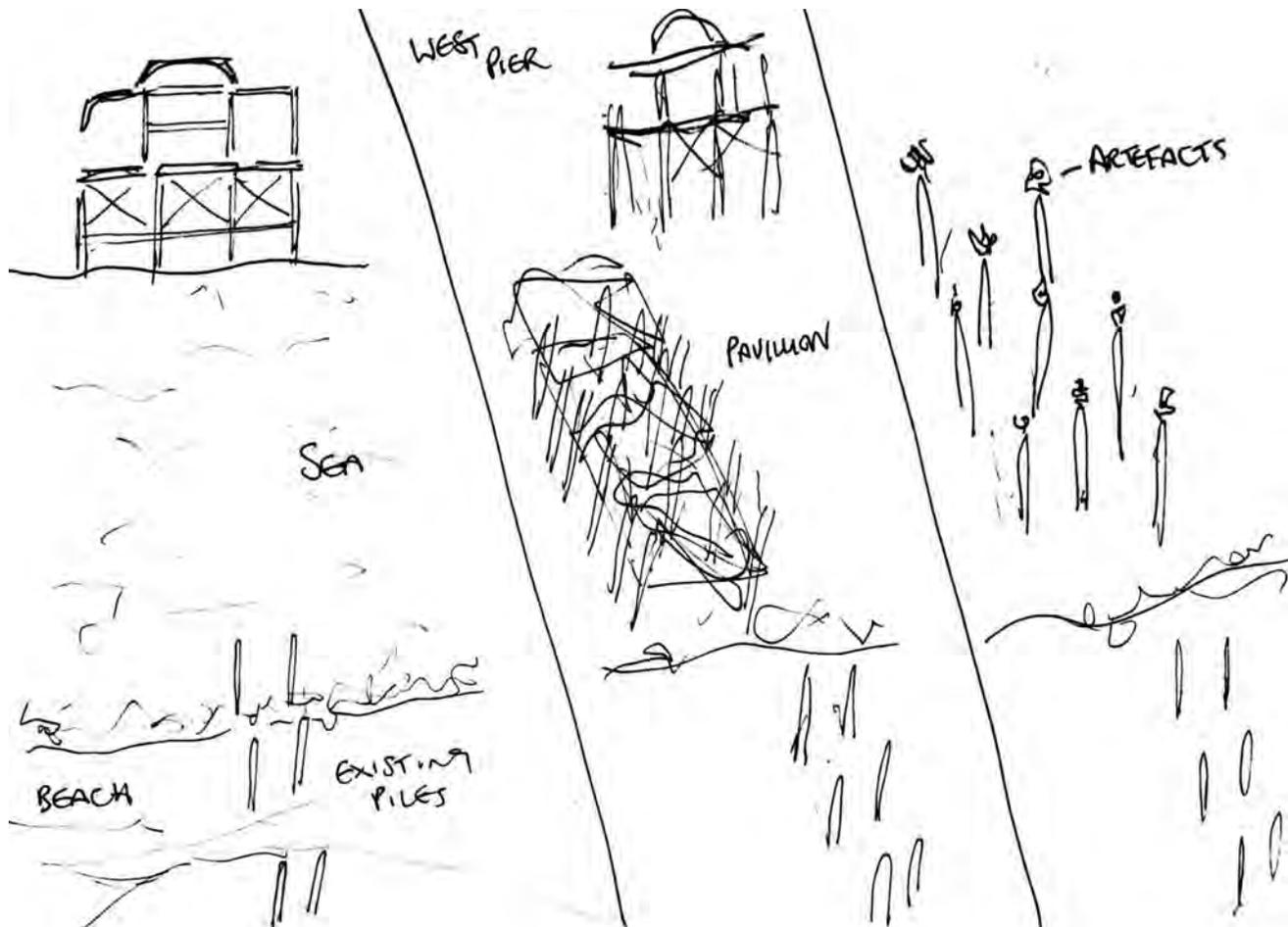
BED OF WATER IN SPACE



BEFORE

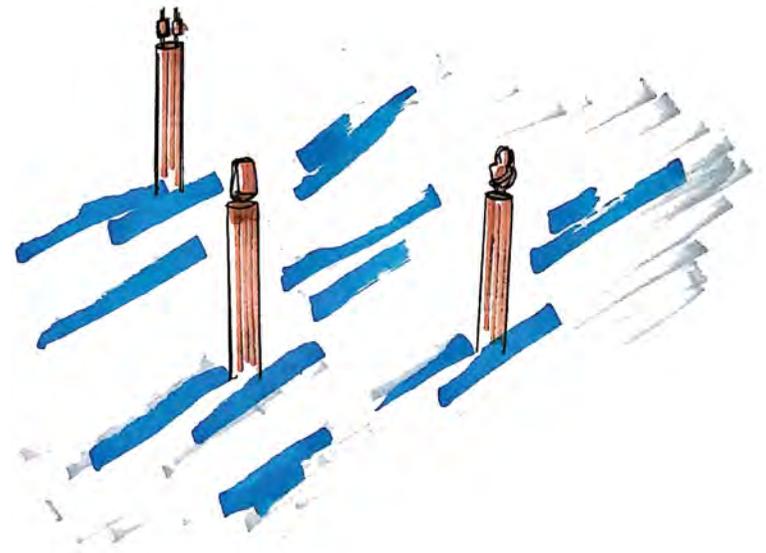
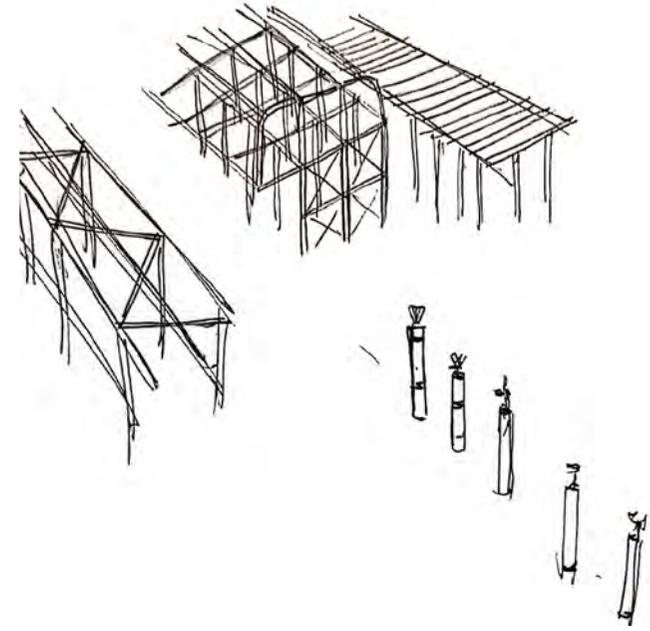
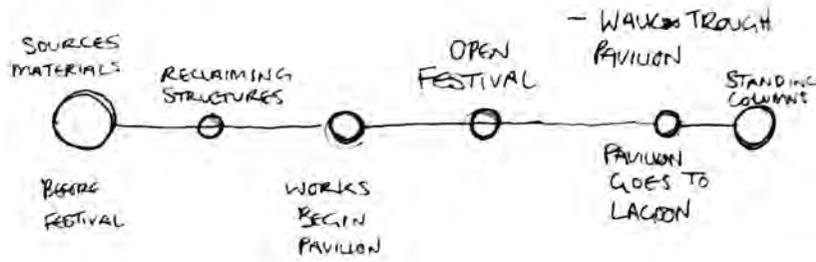
DURING

AFTER

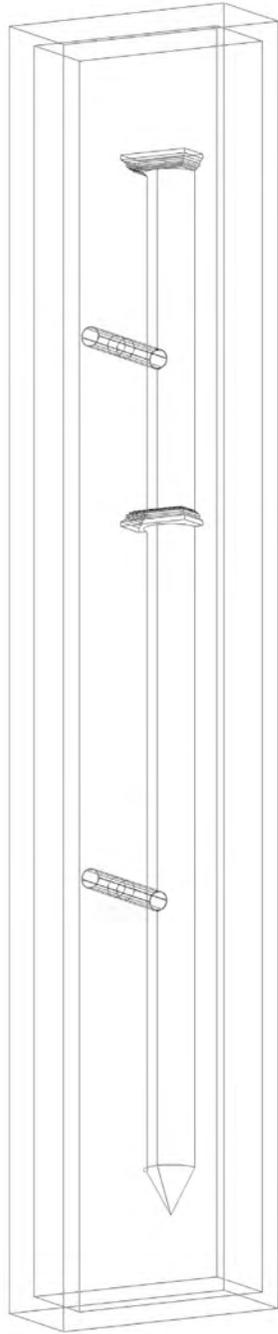


PORTFOLIO

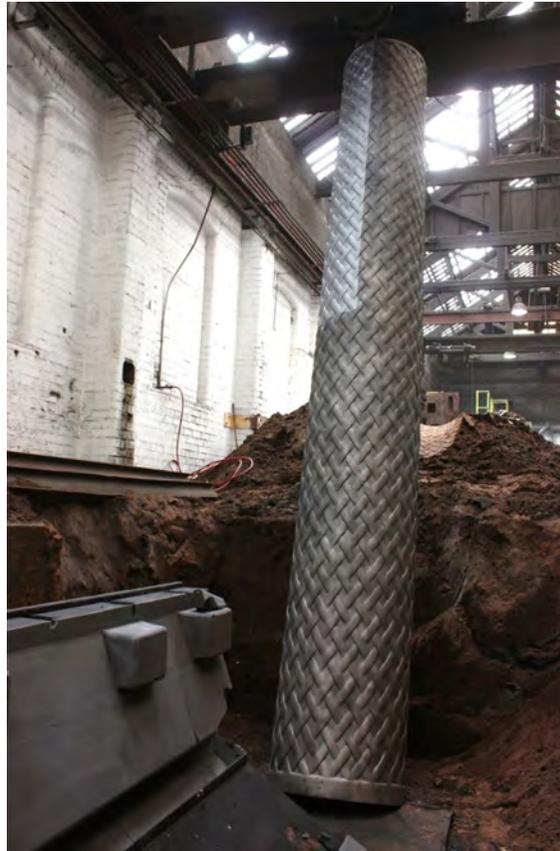
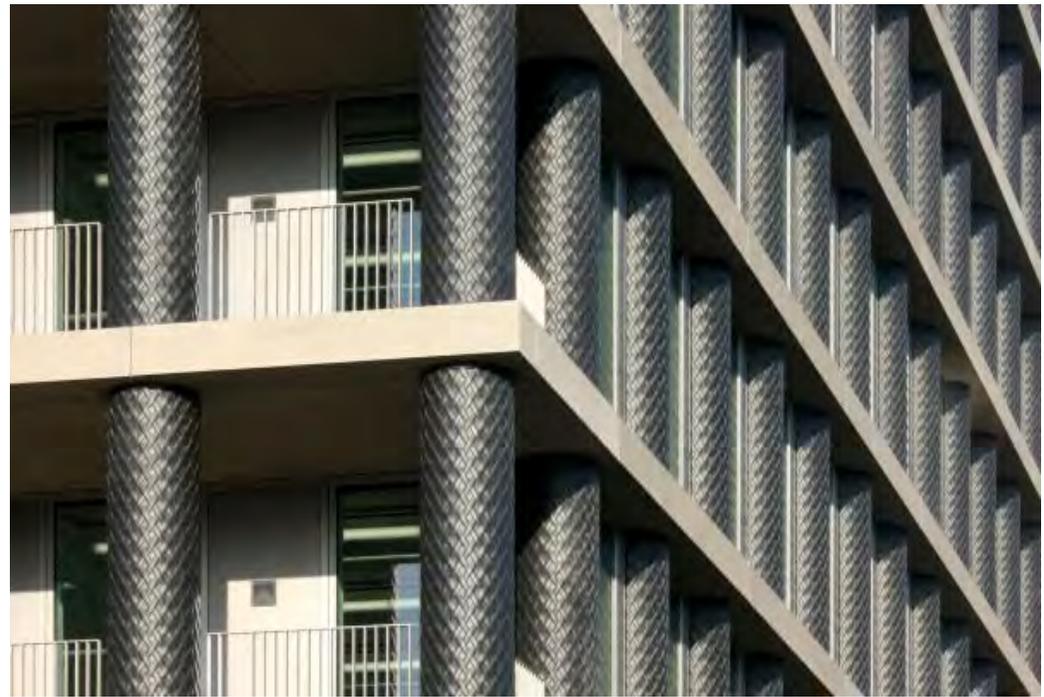
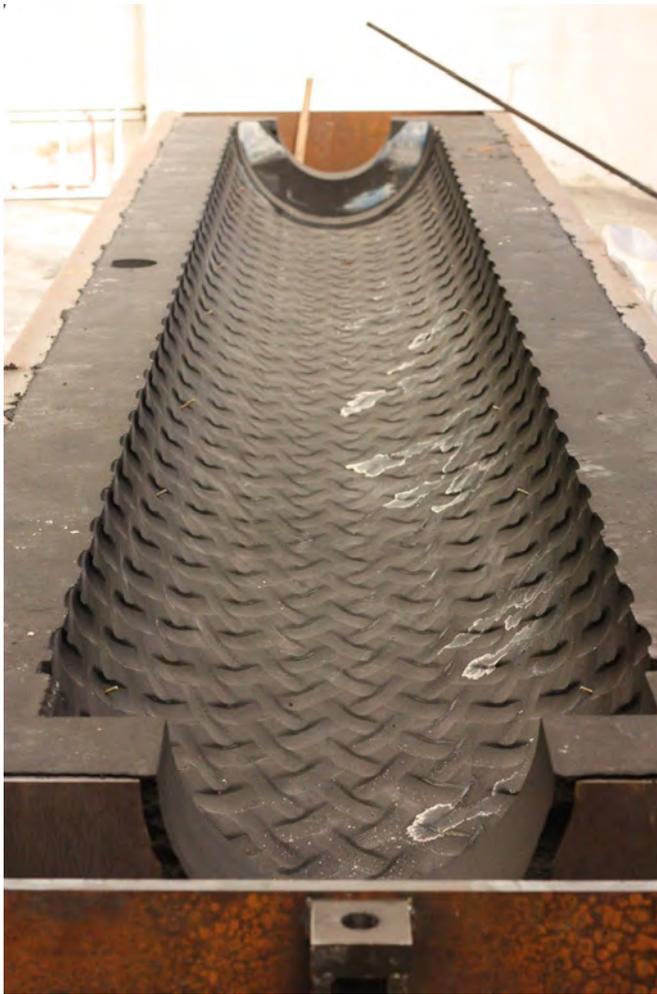
PROGRAMME TIMELINE - MY PAVILION - CONSTRUCTION PROCESS











