

**SELECTED
WORKS**

BY
KHUSHBOO GUPTA

COVER LETTER

Hello!

I am an aspiring designer who received a Masters and an undergraduate degree from the United Kingdom before moving to Mar Vista, Los Angeles in 2018.

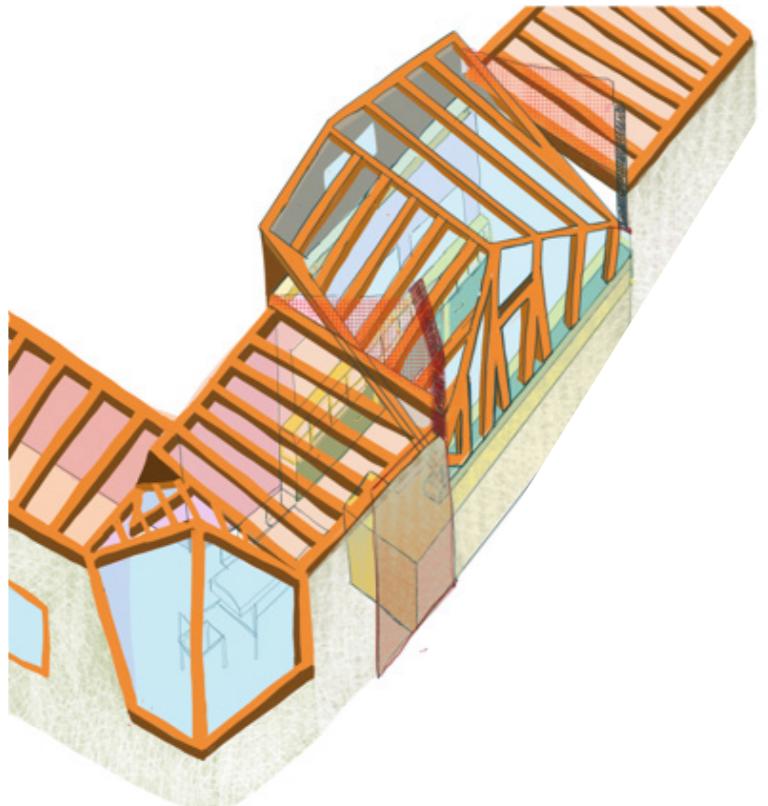
Currently I work as an Assistant Designer at Swift Lee Office, Pasadena since September 2019. At the studio, I am primarily working on educational projects like masterplan designs for numerous Pasadena Unified School District (PUSD) schools; architectural branding for charter schools, and also preparing construction documents for school renovation projects.

Eager to work on versatile building projects, KTGY is a great opportunity where I can work at good opportunity to work on a wide variety of projects making thoughtful spaces, pushing the boundaries of architecture across various scales. A multidisciplinary intersection has been of particular interest to me in my academic projects and my varied professional experience.

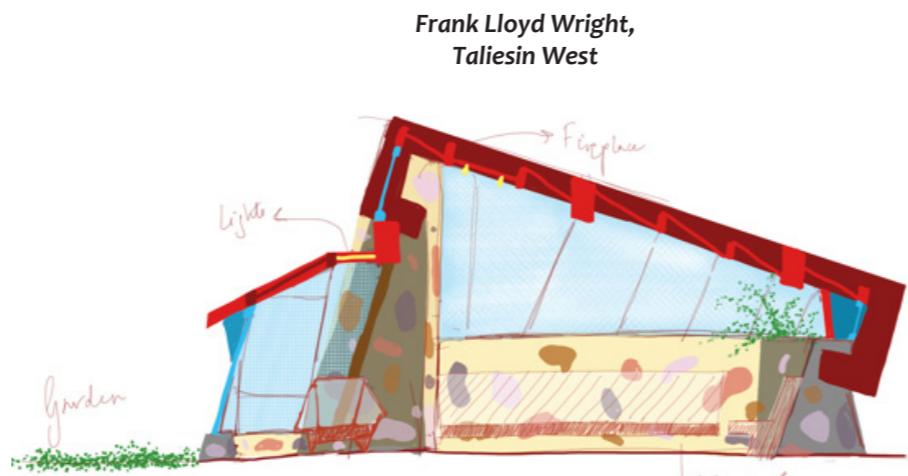
Academic experience: I have done a range of projects, exploring the relationship of architecture with energy, manufacturing material processes, environment and urban public spaces. These required a number of skills from geographical data mapping using QGIS, to parametric modeling in Grasshopper, 3D printed models, conceptual line drawings in Adobe Suite and V-Ray renderings to analyze a project.

Multi-cultural team player: During my undergrad and masters, I have had the unique experience to do various internships in London, Vietnam, Japan; understanding how context creates a unique shift in design sensibilities. I have also worked as a junior architect in Pune, India, for a year, being an integral part for design, development for a school project. Altogether I have had 2.5 years of experience in many countries with diverse teams for various projects and have been a part of all stages of architecture.

I look forward to aligning my creative spirit and in turn learning through KTGY's workflow from design through construction.



Gehry House,
Santa Monica



Frank Lloyd Wright,
Taliesin West



Tropical House in Bali,
Patisandika & Daniel Mitchell



Frank Lloyd Wright,
Taliesin West



Norman Jaffe,
Perlbinder House



Beit Beirut Museum
Existing ruins



Local Typology
Pune, India



Framework House,
Atelier Cole

KHUSHBOO GUPTA

CONTACT

- Los Angeles, California
- +1.310.489.9202
- mail.khushgupta@gmail.com

EDUCATION

- Royal College of Art
MA Architecture 2017
London, United Kingdom
- University of Edinburgh
MA (Hons) Architecture 2012
Edinburgh, Scotland

SOFTWARE TOOLS

- Rhinoceros 3D
- AutoCAD
- Grasshopper 3D
- V-Ray for Rhino
- Revit
- SketchUp
- Adobe Suite
- QGIS

PROJECTS

- Competition(Self) // Uplift : spaces, senses, communities** 2020
 - Designed a sustainable bamboo proposal as a meditation retreat for an independent entry in Bee breeders competition
 - Used Grasshopper Parametric modeling to explore design options and renderings using V-Ray.
- Professional Work// Remodeling Future : Educational Masterplan** 2020
 - Developed conceptual masterplans using Illustrator for various public school masterplans working for PUSD
 - Designs were developed after critical site analysis, teacher parent Interviews and Budget Availability
 - Responsible for all design development work and client meeting with PUSD board
- Professional Work // In-Between Spaces : Veteran Housing** 2019
 - Extending the design of an Accessible Design Unit (ADU) to a modular community space for veterans
 - Worked with Developer clients incorporating local design codes and creating sustainable community spaces.
 - Worked and responsible for all design development for client submissions.
- Professional Competition // Jam Session: Socrates Sculpture Park Kiosk** 2019
 - Freelanced as a designer for a portable kiosk for Socrates Sculpture Park in New York.
 - Produced detailed sections and plans using AutoCAD and presentation drawings using Adobe Suite tools.
- Competition(Self) // Mimicking Nature: A Look-Through Point** 2018
 - Designed a look-through point over Mount Nemrut in Turkey, that was selected as a shortlisted entry.
 - Produced parametric design models using Grasshopper and final renderings using V-Ray.
- Graduate Project // Electric Rush: A Monastic Hydropower Plant** 2017
 - Researched and mapped mountainous environments of the Himalayas in QGIS to understand the socio-techno-political dynamics of the region. Then created an interventionist design of a micro-hydropower plant and produced large-scale drawings for a Buddhist monastery as a solution to reclaim its administrative power.
- Graduate Project // De-Industrial Revolution: Bulmer Brick Education Center** 2014
 - Designed a brick research and development facility in Bulmer, England as a part of the De-Industrial Revolution Studio. Researched manufacturing of materials through site investigations.
 - Produced 3D printed brick arch models using Rhino and CNC machine-tooled site models. Also created 1:1 scale plaster brick model, as well as technical drawings for the project.