CAST IRON WORK SAND

HEALTH + SAFETY

- TRAINING
- BRIEFING

MATERIALS SOURCED FROM
LOCAL SCRAPYARDS OR CAR PARTS

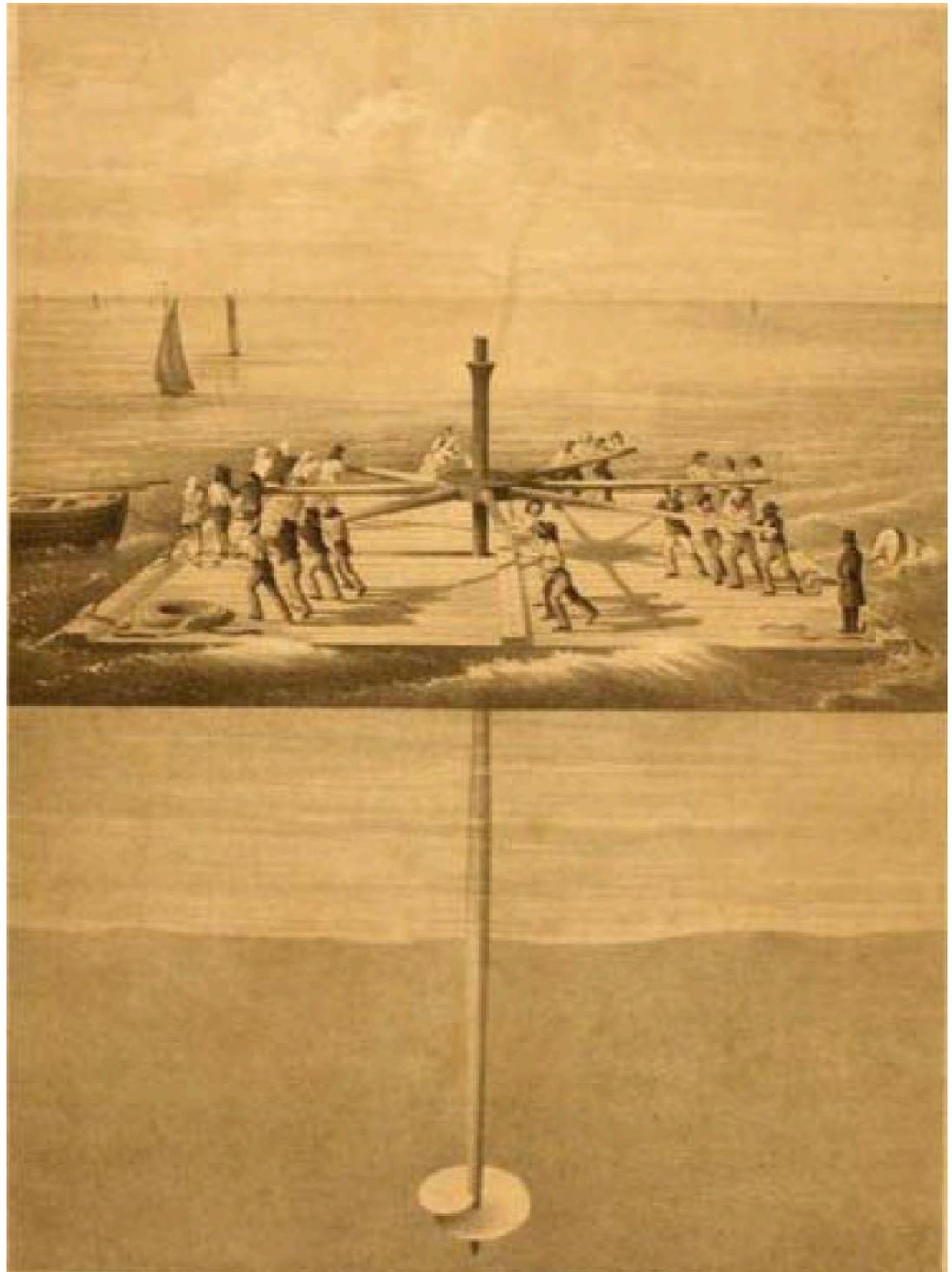
METAL CASTING REQUIREMENTS

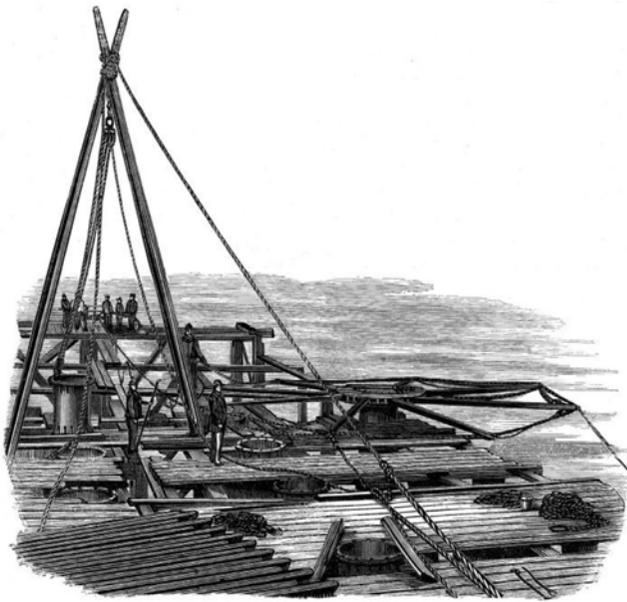
- CRUCIBLE
- FURNANCE
- MOLD BOXES
- HAND RAMMING TOOL
- CRUCIBLE TONGS
- VENT WIRE ROD
- HAND SIEVE
- WATER SPRAY

PROTECTIVE WEAR

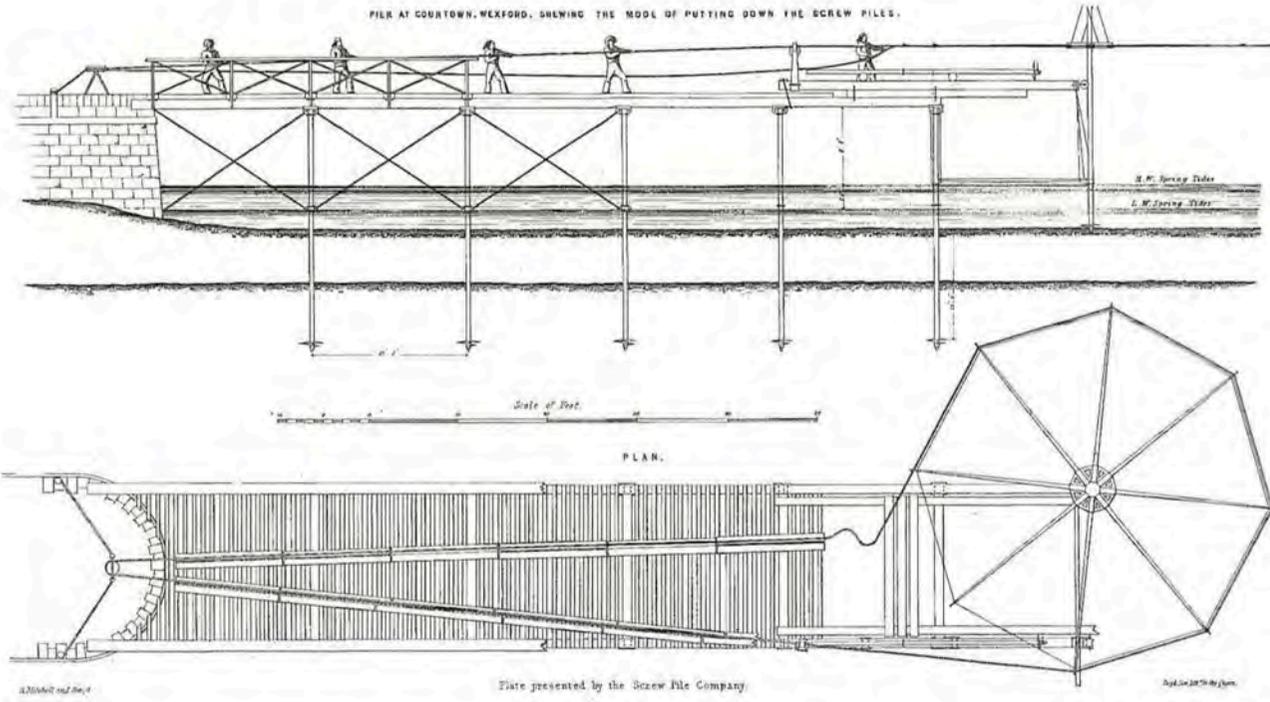
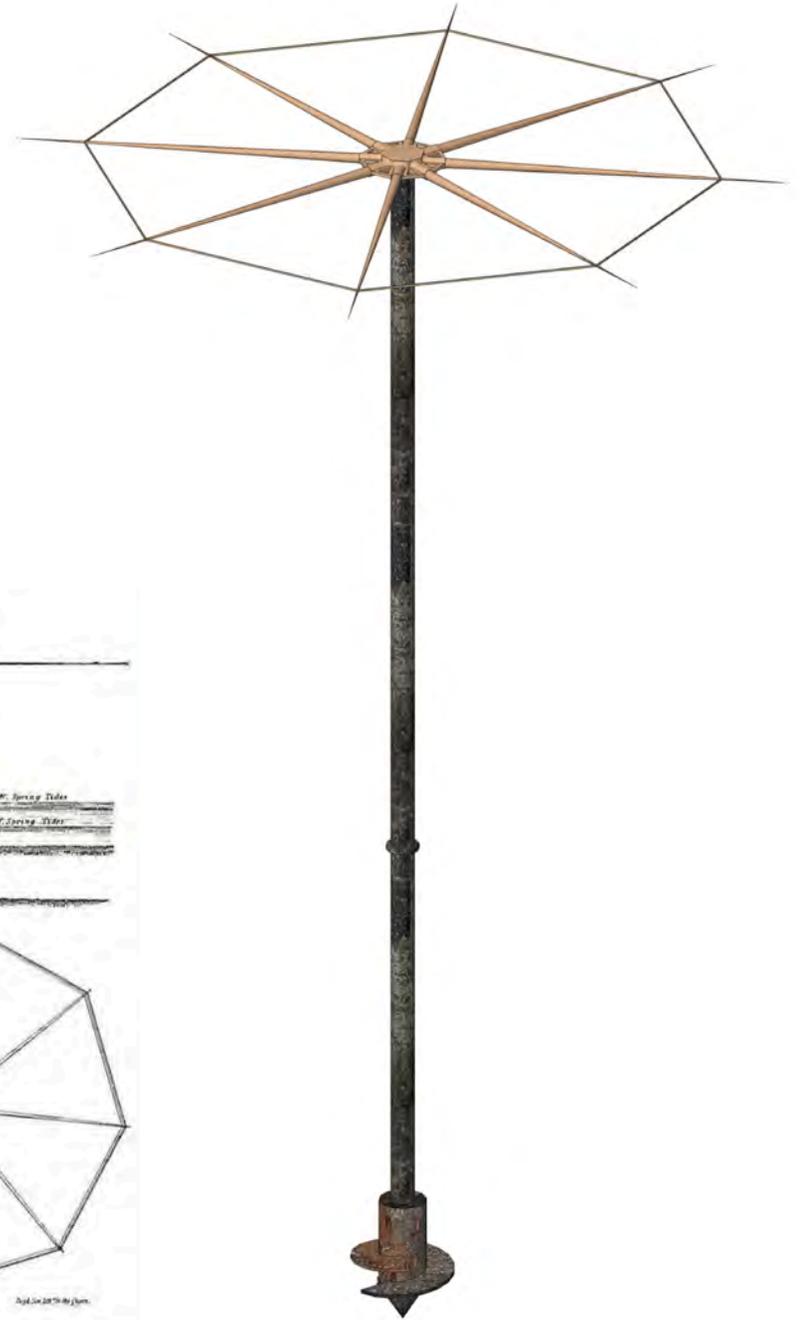
- CLOSED TOE SHOES
 - LONG PANTS
 - LONG SLEEVES
 - INSULATED GLOVES
 - GOGGLES
- ### AREA CONDITIONS
- WELL-VENTILATED
 - DRY CHEM FIRE EXTINGUISHER

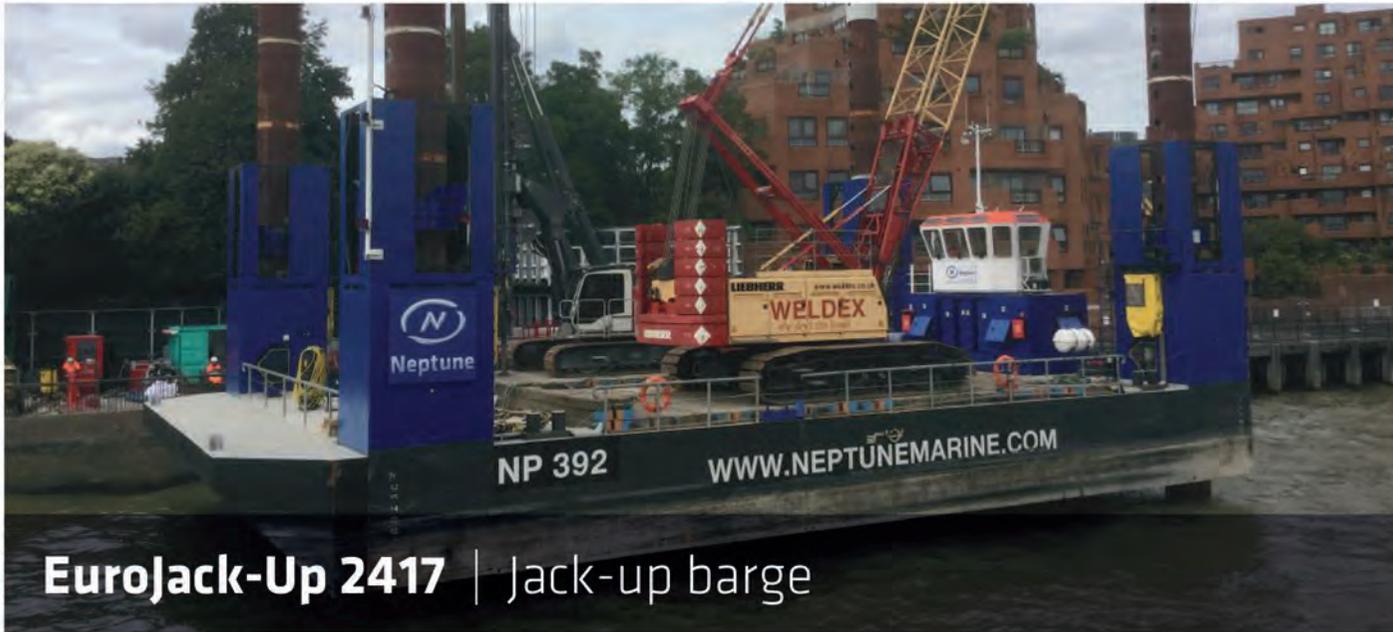
MOLTEN METAL MOLD - MAKE IN SEPERATE
PART OF WORKSHOP
CASTING GRAINS - GREEN SAND OR CLAY





SHEAR LEGS AND CAPSTAN, NEW PIER WORKS, WOOLWICH.



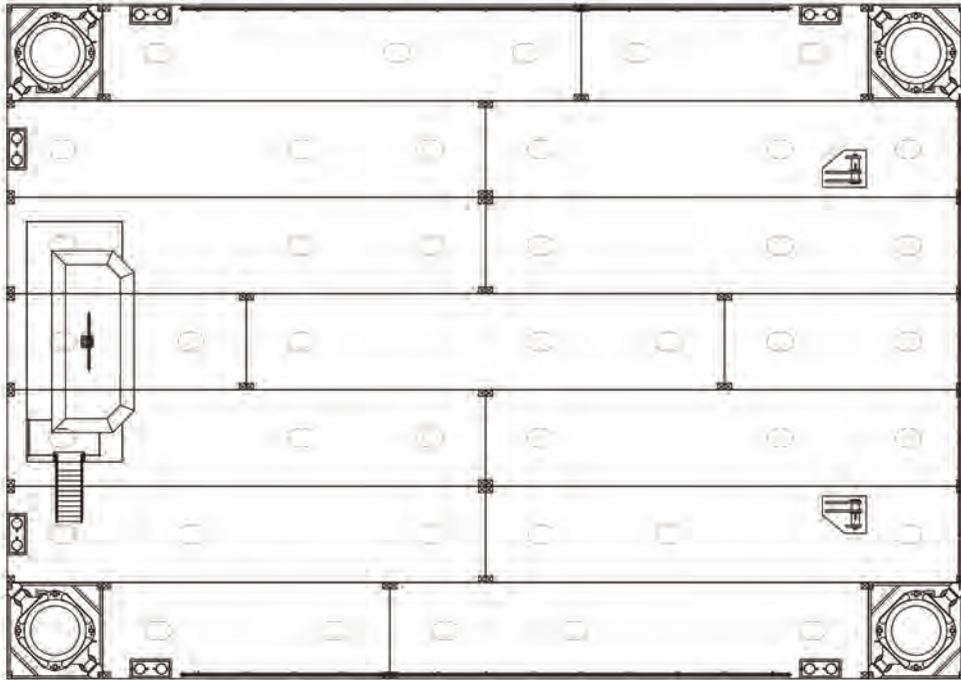


EuroJack-Up 2417 | Jack-up barge

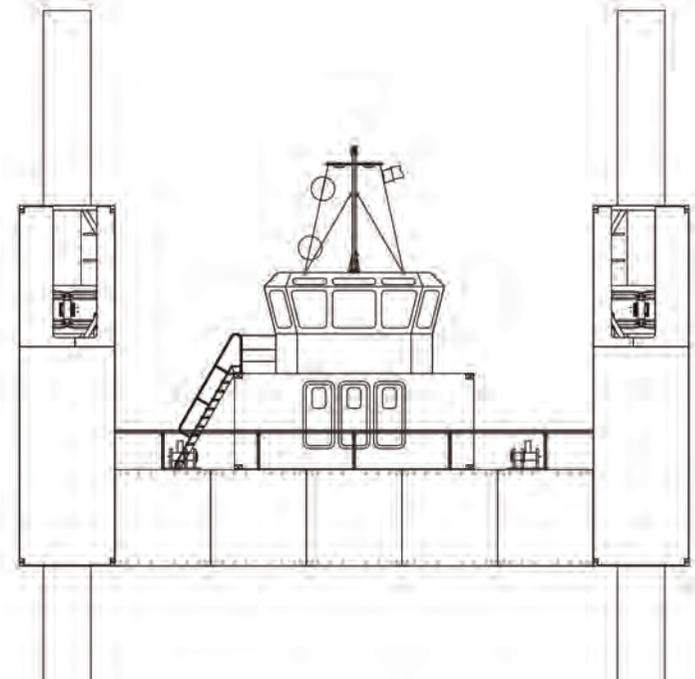
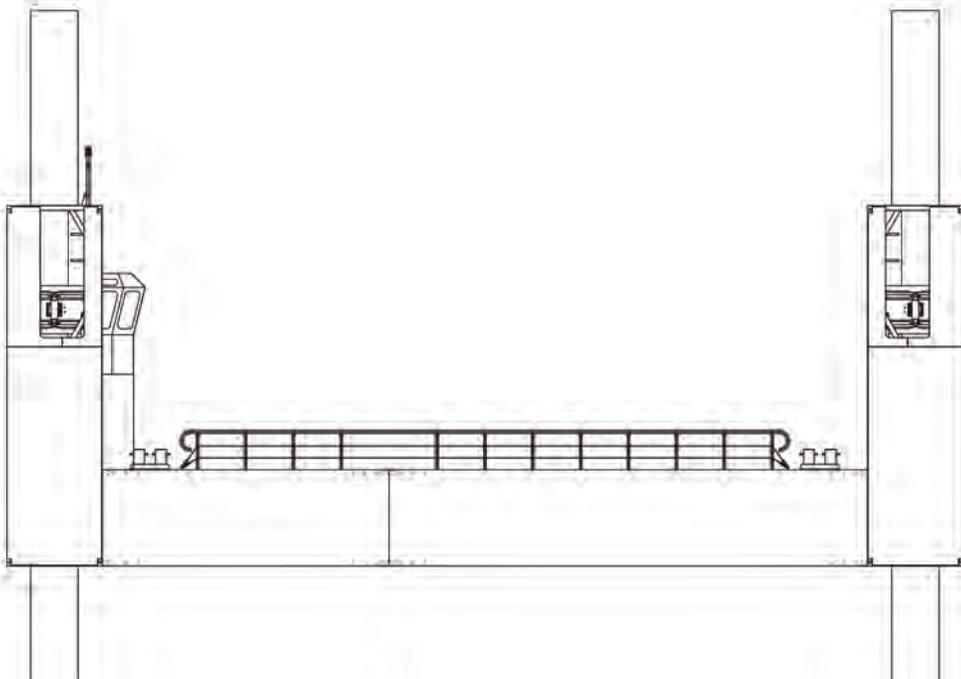
DIMENSIONS	
LENGTH O.A.	24,38 meters
BREADTH MLD.	17,08 meters
DEPTH AT SIDE	2,43 meters
DRAFT	1,89 meters
OPERATING CONDITIONS	
MAX. DESIGN WATER DEPTH	25 meters
SPUD LEGS	
LENGTH	42,0 meters
DIAMETER	1,2 meters
WEIGHT	38 tons
AUXILIARIES	
GENERATOR SETS	2x Caterpillar C4.4
TOTAL E-POWER	142,4 kW
FIFI	Certified fifi system
JACK-UP	Double acting jacking system

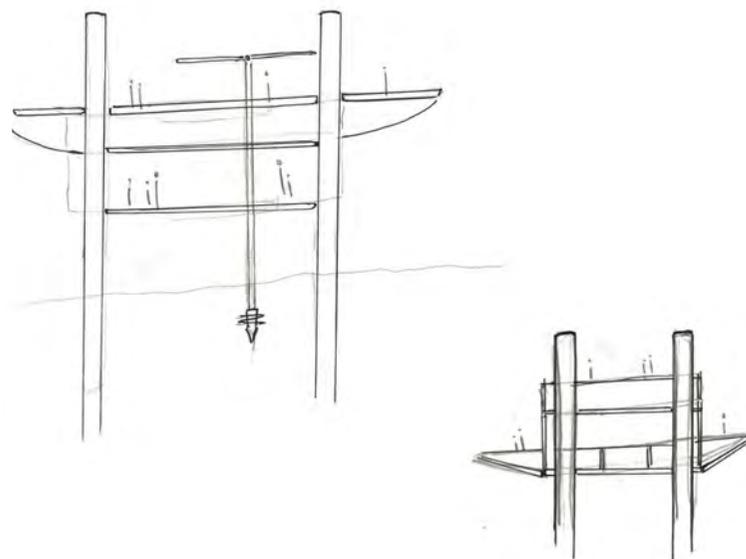
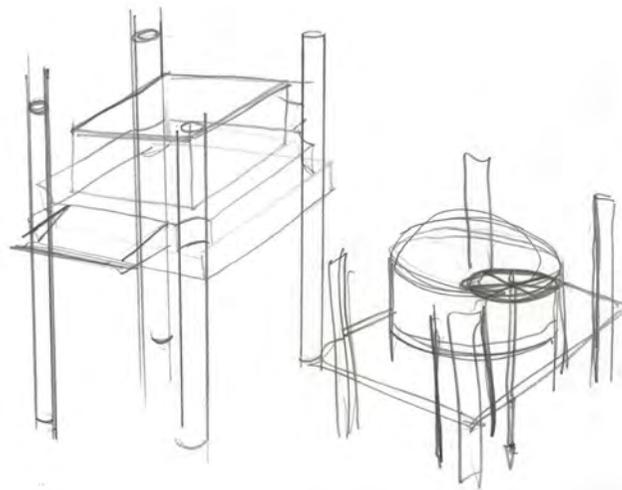
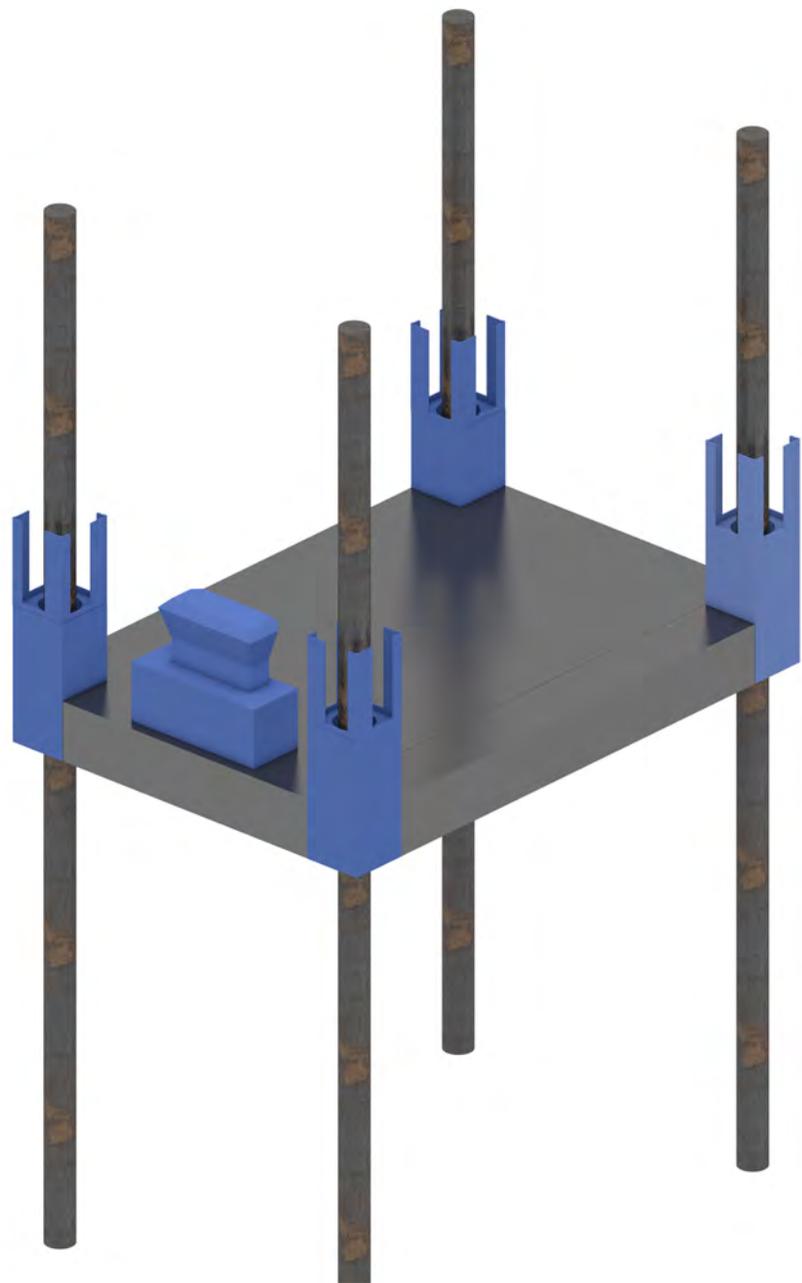
CAPACITY	
FUEL OIL	1000 liters
HYDRAULIC OIL	3600 liters
DECK LOAD	6 ton/m ²
JACKING PARAMETERS	
JACKING SPEED	32 m/hour
VARIABLE LOAD	300 tons
PRELOAD FORCE PER LEG	335 tons
PARAMETERS AT 16M DEPTH	
CURRENT VELOCITY	2,0 m/sec
WIND VELOCITY(SURVIVAL)	13 m/sec (30 m/sec)
SIGNIF. WAVE HEIGHT (SURVIVAL)	2,0 meters (4,0 meters)
MAX. WAVE HEIGHT (SURVIVAL)	3,72 meters (7,44 meters)
PARAMETERS AT 20M DEPTH	
CURRENT VELOCITY	2,0 m/sec
WIND VELOCITY (SURVIVAL)	13 m/sec (30 m/sec)
SIGNIF. WAVE HEIGHT (SURVIVAL)	2,0 meters (2,5 meters)
MAX. WAVE HEIGHT (SURVIVAL)	3,72 meters (4,65 meters)

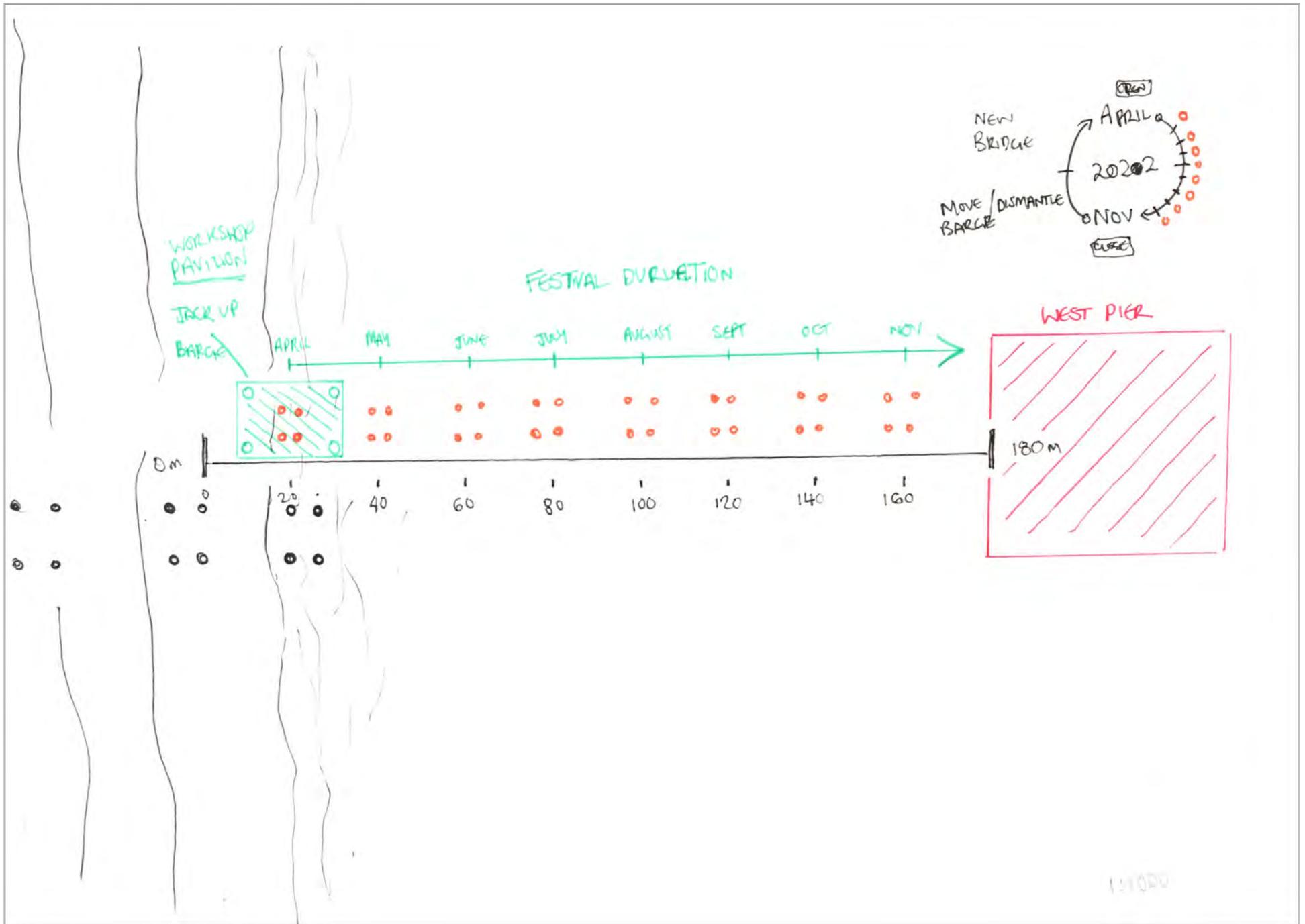




Jack-up barge

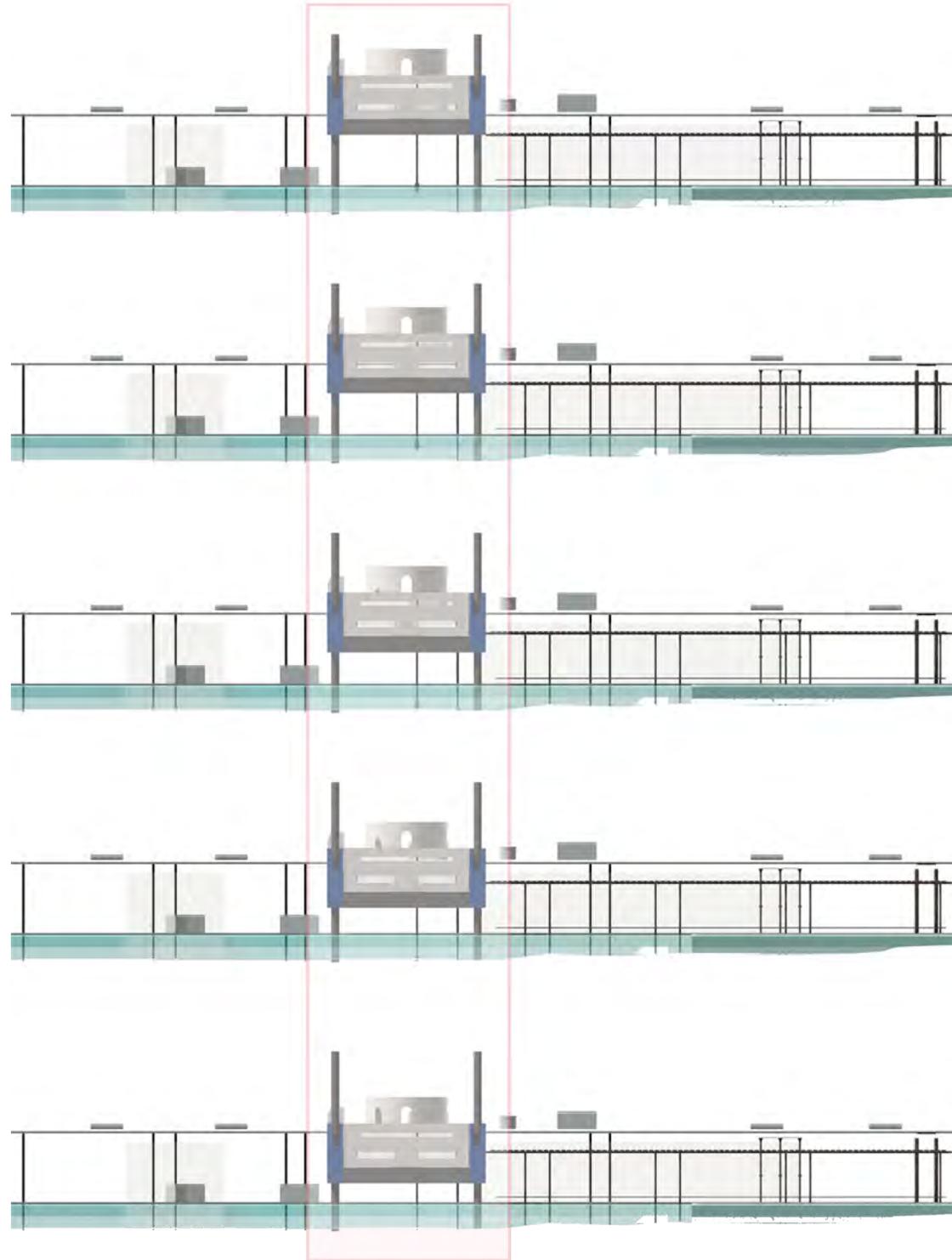




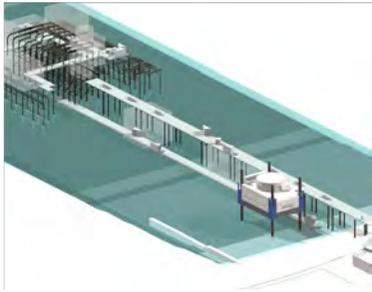
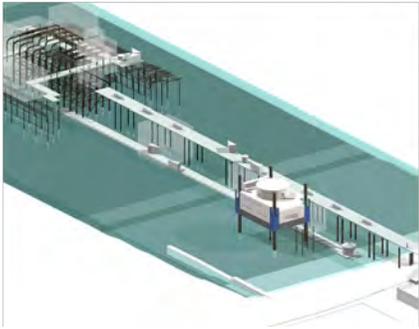
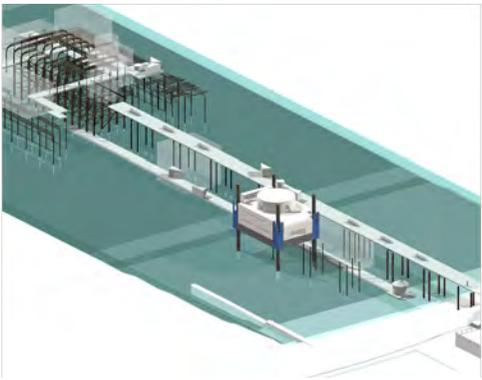
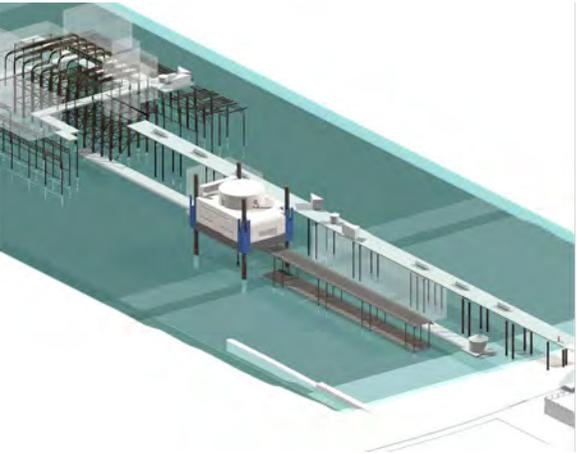


The process and function of the pier is to build a permanently walkway which is constructed using a modified jack up barge - the engineering workshop pre-fabricated into the barge.