PROFESSIONAL EXPERIENCE

- Assistant Designer** Swift Lee Office // Pasadena, CA Sep 2019 - Current
 - Leading masterplan design discussions for Pasadena Unified School District (PUSD), field inspections for school, and preparing presentations for parents and faculty.
 - Preparing construction documents for school renovation projects.
- Freelance Designer** Valerie Switzer Architects // New York, USA Sep 2018-Feb 2019
 - Participated in design competition for a interventionist design in a park for a few months, working on design iterations and final drawings for the submission.
- Intern** Vo Trong Nghia Architects // Ho Chi Minh, Vietnam Mar 2016 - Aug 2016
 - Participated in design development, prepared conceptual physical models, and completed final drawings for competition submission panels for the Suncheon Museum, South Korea.
 - Finalized master plan proposals for a luxury beach hotel and concept renders for the hotel atrium.
- Intern and Communications Manager** Junya Ishigami + Associates // Tokyo, Japan Aug 2015 - Feb 2016
 - Built physical models in the design development stage for a restaurant-house design.
 - As lead manager for an international collaboration of a park competition in Mumbai, prepared contextual research and conceptual designs and facilitated communications between multiple teams.
- Intern** dRMM Architects // London, United Kingdom Feb 2015 - Jun 2015
 - Edited, designed, and compiled project portfolios for sales and marketing publications.
 - Assisted in construction stage drawings for various projects using VectorWorks.
- Junior Architect** Khushru Irani Design Studio // Pune, India Jun 2012 - Jul 2013
 - Secured the flagship project for a boarding school extension and led the design and development phase. Also contributed to the early construction phase drawings.
 - Successfully concluded site study, design and execution of a landscape design project for a multi-family residence.



CONTENTS

	ELECTRIC RUSH	01	<i>Monastic Architecture + Hydropower</i>
	DE-INDUSTRIAL REVOLUTION	07	<i>Brick Training & Educational Center</i>
	UPLIFT	15	<i>Rural Development using Bamboo</i>
	IN-BETWEEN SPACES	19	<i>Veteran Housing Community</i>
	REMODELING FUTURE	20	<i>Public School Masterplans</i>
	JAM SESSION	22	<i>Playful Park Intervention</i>
	MIMICKING NATURE	24	<i>Abstract Parametric Viewing Deck</i>



ELECTRIC RUSH

A Monastic Hydropower Plant

2017 / Academic Research project

Tawang, India

Mentors:

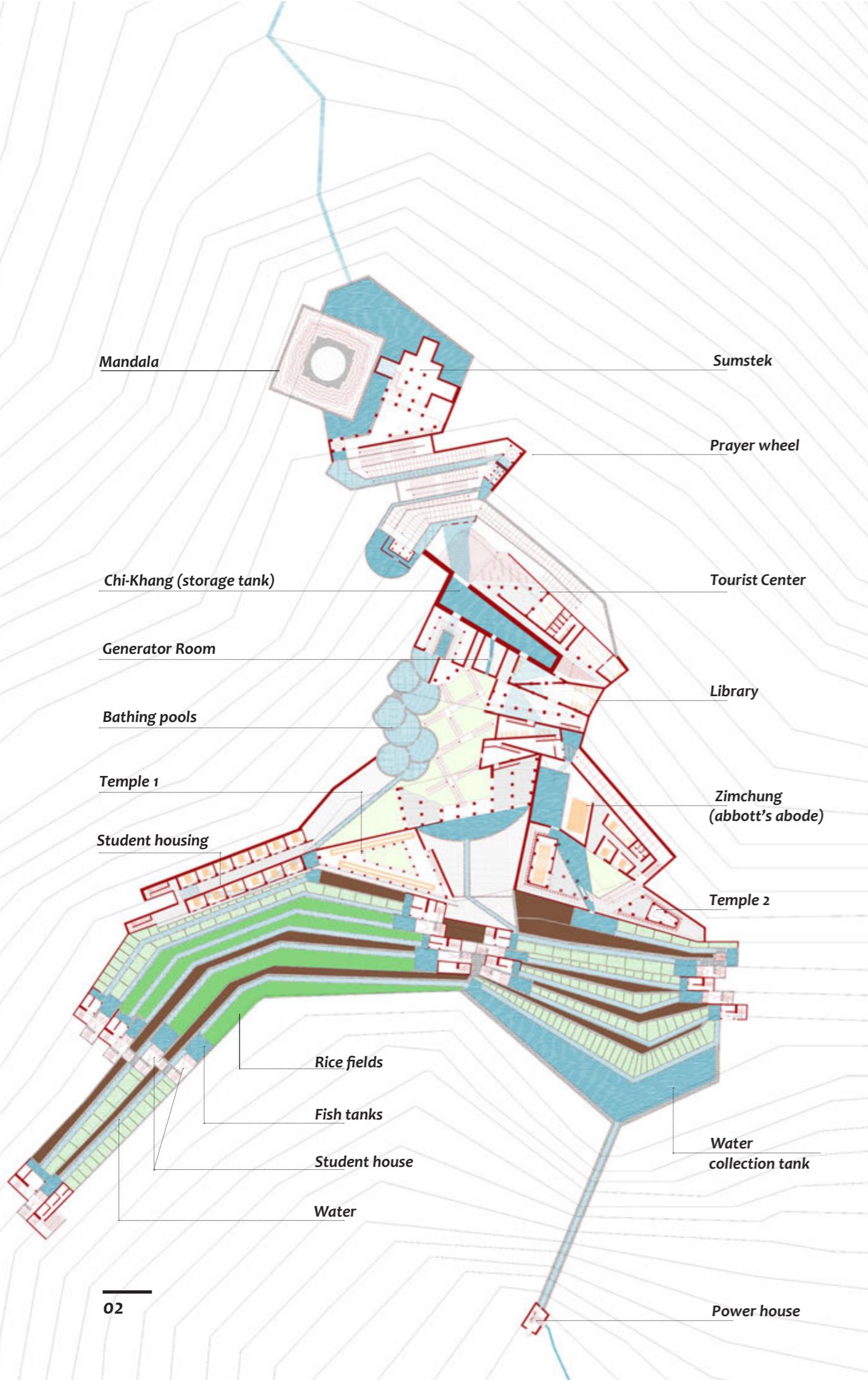
Daniel Pascual Fernandes

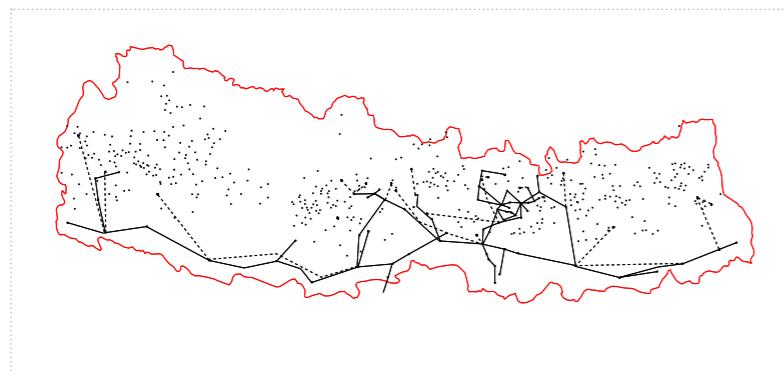
Alon Schwabe

Electric Rush is a parallel narrative about the downward journey of water to produce electricity and the upward spiritual journey of a pilgrim through a monastery. The proposal is a sensitive integration of monastic typology and hydropower technology. It reimagines a monastery that will attract endangered birds while producing hydroelectric power. It repurposes monasteries into specific guardians of mountaineous landscapes, thus empowering them against the building of large dams that threaten sacred rivers.