The barge moves closer to the west pier as the months progress in the festival of Britain - each month the barge with move 20 metres - laying four columns and connecting the columns with a steel framework.



Barge position during festival after 5 months activity.

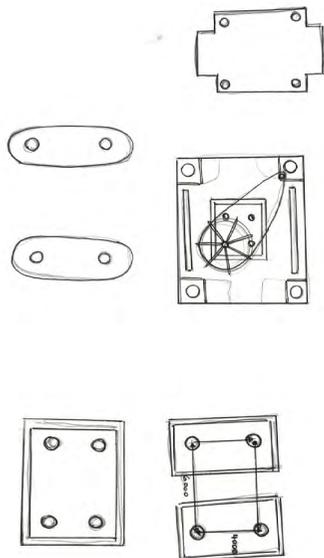
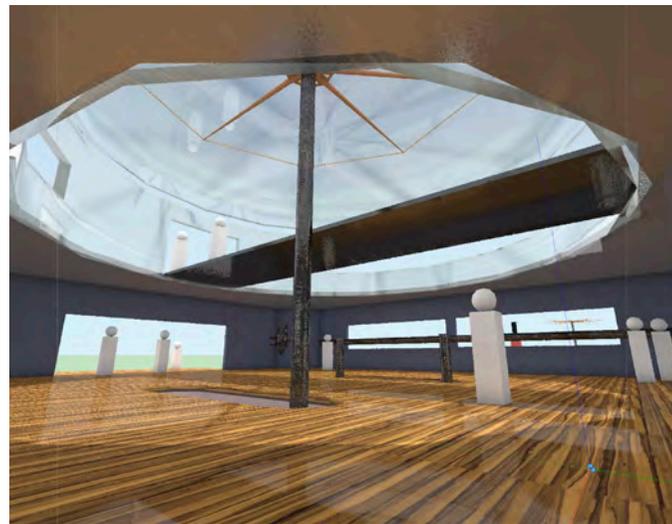
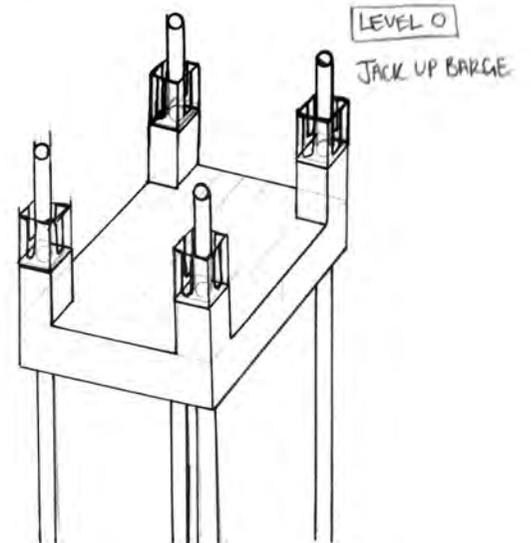
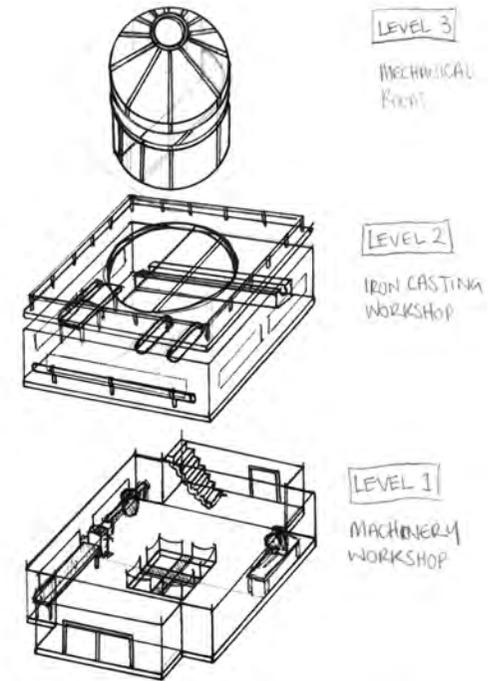
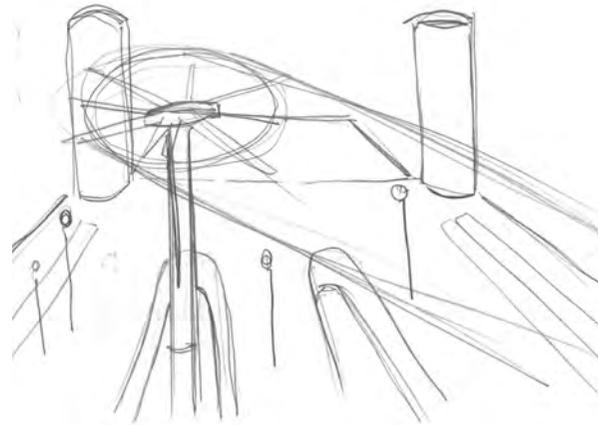


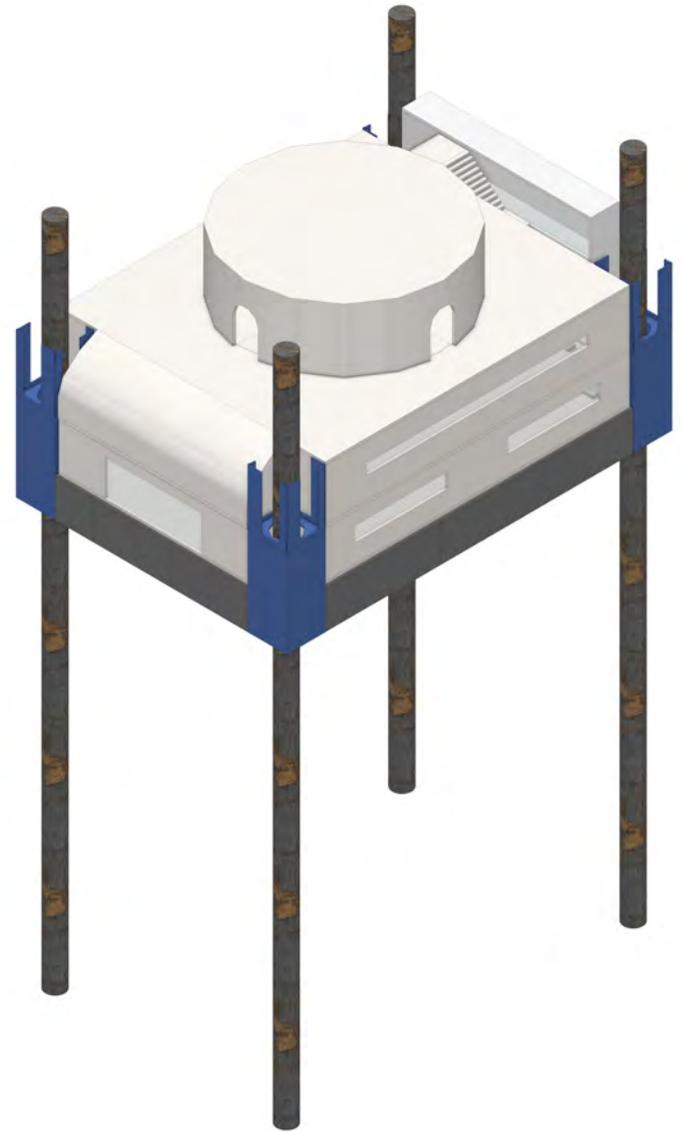
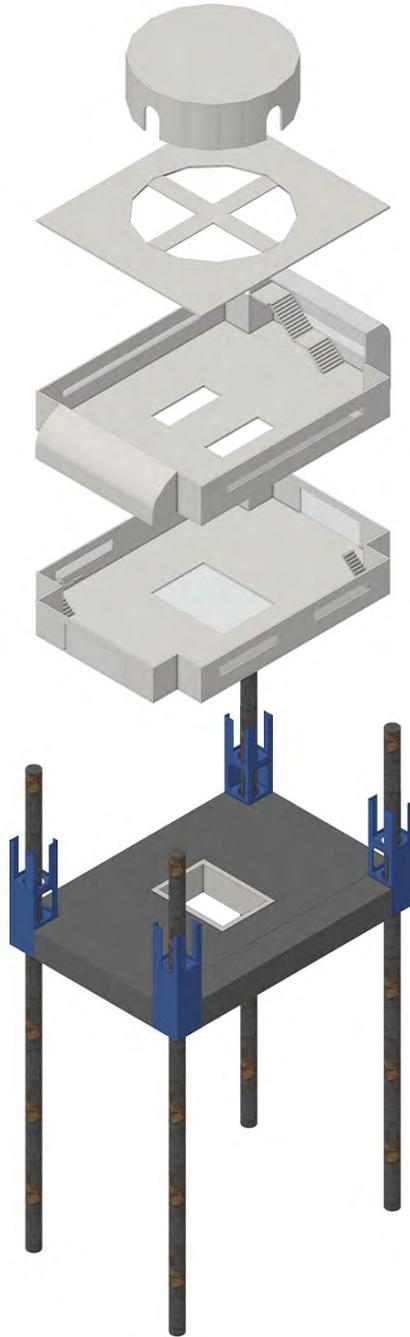
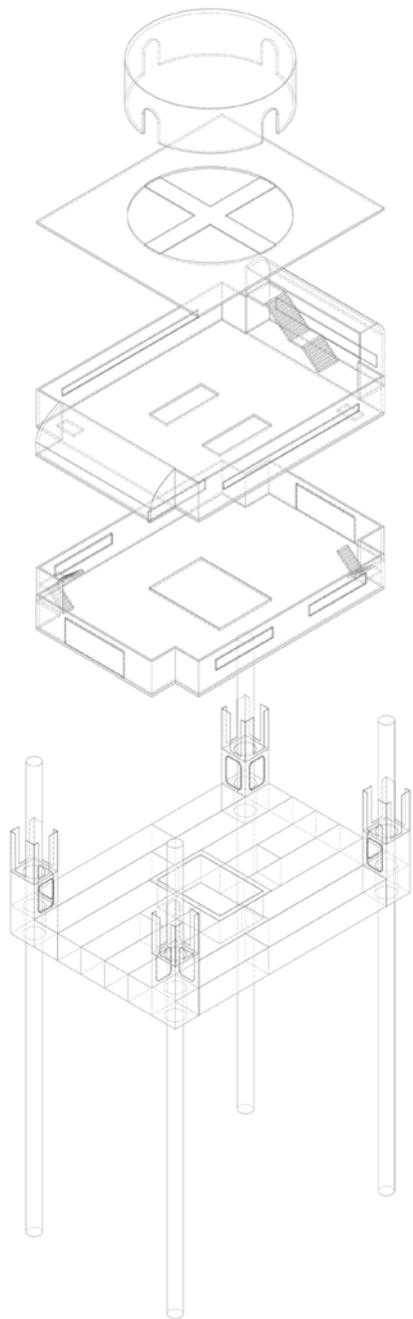
AO2

DESIGN DEVELOPMENT

Updated Design Concept

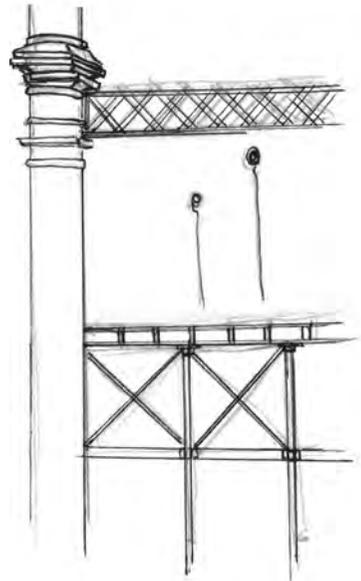
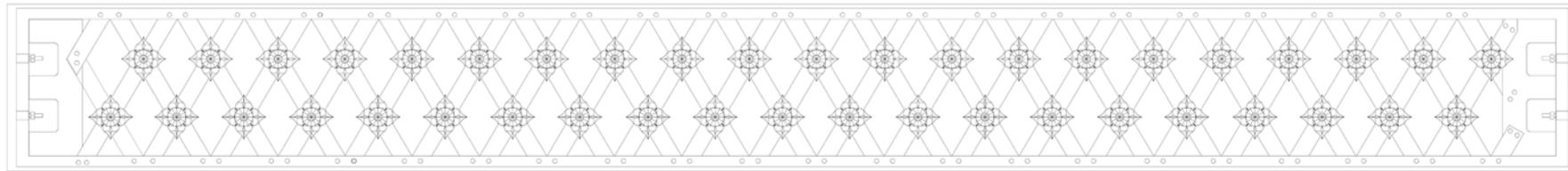
COLUMN REPLICATE WORKSHOP





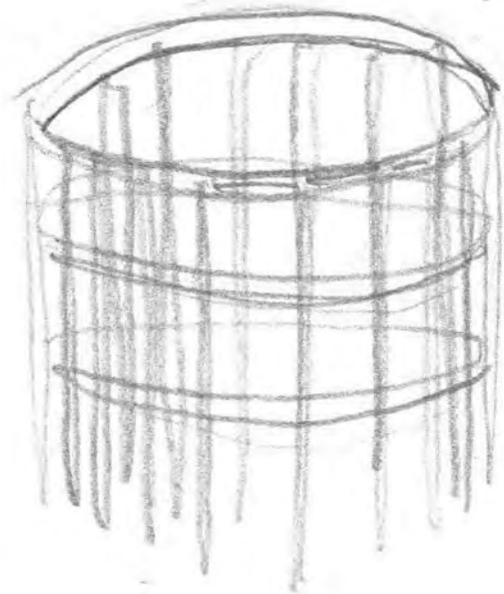
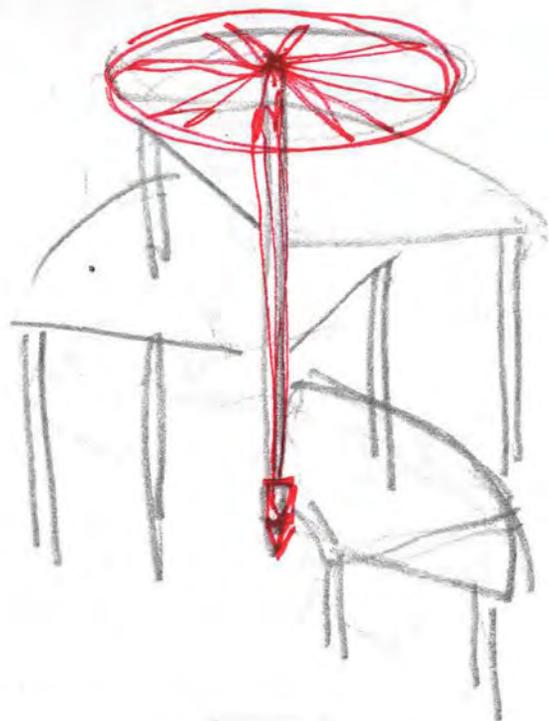
19th Century Gasholder Structures

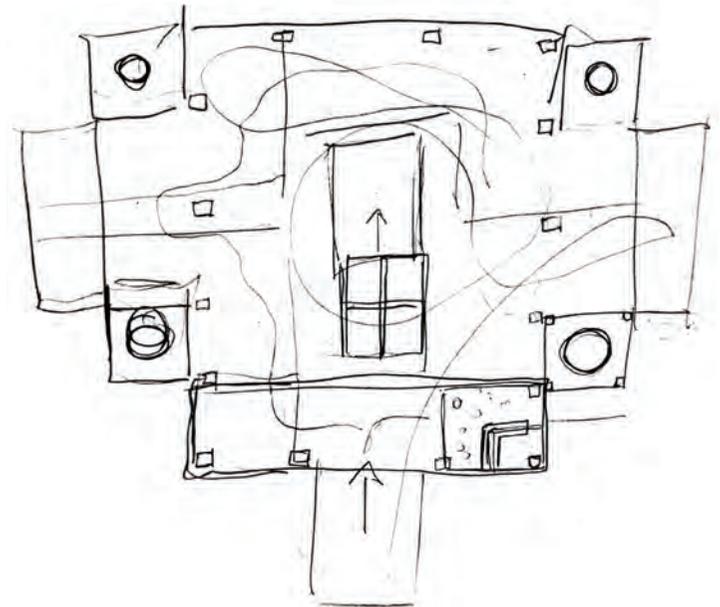
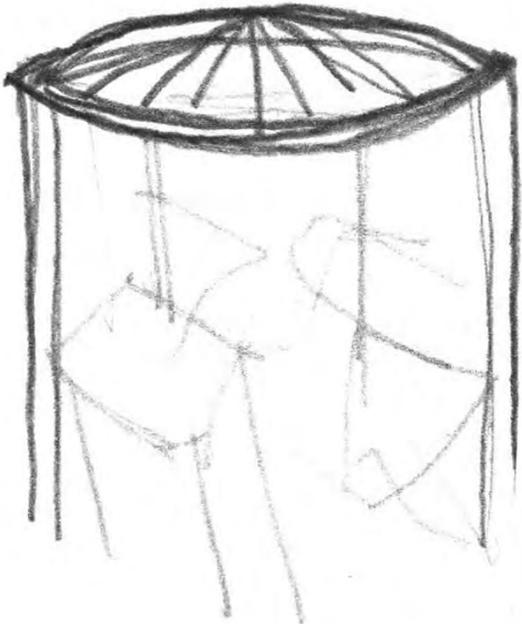
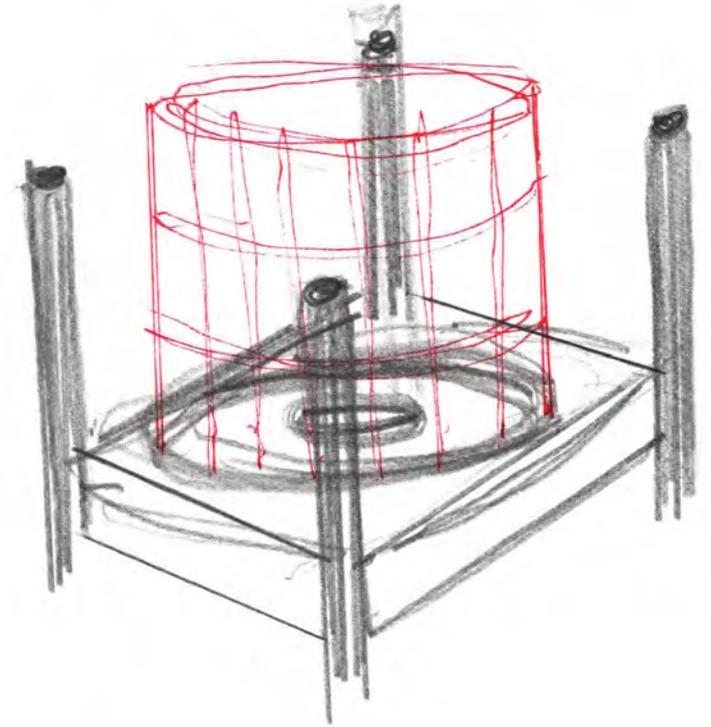
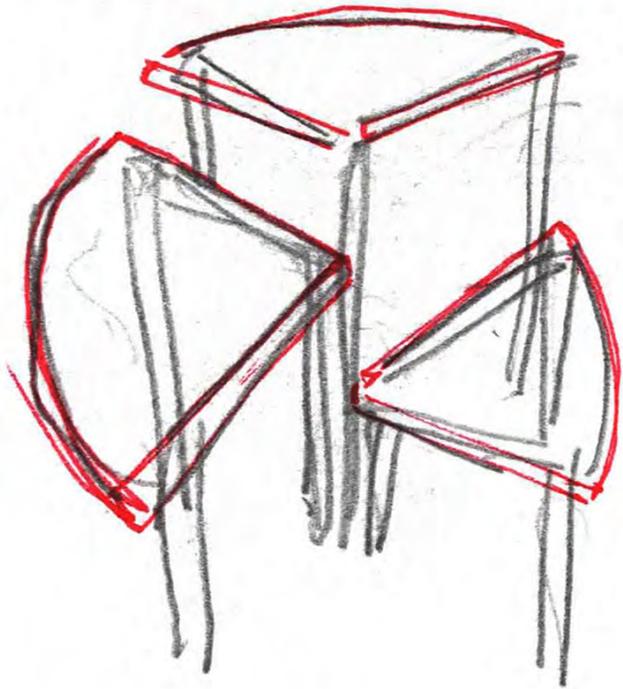
In the 1800's the metalworks industry was booming with the revolutionary methods of casting large metal components for construction. The common components being casted were columns, beams, brackets and girders for building structures. These structures included residential, factories, warehouses or any large structure. In relation to my research and project, I have developed a connection between the cast iron piles or columns from pier structures in the 1800's and the gasholder structures which are located all across the UK.



Victorian Ornate Detailing from a cast iron derelic gas holder structure in Kings Cross, London.









- METALS
- STEEL STRUCTURE
- WOOD SLATS
- SAFETY MATERIALS

INSTALLATION

3D PRINTING

- JOINTS
- FIXINGS
- PARTS

METAL WORKS

- WELDING
- SCRAP COLLECTION

LAY WALK WAY

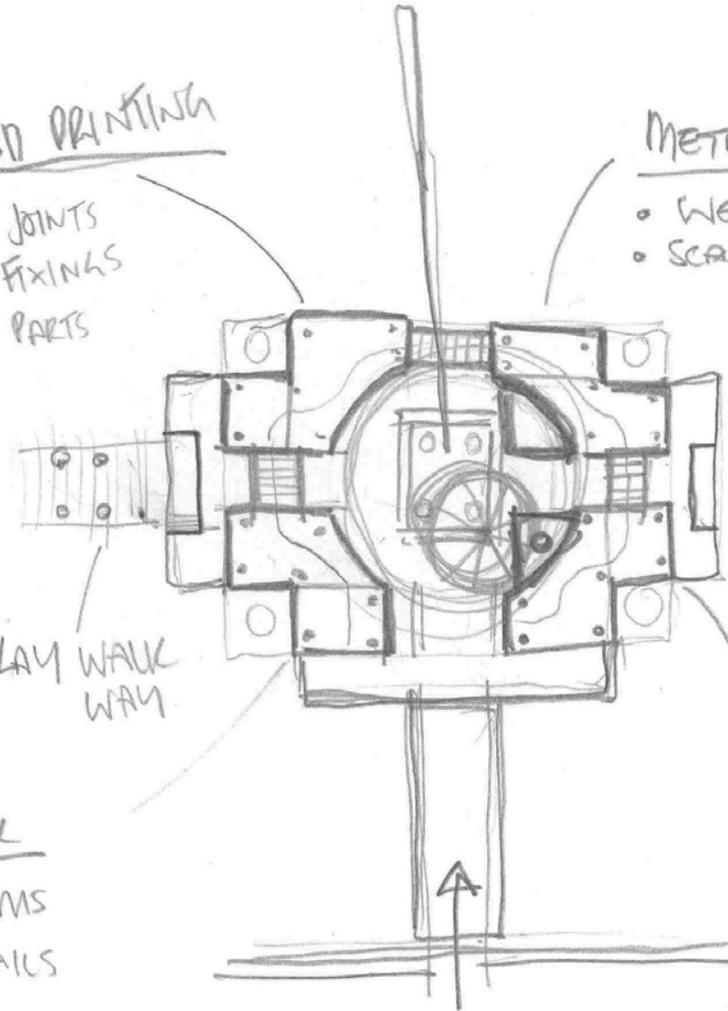
WOOD WORK

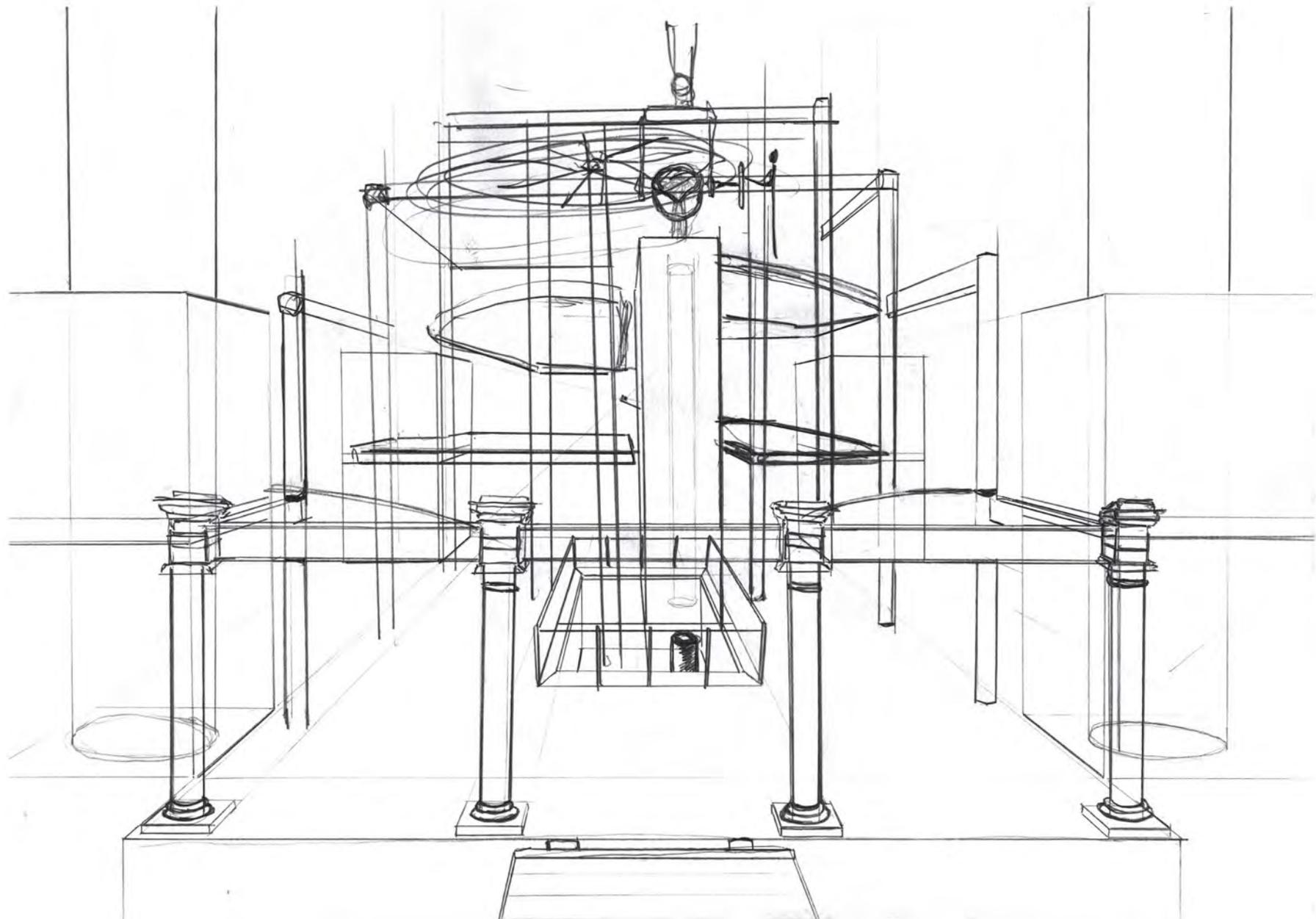
- PLATFORMS
- DETAILS

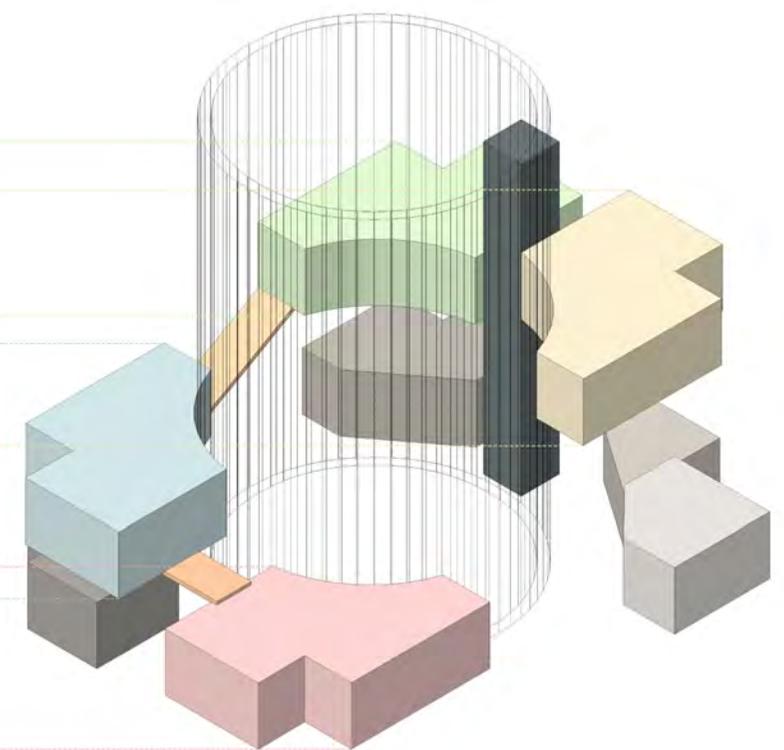
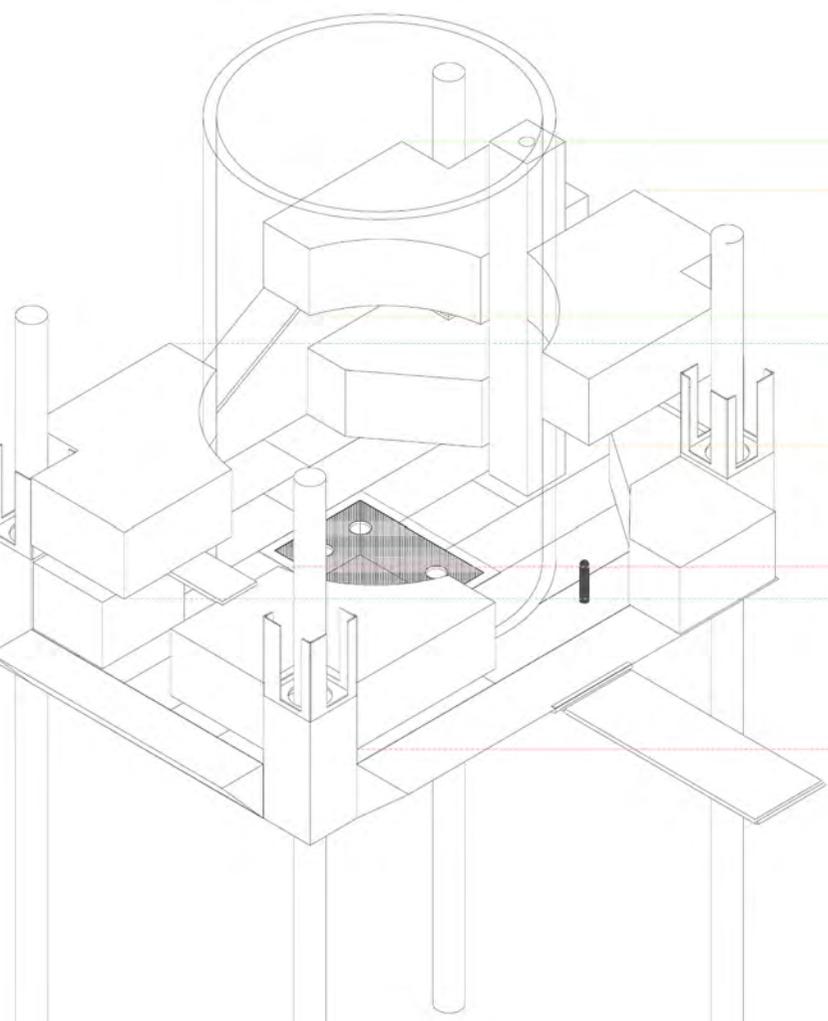
CASTING