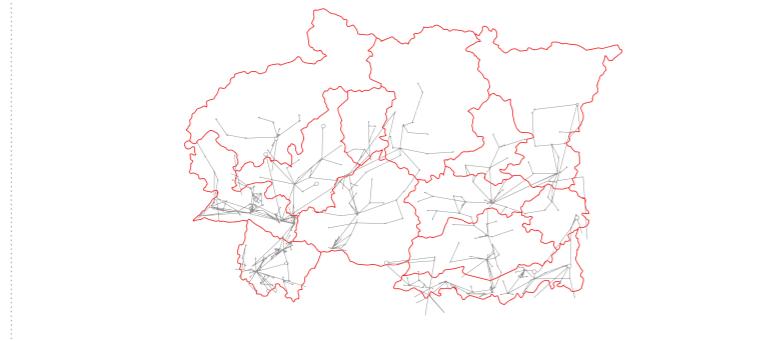
The Himalayan nations have seen a push to build numerous dams across the mountain range and as an alternative a network of monastic hydropower plants has been designed.







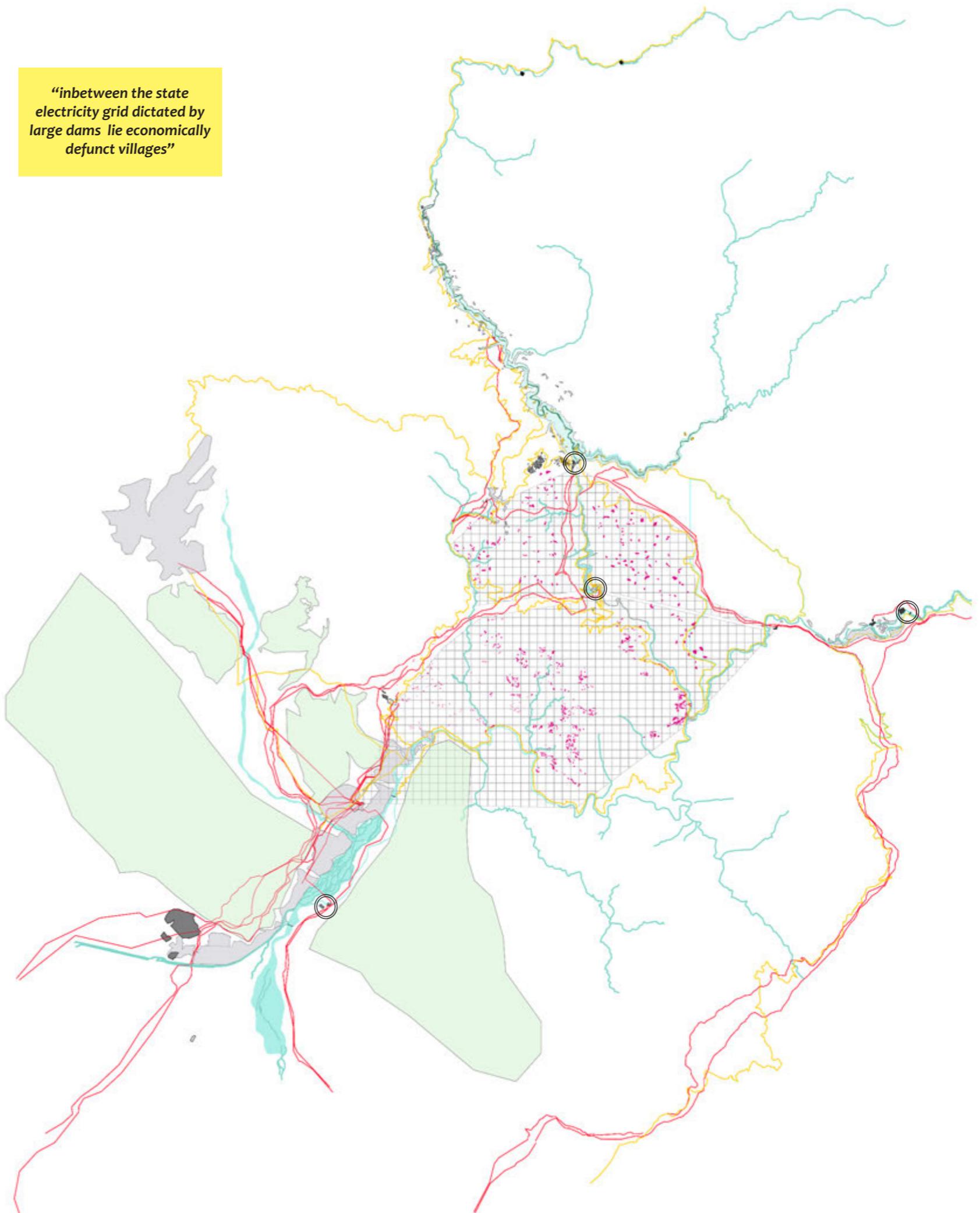
"inbetween the state electricity grid dictated by large dams lie economically defunct villages"