- MELT METAL
- MAKE FORMS

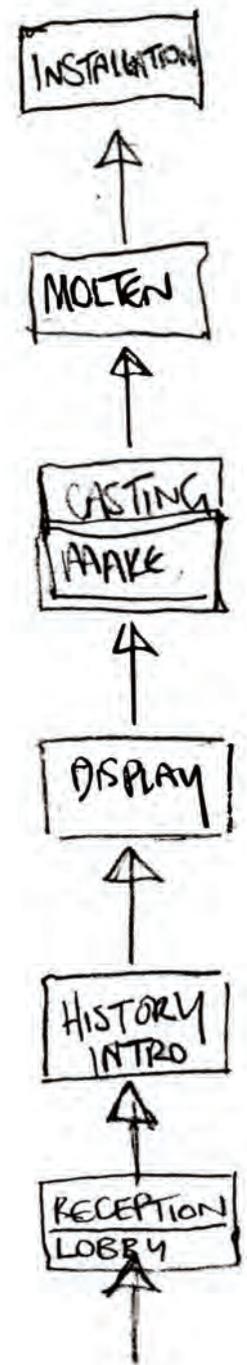
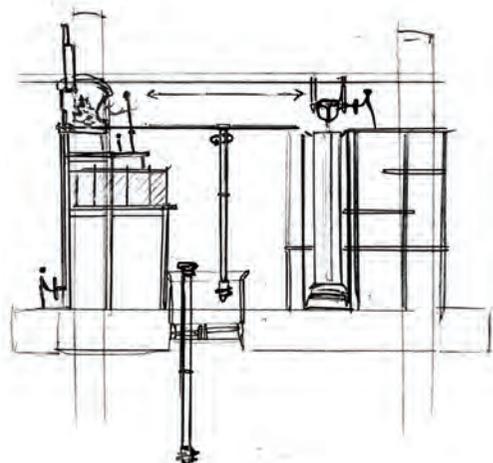
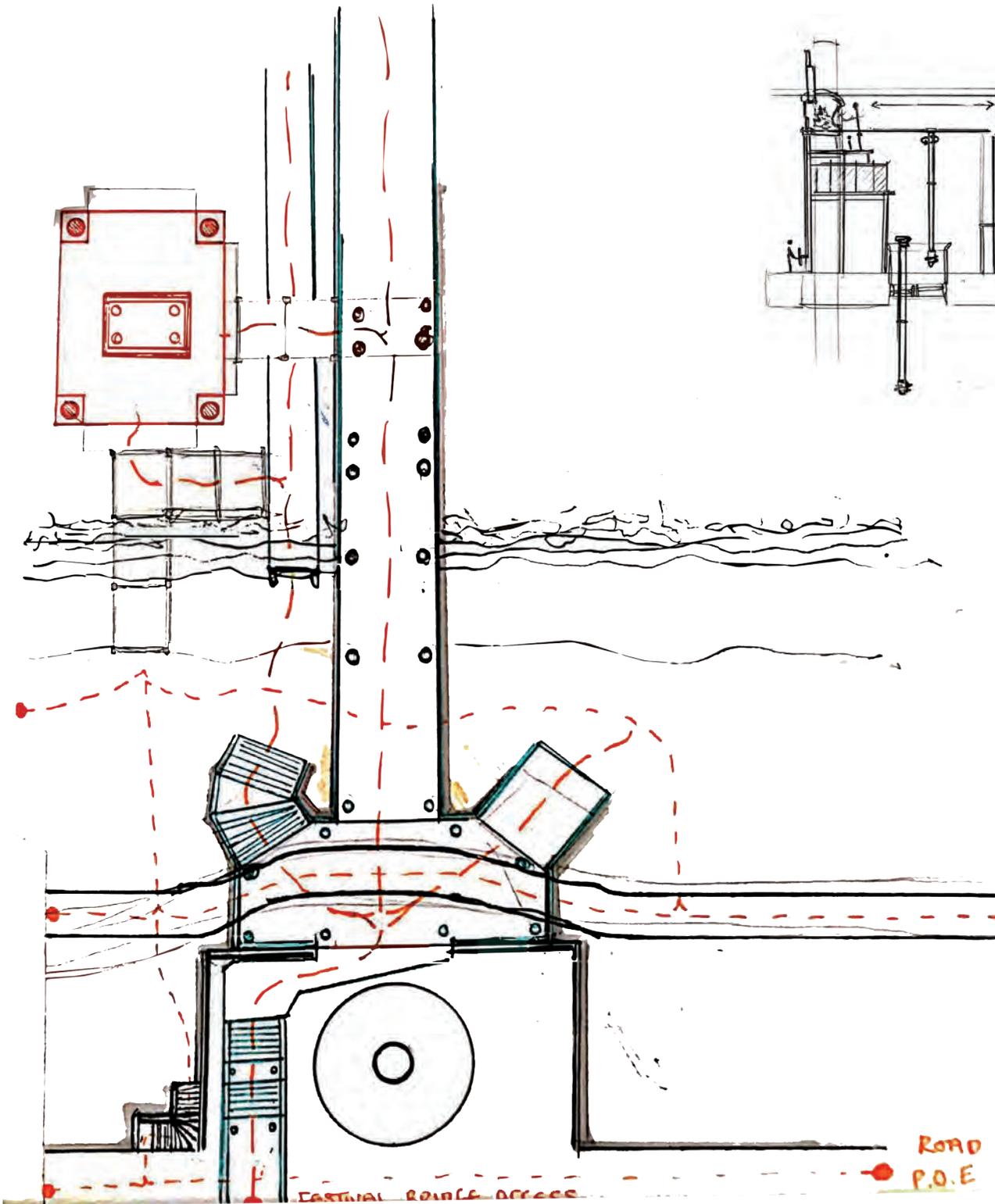
ACCESS

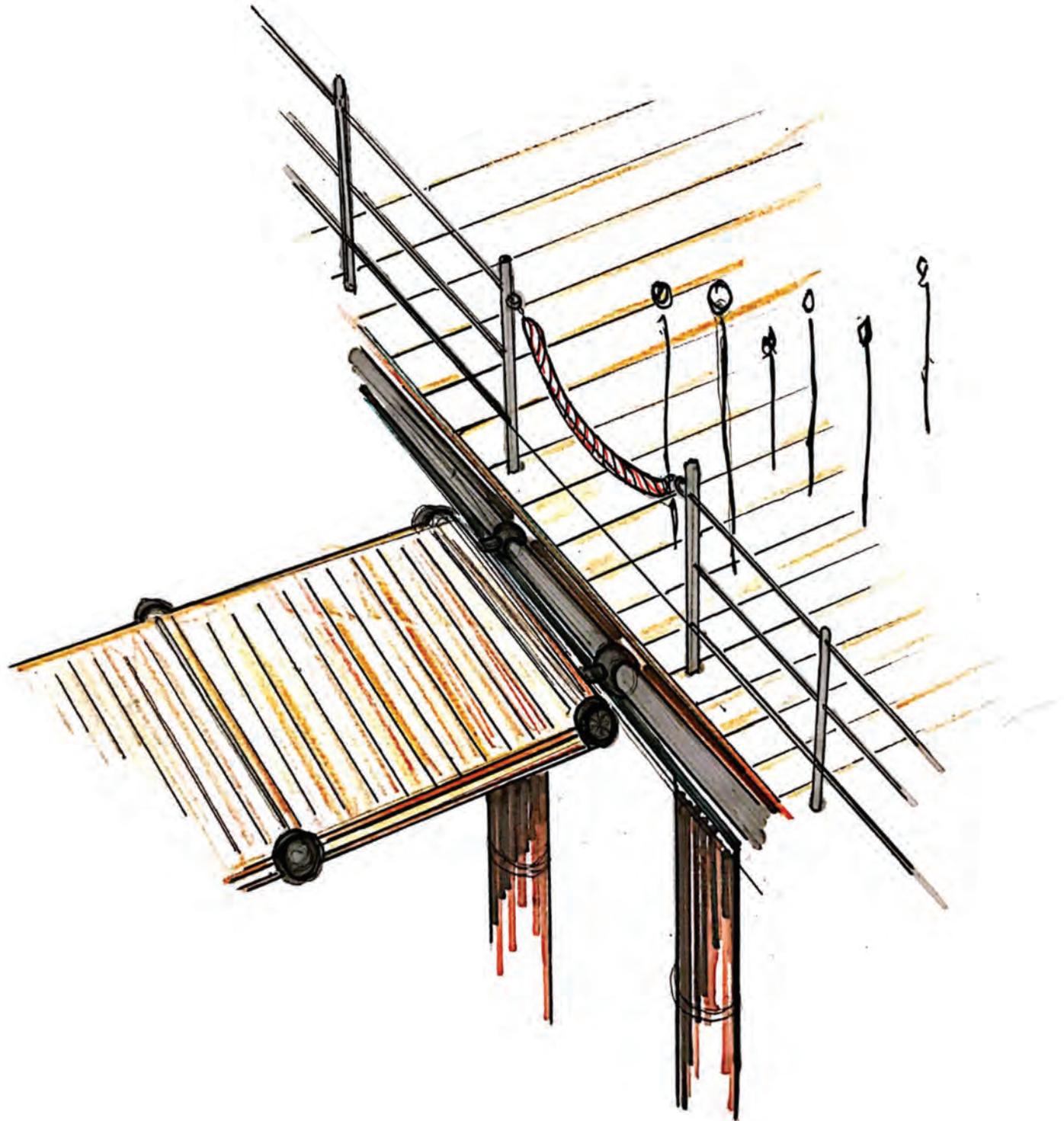
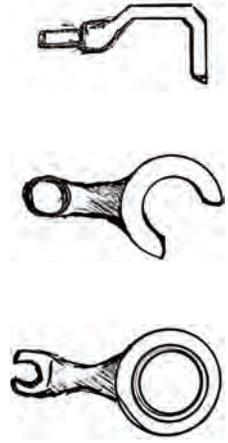


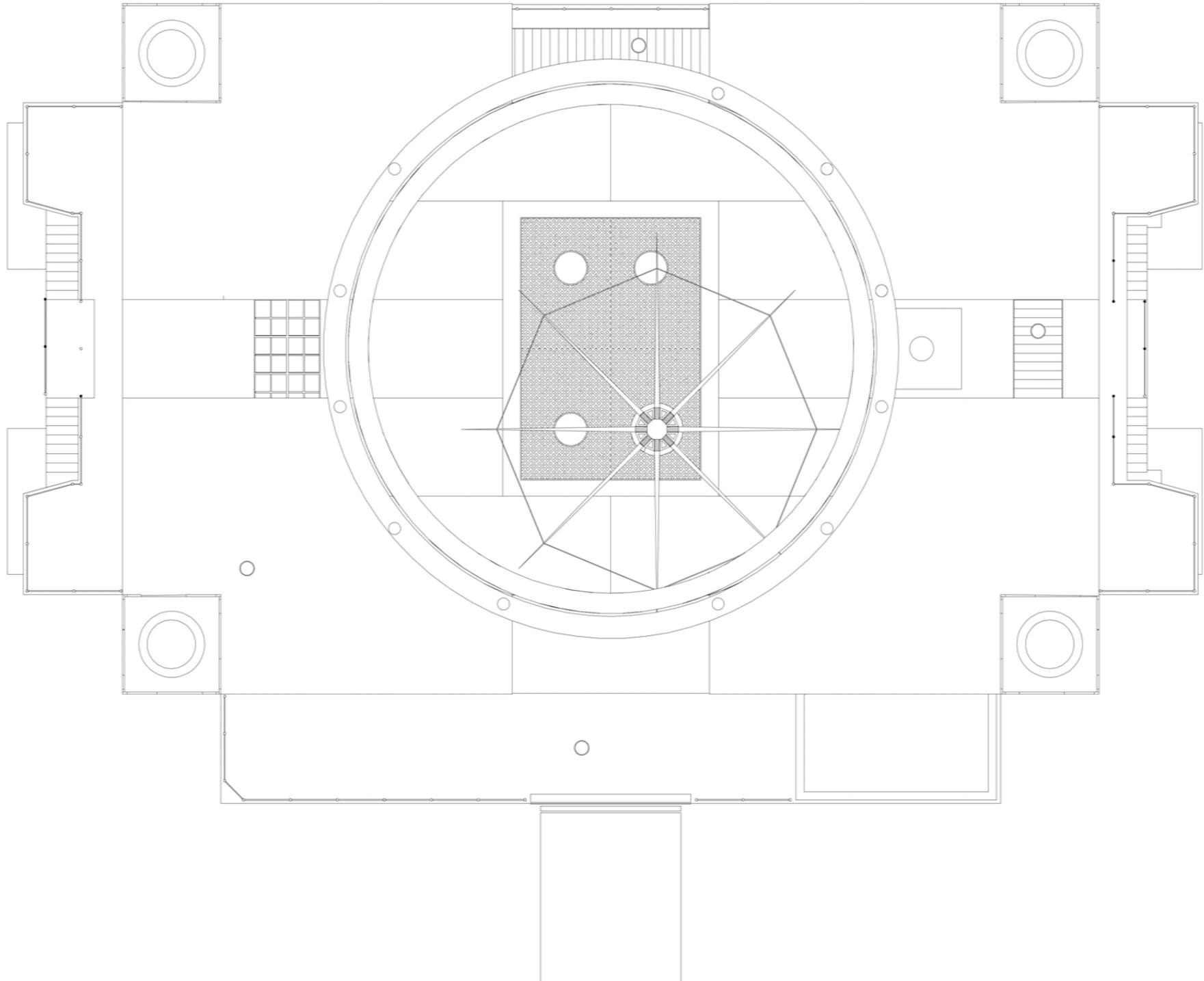


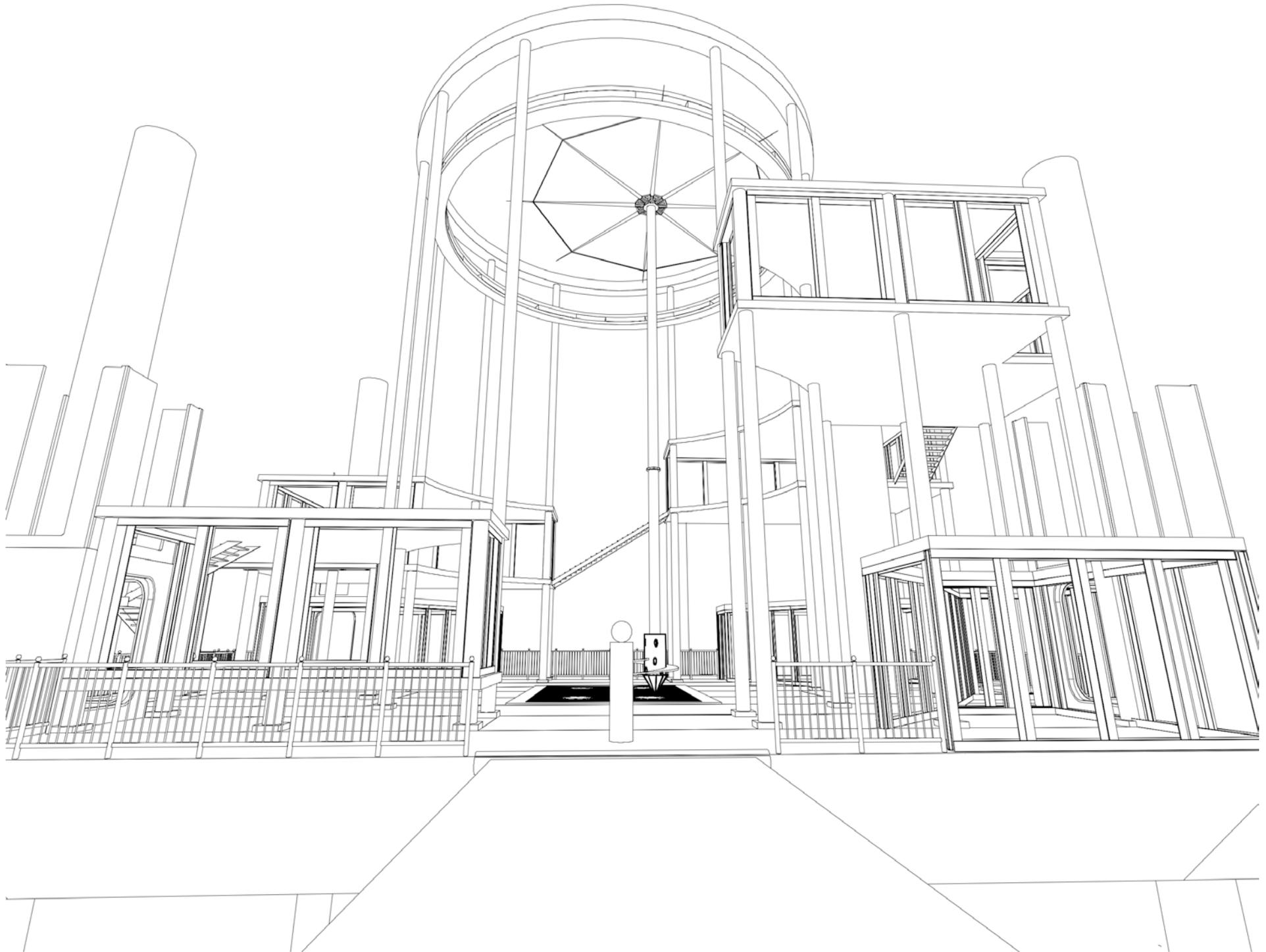


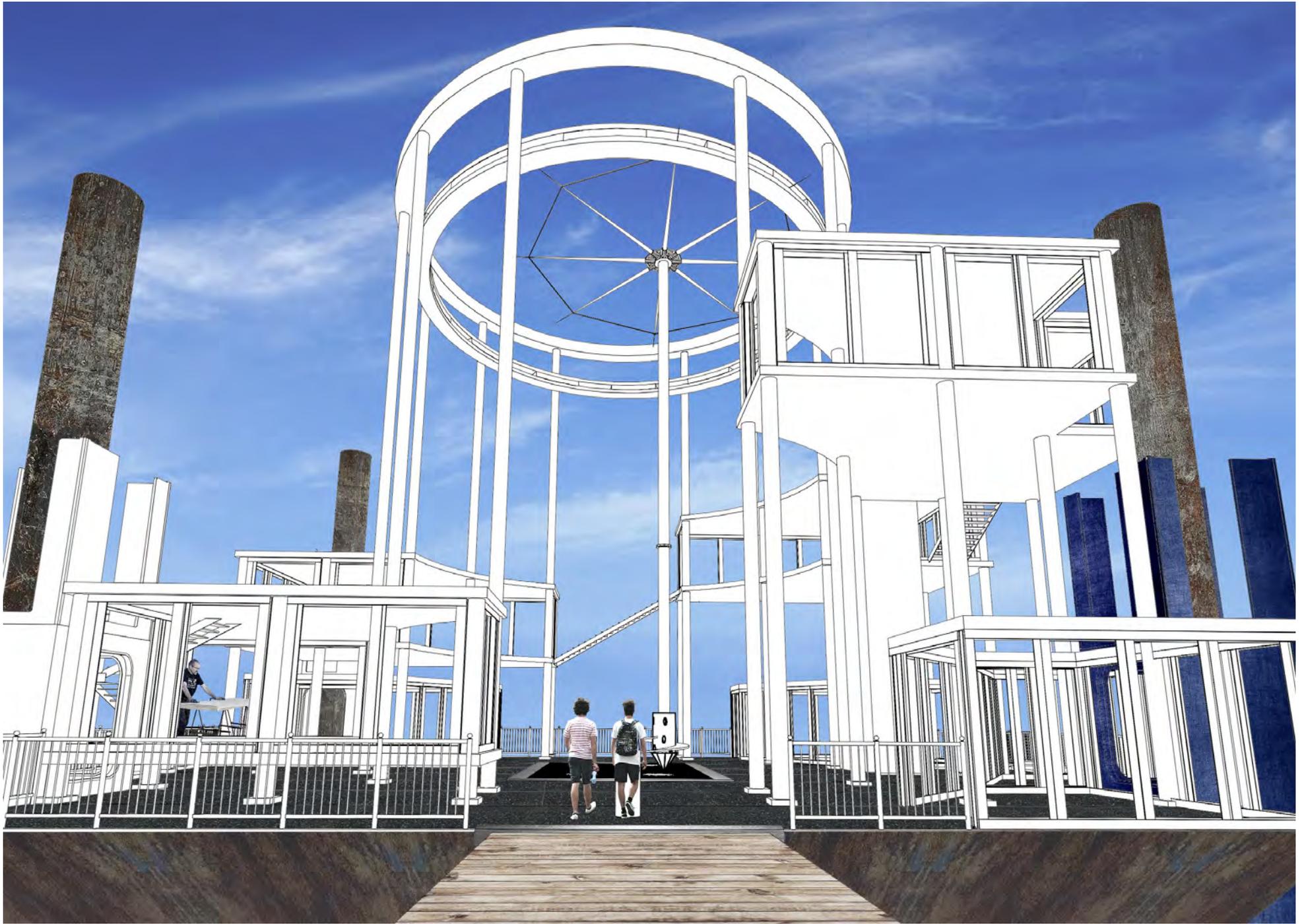
- | | | | |
|---|---------------------------------|---|------------------------------|
|  | Casting and Molding Workshop |  | Health and Safety Inductions |
|  | Metal Works |  | Display and Exhibition |
|  | Mixed Materials and 3D Printing |  | Toilets and Facilities |
|  | Wood Work |  | Introduction and Information |







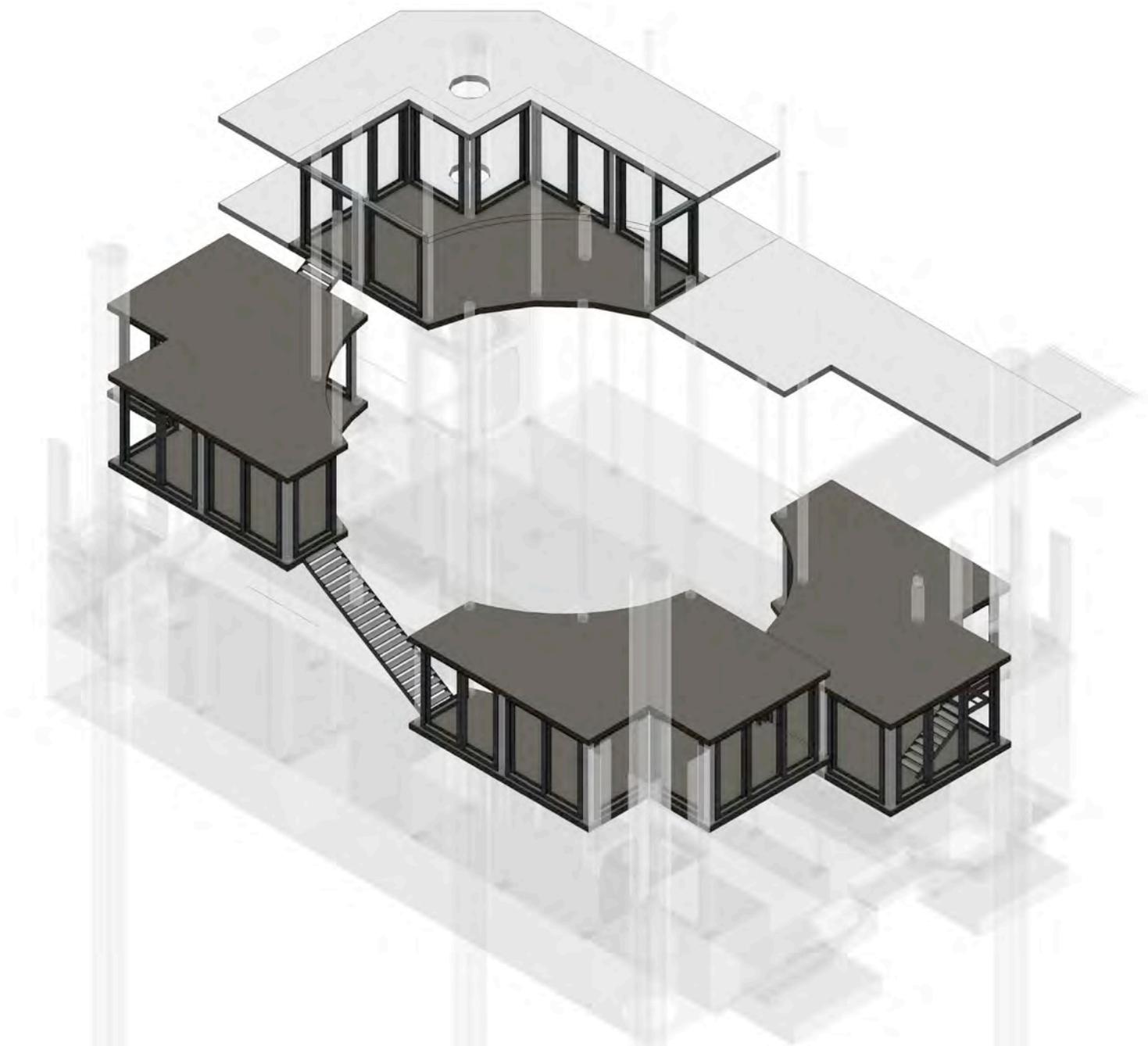


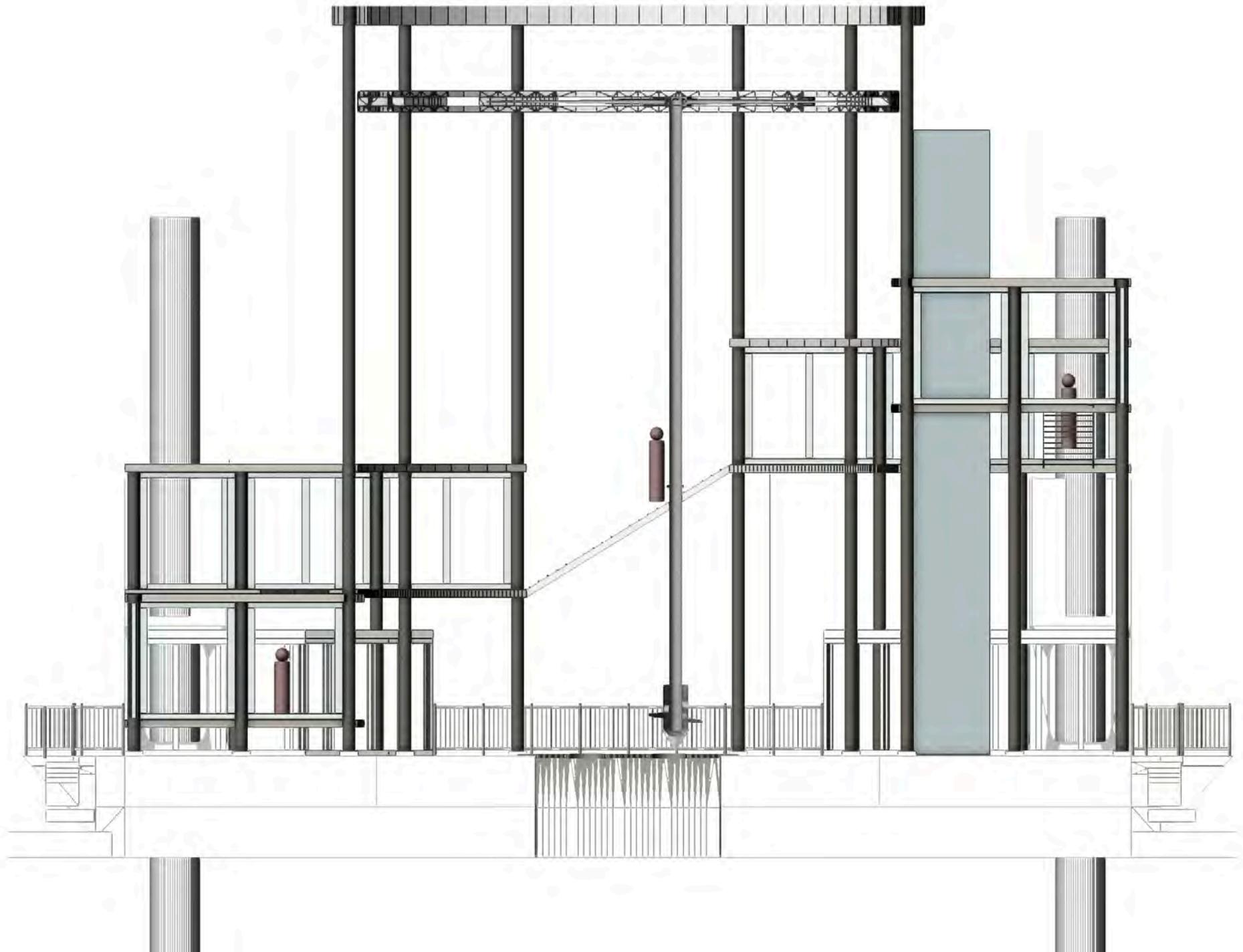


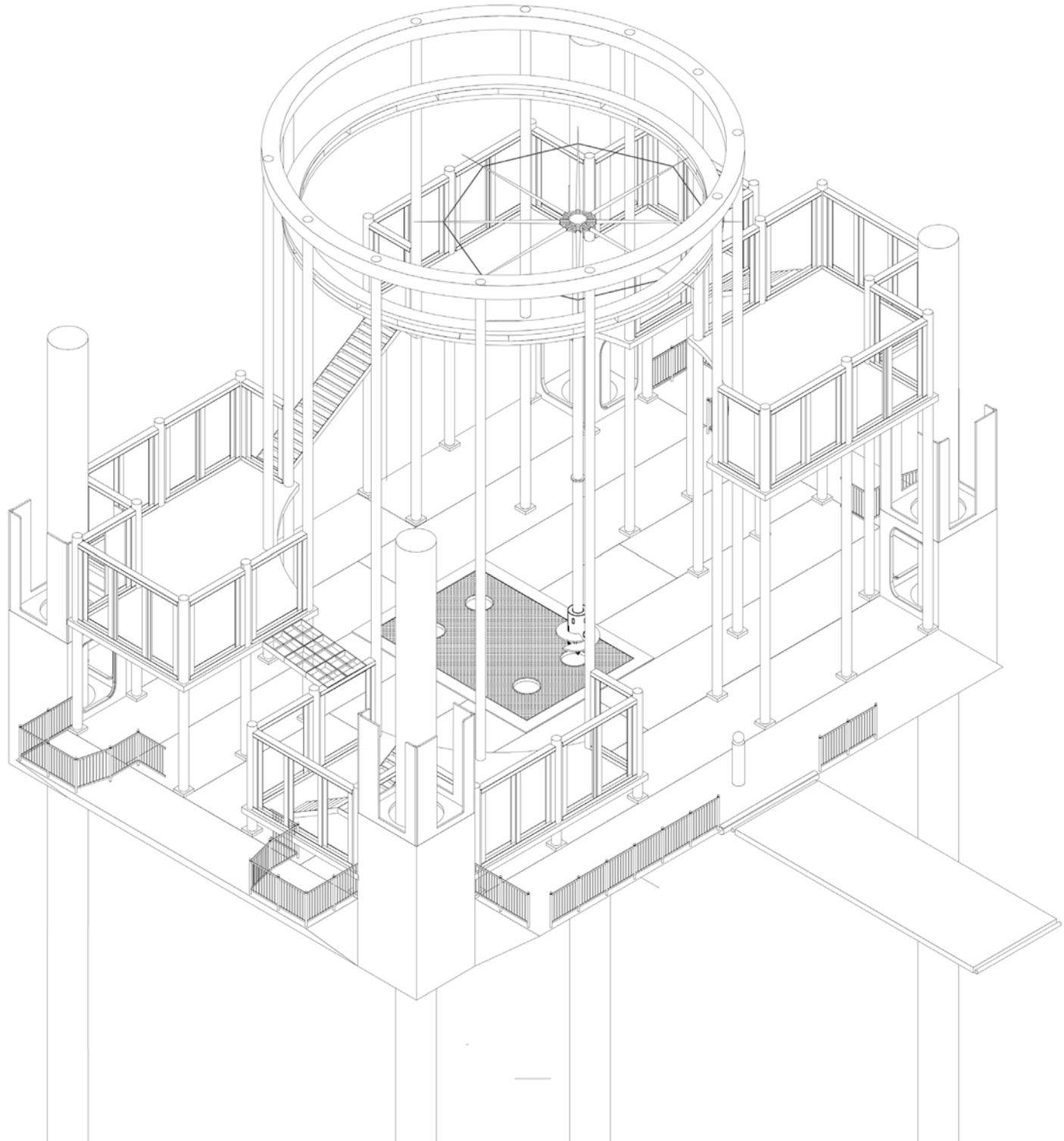














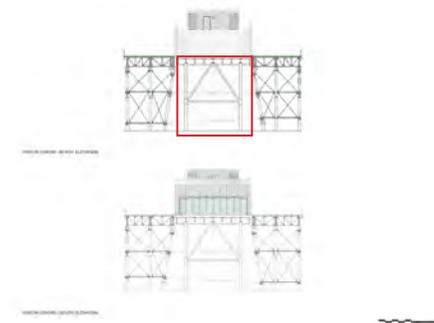
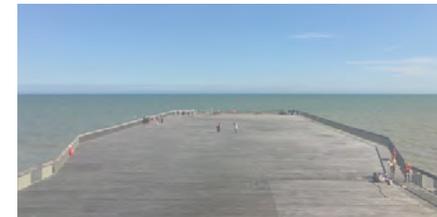
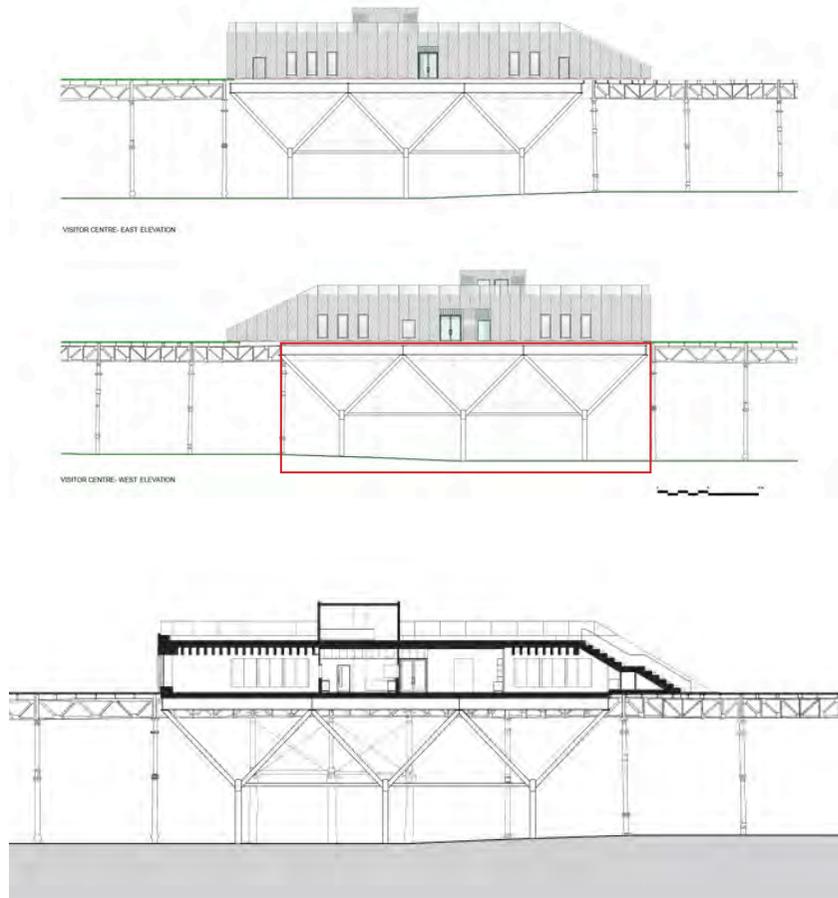
APPENDICES

Tech Tasks - SysMat + Digiskills

01 Reading Existing Buildings

HASTINGS PIER - DRMM

The Hastings pier restoration was an example of rebuilding the structure with slick, blended and simple materials with an impressive reconstruction of large sections of the foundations. New truss work has to be installed for support, safety and lifespan.