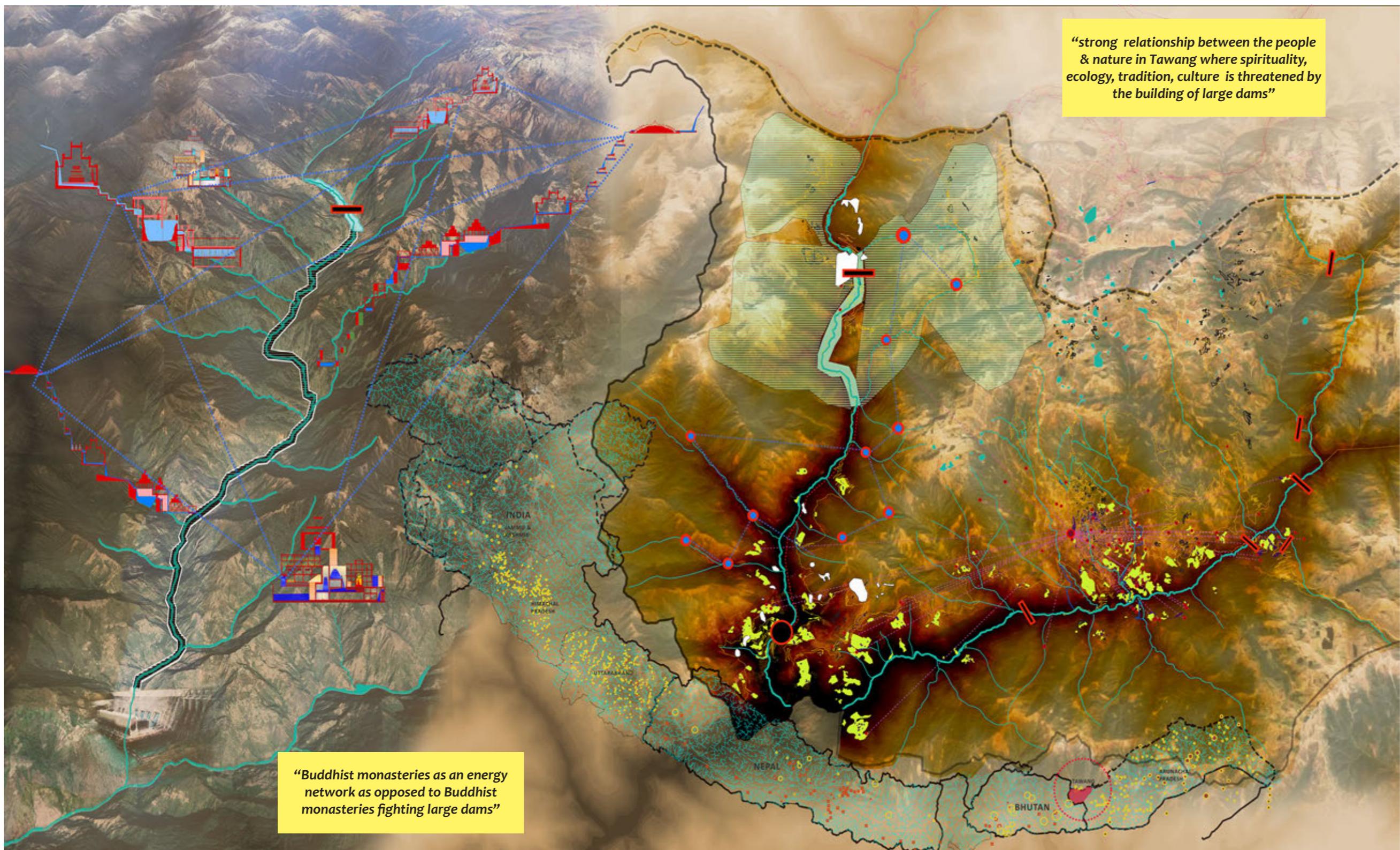


Research

Comparing the scale of dam building activities in Nepal and Uttarakhand (India): a micro hydropower plant built by and for the people in Nepal versus, a large dam funded and built by the government in India. A Micro Hydropower Plant is supportive of the local needs and resources whereas large dams alienate and ignore the local context.

Right: Mapping three large to medium dams in Uttarakhand, inbetween the state electricity grid dictated by dams lie economically defunct villages.





Mapping via QGIS

Zooming into Tawang, lying to the north east of the Himalayas at the border on China and India, is a contested region in the state of Arunachal Pradesh where the Indian government is planning construction of seven major dams (— on the map). Tawang like most Himalayan regions has been historically ruled by Buddhist monasteries (● dots on the map of Tawang). By building dams, water becomes a medium through which the government is moving in to take control of the land and its governance from the monasteries as well as tightening India's claim over Tawang.

Site Context

The site located in Tawang, in Zemithang valley where Nyamjang Chu dam is planned, is an important tourist center to watch endangered black necked cranes that migrate to the valley every winter. Black necked cranes have special significance in the Buddhist culture and are revered in the Buddhist Himalayan regions. Nyamjang Chu barrage is being placed right on the site of the black necked cranes, which would result in the flooding of the region, destroying their natural habitat. Destruction of its habitat would affect the community developed tourism industry that depends on the cranes. The strong relationship between the people and nature within Tawang where spirituality, ecology, tradition culture mix that is threatened by the building of large hydropower dams.



A Monastic hydropower plant channels water as its central force that functionally powers the monastery as well as becomes an aesthetic force.

The water collects between the Mandala and the Sumstek, falling into a covered courtyard that powers a large prayer wheel. The water continues down through small niched spaces at the end of each stepped course to collect in the Chi-khang (water storage tank).

The water then subdivides into three smaller streams which passes through rice fields, finally collecting in a second large tank. Taking advantage of the steep descent down to the valley, the energy is harnessed again at the base of the monastery.

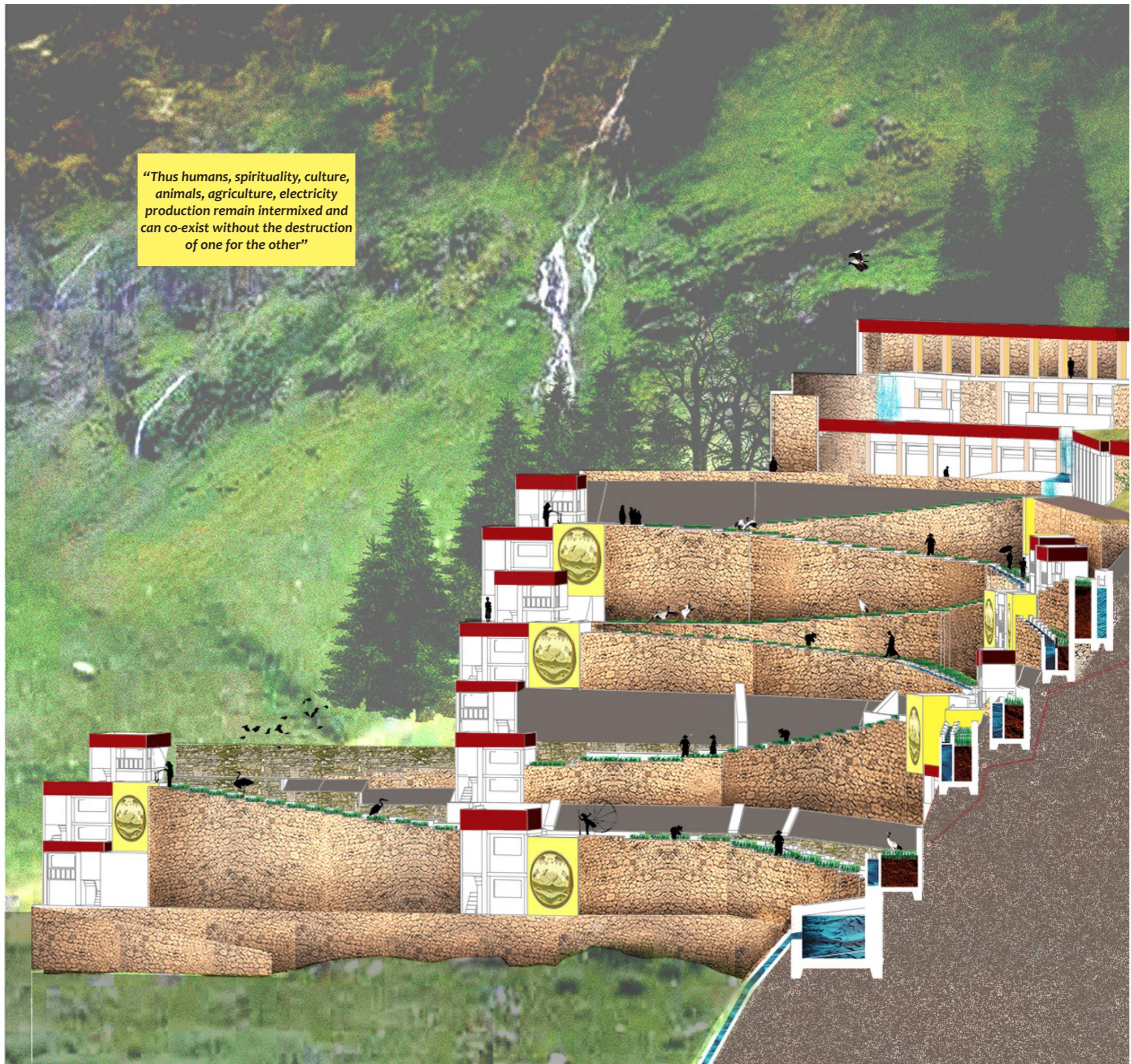


Hydroelectric power production takes advantage of the vertical fall of water but for a thriving ecology, the benefits of horizontal spread of water cannot be ignored.