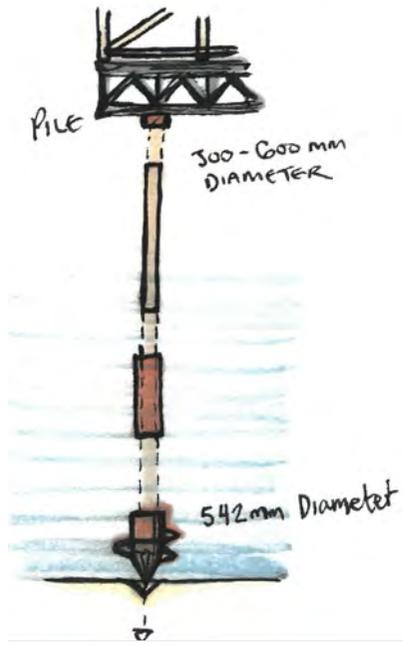


Southend Pier - The Royal Pavilion
'Sculpted by Wind and Wave'

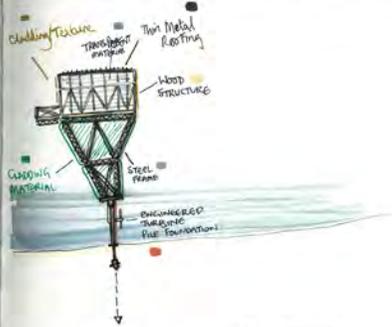
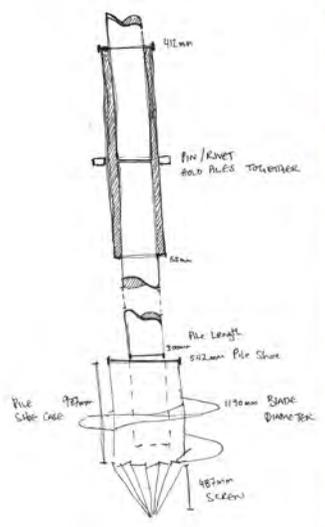
The Pavilion is a cultural and visitor centre that runs solely on renewable energy, wind power and sea water heat pumps. It was pre-fabricated in London and installed via a sea crane from the Thames, which laid the structure on a bed of framework.

SCREW PILE BENEFITS

- EASE OF INSTALLATION + FASTER
- LOWER CARBON FOOTPRINT
- NO NEED TO REMOVE OR



Screw Pile Details

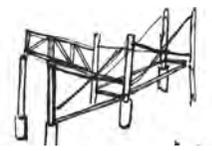


- Harmonie Restoration
- Ferrous Systems
- SHIP BUILDING

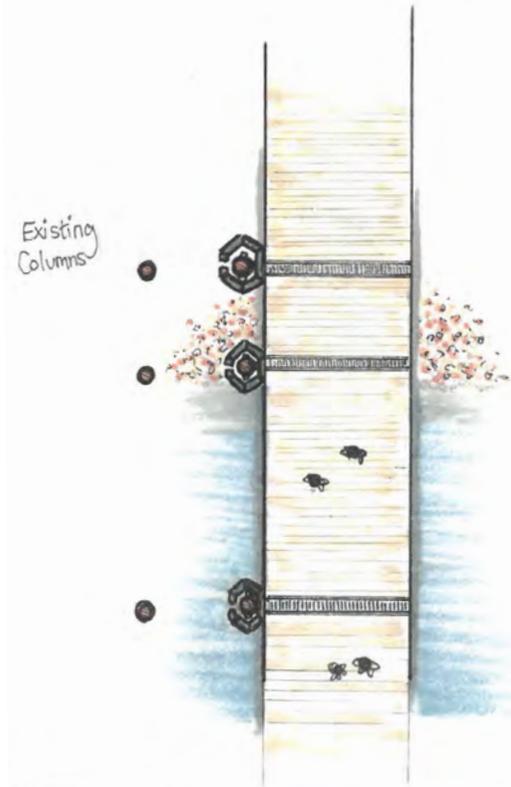
- PALASOMMA**
- SUSTAINABILITY
 - STRETCHED FABRICS
 - STEEL AND WOOD FRAMES
 - 1) IDENTIFY MATERIALS
 - 2) CRITIQUE CHOSEN MATERIALS
 - 3) MATERIALISE IN DESIGN WORK

ALWAYS ALMANAC RESEARCH

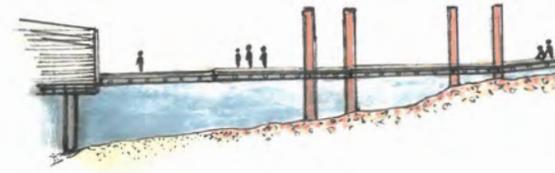
EUGENIUS BIRCH



Concept and system of my pavilion structure, inspired by marina/harbour floating platforms.



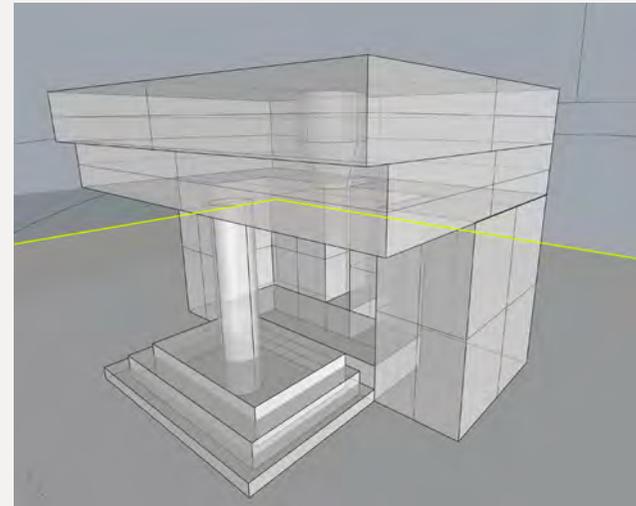
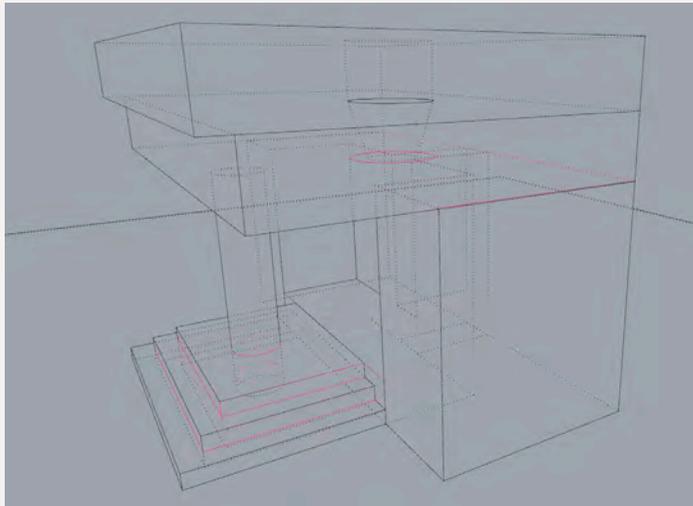
High Tide

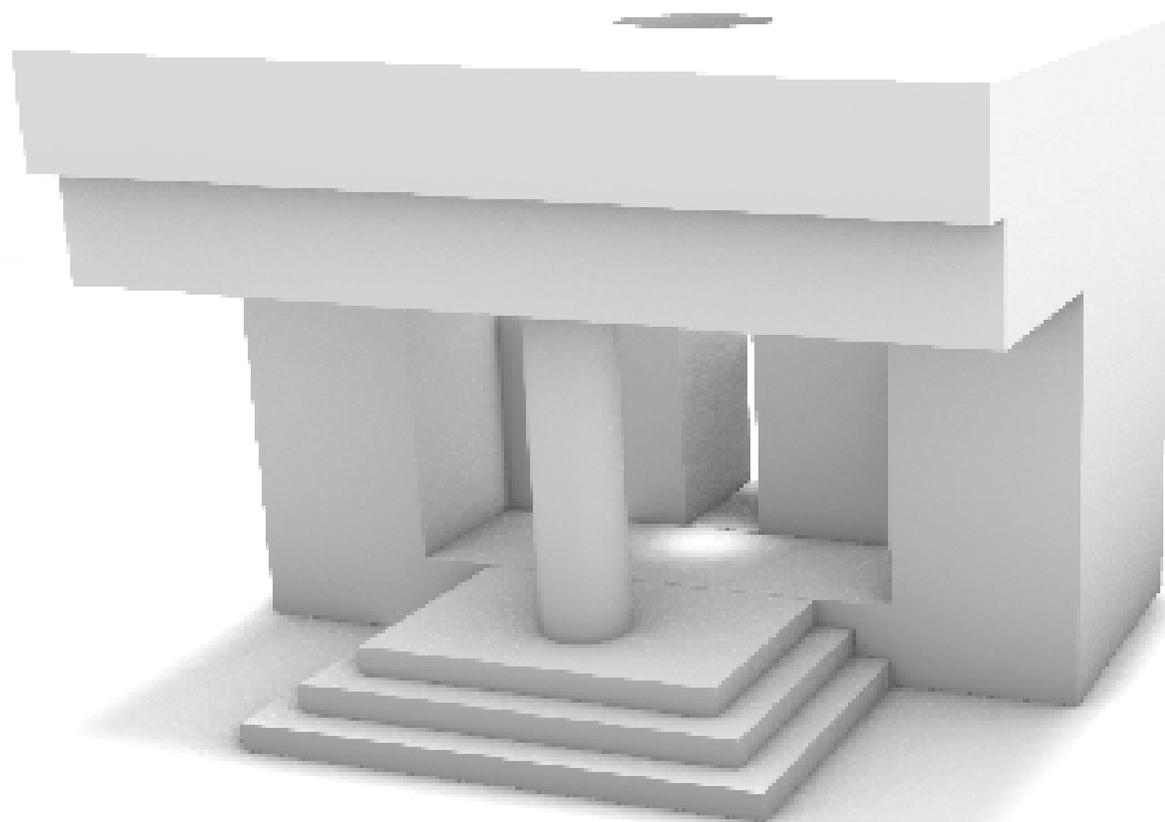


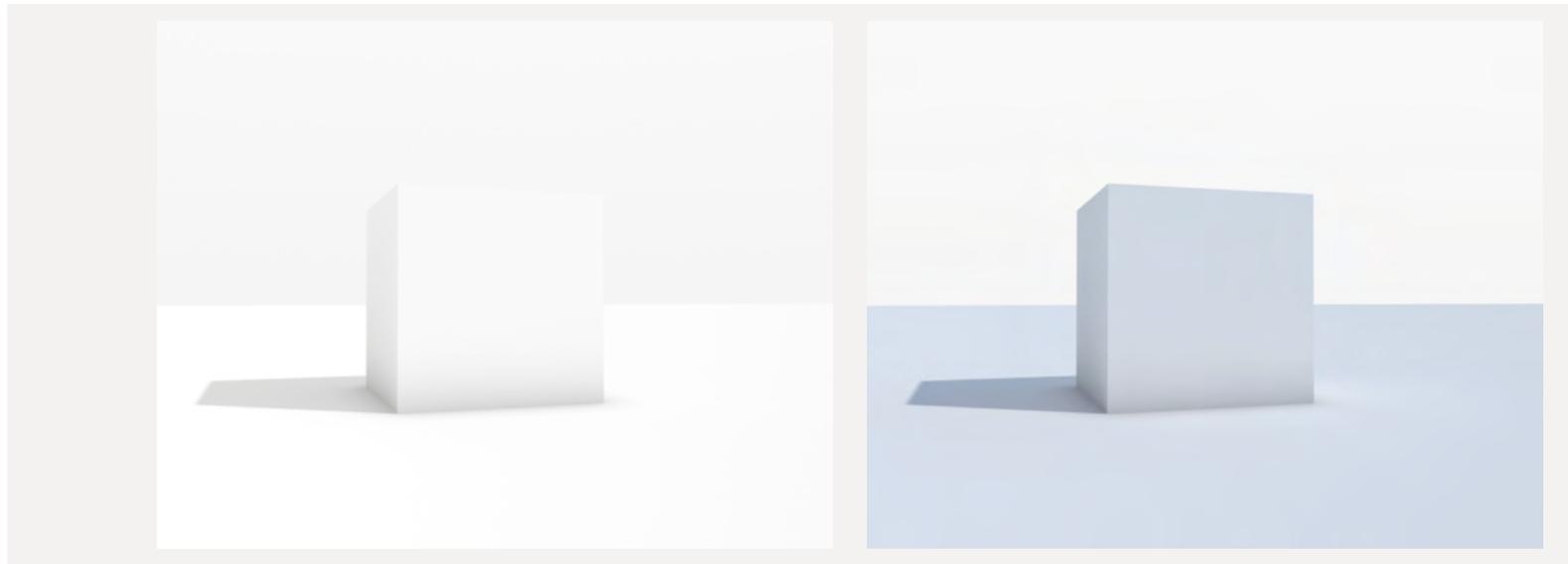
Tipping Pier : The plastic pontoon pier -
ESA [Finland]



The Floating Kayak Club -
Force4 Architects [Denmark]







Basic Cube with shadow modelled in vectorworks before rendering in photoshop...

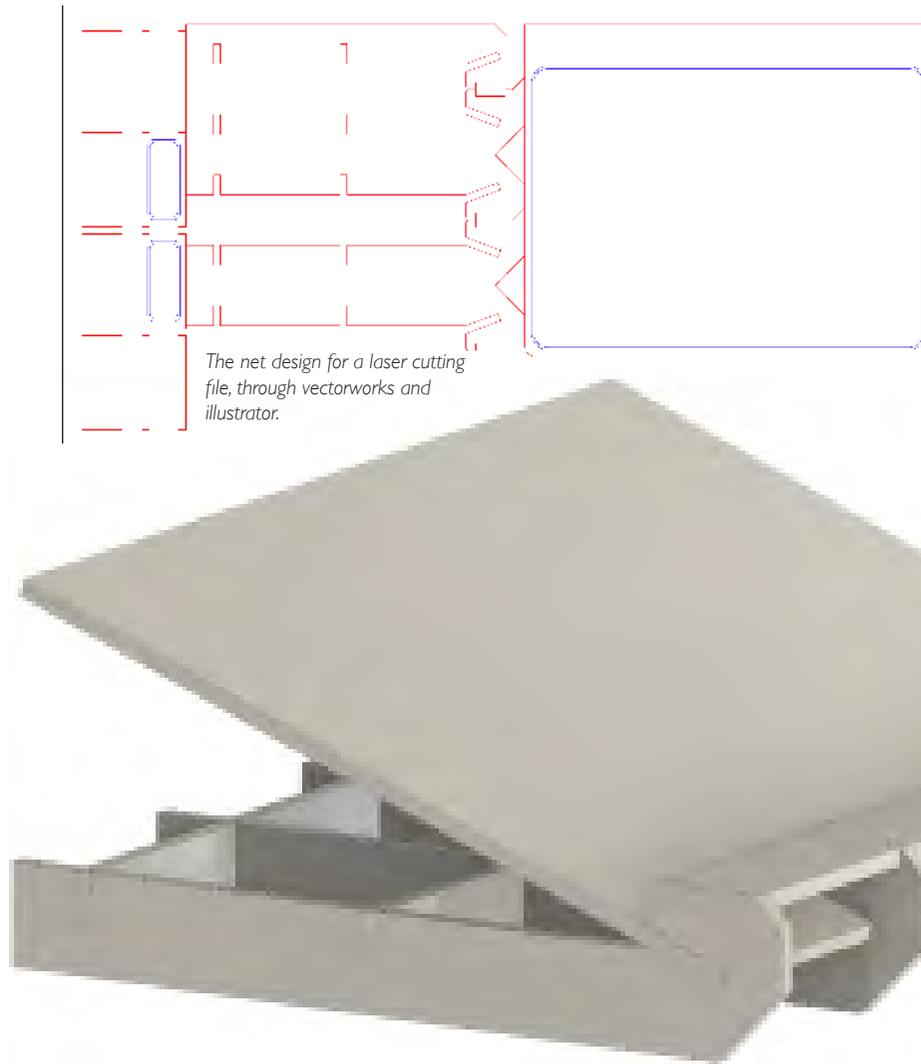


Lasercutting + 3D Printing

In this workshop we learnt how to transfer 3D models into lasercutting or 3D printing files, using the software slicer.

The main task was to Lasercut your own laptop stand...

I made up a design based on balance and slotting joints, which ergonomically fits my MacbookPro.



Final Design Product - The balancing laptop stand fit for a MacbookPro 15".