Rice fields provide a conducive environment for attracting the black necked cranes and other species that feed on rice and fish. The rice fields also provide longer gradual stepping to the monastery complex. The alternative quicker vertical accent is through the student houses with attached staircase blocks, one reaches the temple complex. From there, the pilgrim continues along the temple complex which is a gradual upward journey through a series of courtyards and terraced spaces with waterfalls leading to the generator room and finally above to the tourist center, overlooking the Chi- Khang (water storage tank). Reaching on the top to the Sumstek (temple) and then to the elaborate Mandala with 108 buddhas traversing through the steep accent of the mountain, the pilgrim is at peace.

Birds that feed on rice farms and fishes, to humans that share the habitat while studying, meditating and producing hydroelectricity at the base, allowing all to co-exist peacefully. Thus humans, spirituality, culture, animals, agriculture, electricity production remain intermixed and can co-exist without the destruction of one for the other.

"Thus humans, spirituality, culture, animals, agriculture, electricity production remain intermixed and can co-exist without the destruction of one for the other"



DE-INDUSTRIAL REVOLUTION

Bulmer Brick Training & Educational Center

2013 / Academic project

Bulmer, England

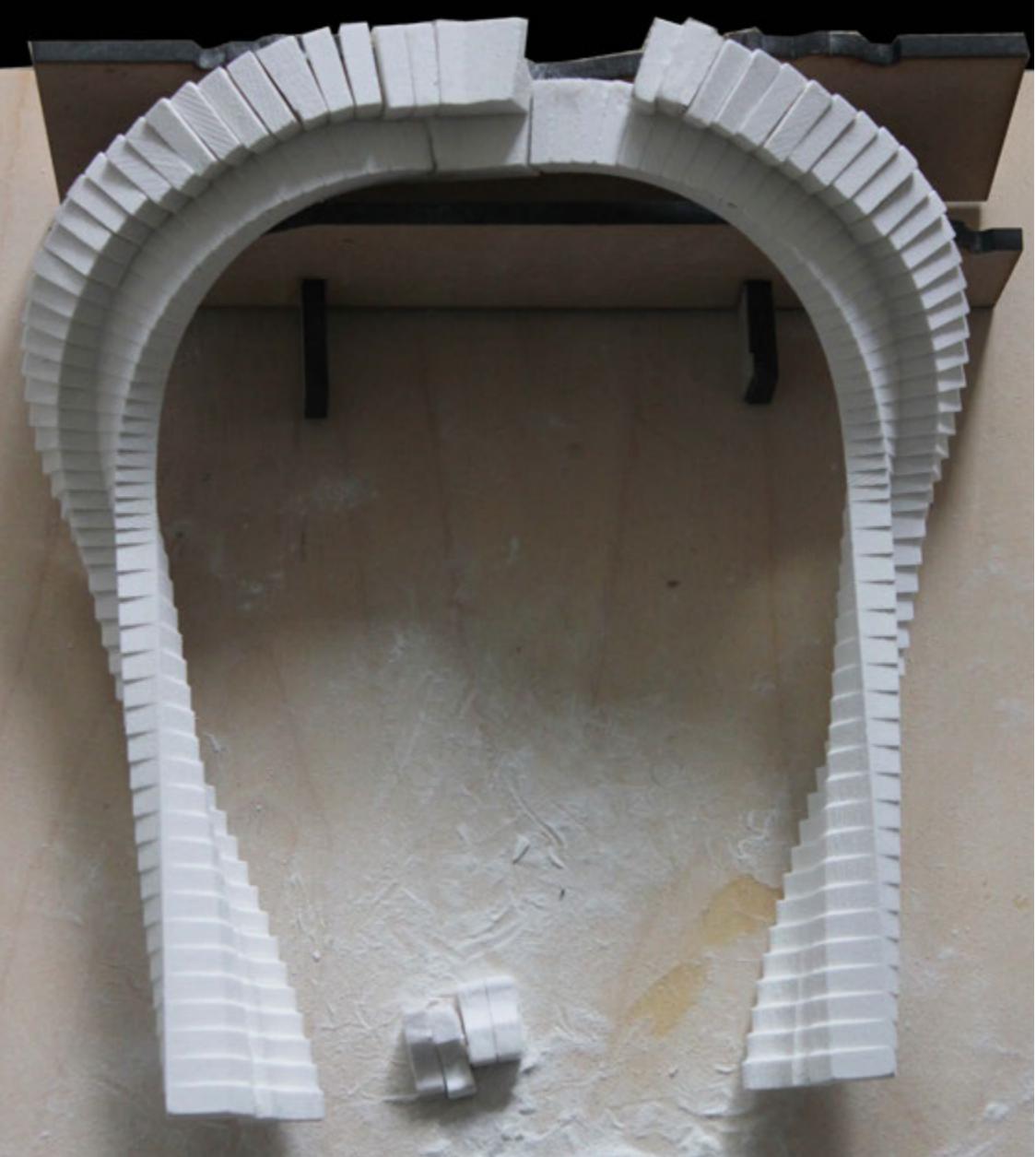
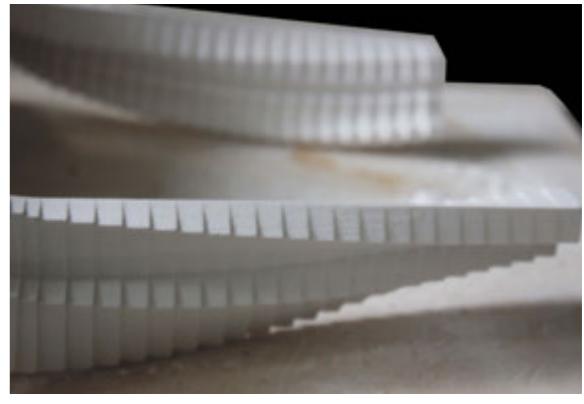
Mentor:

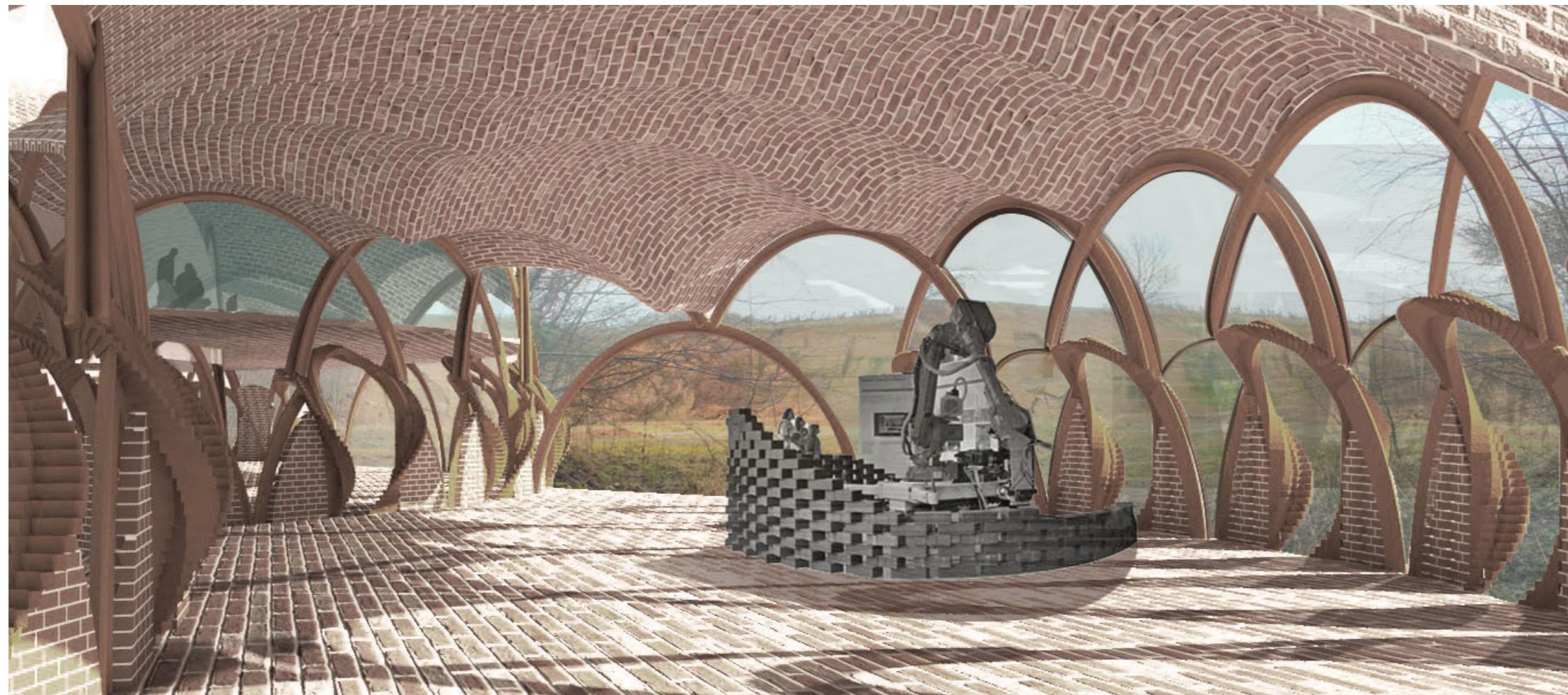
Satoshi Isono

De-Industrial Revolution: Bulmer Brick Training & Educational Center imagines a future where technological advances in machinery is used to revive the dying art of hand-cut 'gauged' brickwork. This opens up newer possibilities within brick building design.

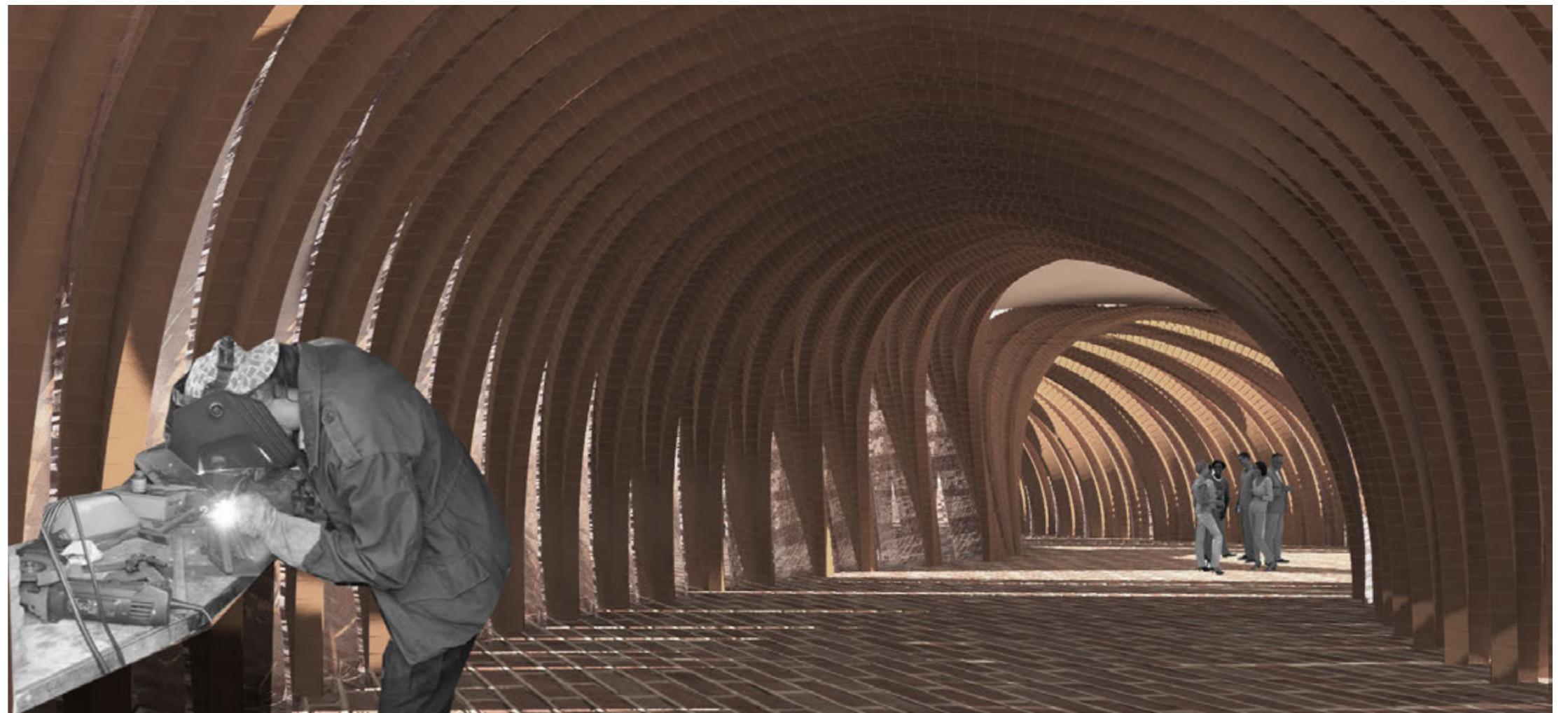
A robotic arm replaces traditional hand-cut gauged brickwork, that enables bricks to be used ornamentally as well as structurally through which a holistic brick training facility and educational center is presented..

"technological advances in machinery eg. the robotic arm is used to rethink the dying art of handcut 'gauged' bricks"





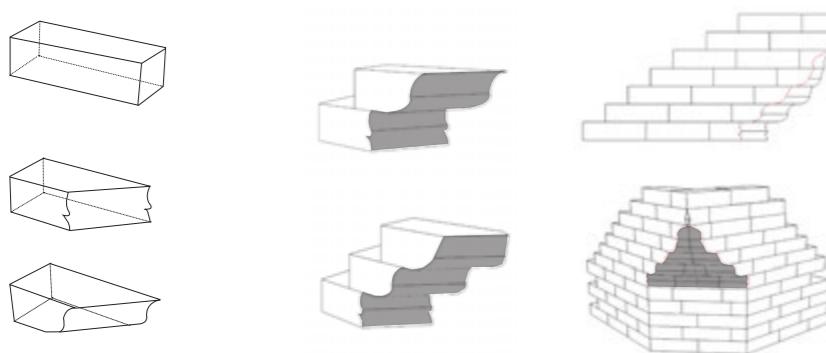
Bulmer Brick Training & Educational Center uses gauged brickwork to create open arched structures and closed arched brick studios. The institute becomes a model for exhibiting and popularising gauged brickwork. It also challenges the contemporary use of brick as a facade only material due to a deficit in material innovation.



"challenges the contemporary use of brick as a facade only material due to a deficit in material innovation"

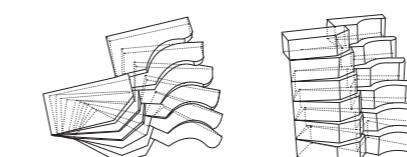
Research

Denser, softer bricks made up of fine clay are called gauged bricks. Gauged brickwork is a post production process that treats the bricks like stone. Shrinking and deformity in bricks during drying and firing processes makes post production cutting and rubbing a more viable option. The softness of bricks enables them to be cut in elaborate shapes to form architectural motifs like ornamental corners, niches or globes. Gauged brickwork is now threatened by the increasing simplification in the manufacturing of the brick industry, as high labour costs have resulted in declining brick art. Reviving gauged brick art using robotics thus became the premise for the project.

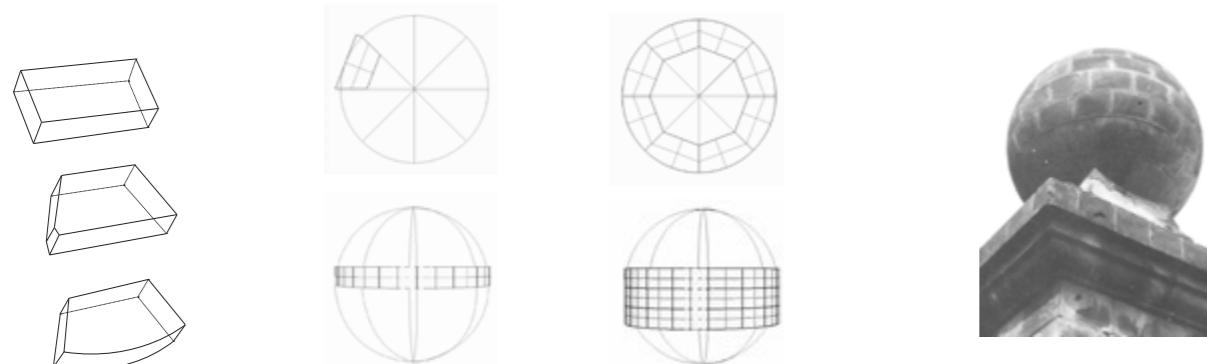
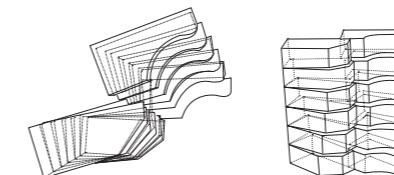
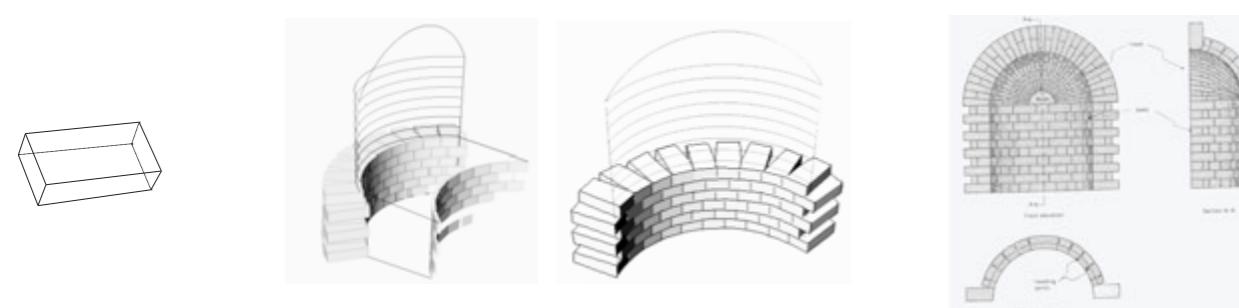


De-Industrial Revolution begins thinking about design from a material point of view and then moves onto placing them within the site's context. The robotic arm constructs gauged arches by rotating every consecutive brick a couple of degrees on its central axis, giving rise to complex 3-dimensional twisted arches. Thus using robotic arms for cutting and placing gauged bricks, a series of expressive arches are investigated.

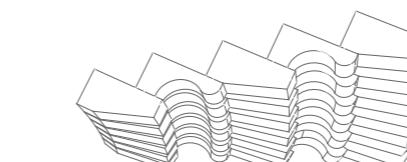
eight degree arch
two brick arch



four degree arch
two brick arch



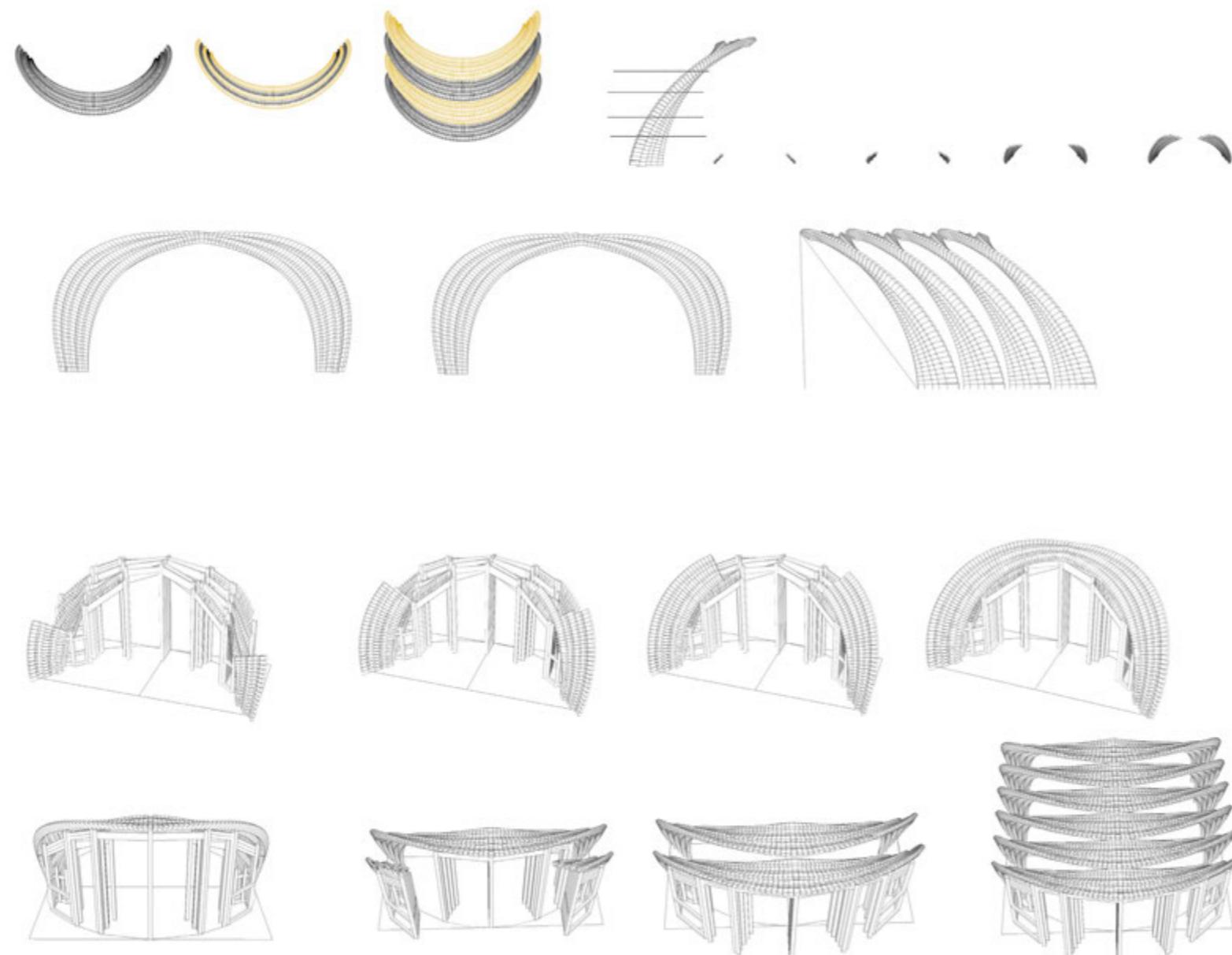
two degree arch
four brick arch

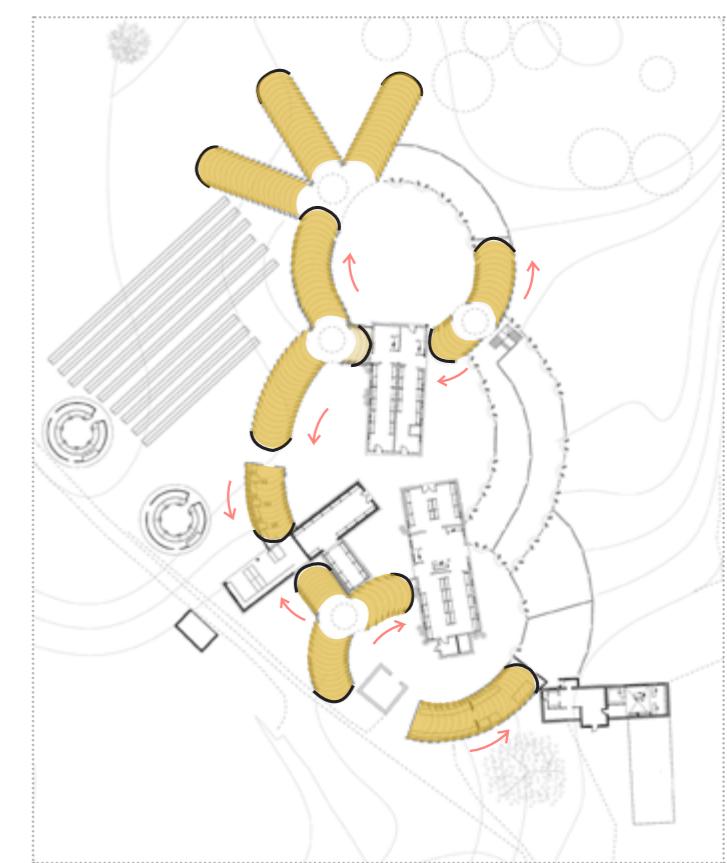
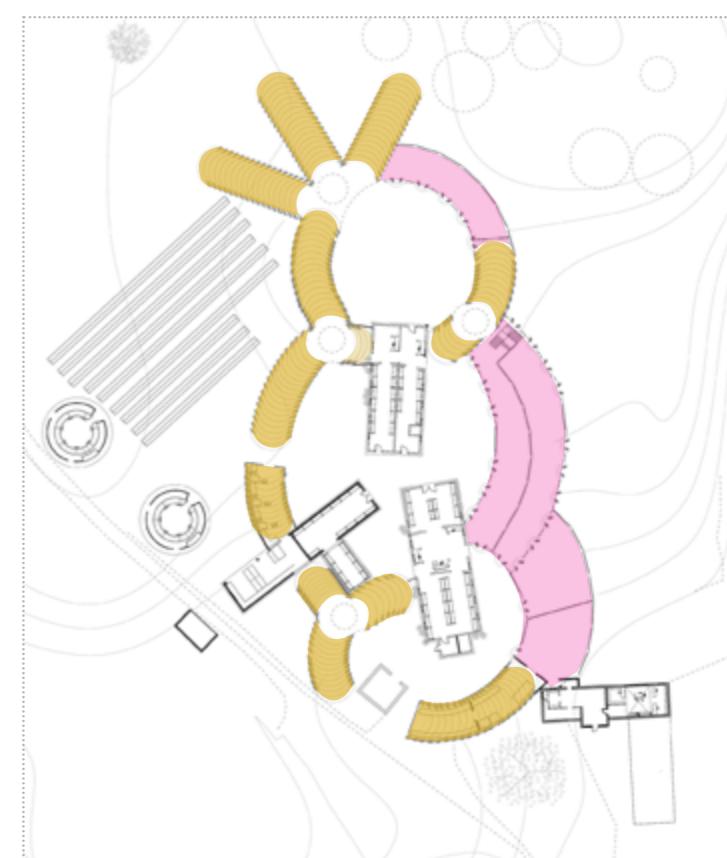
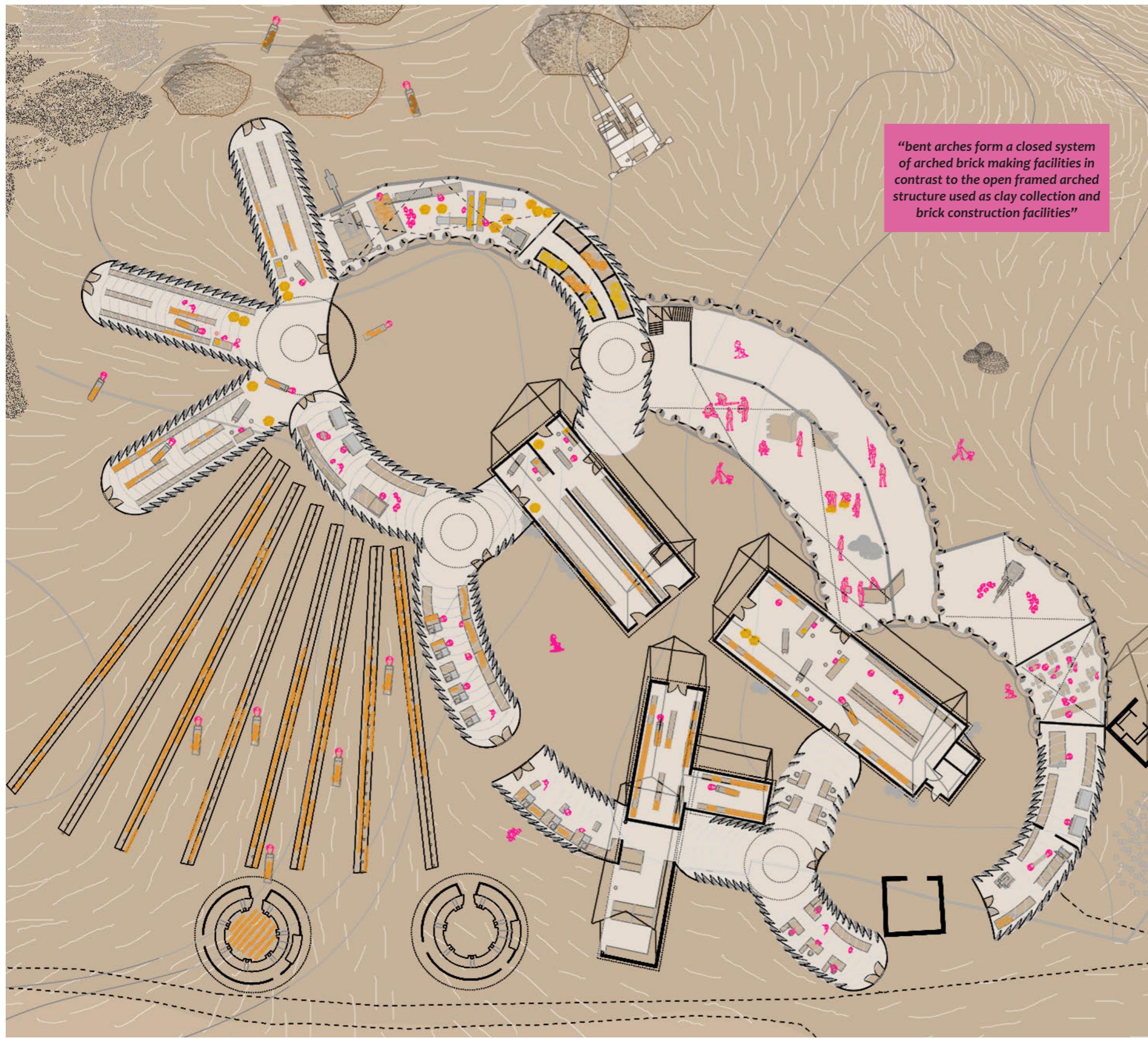


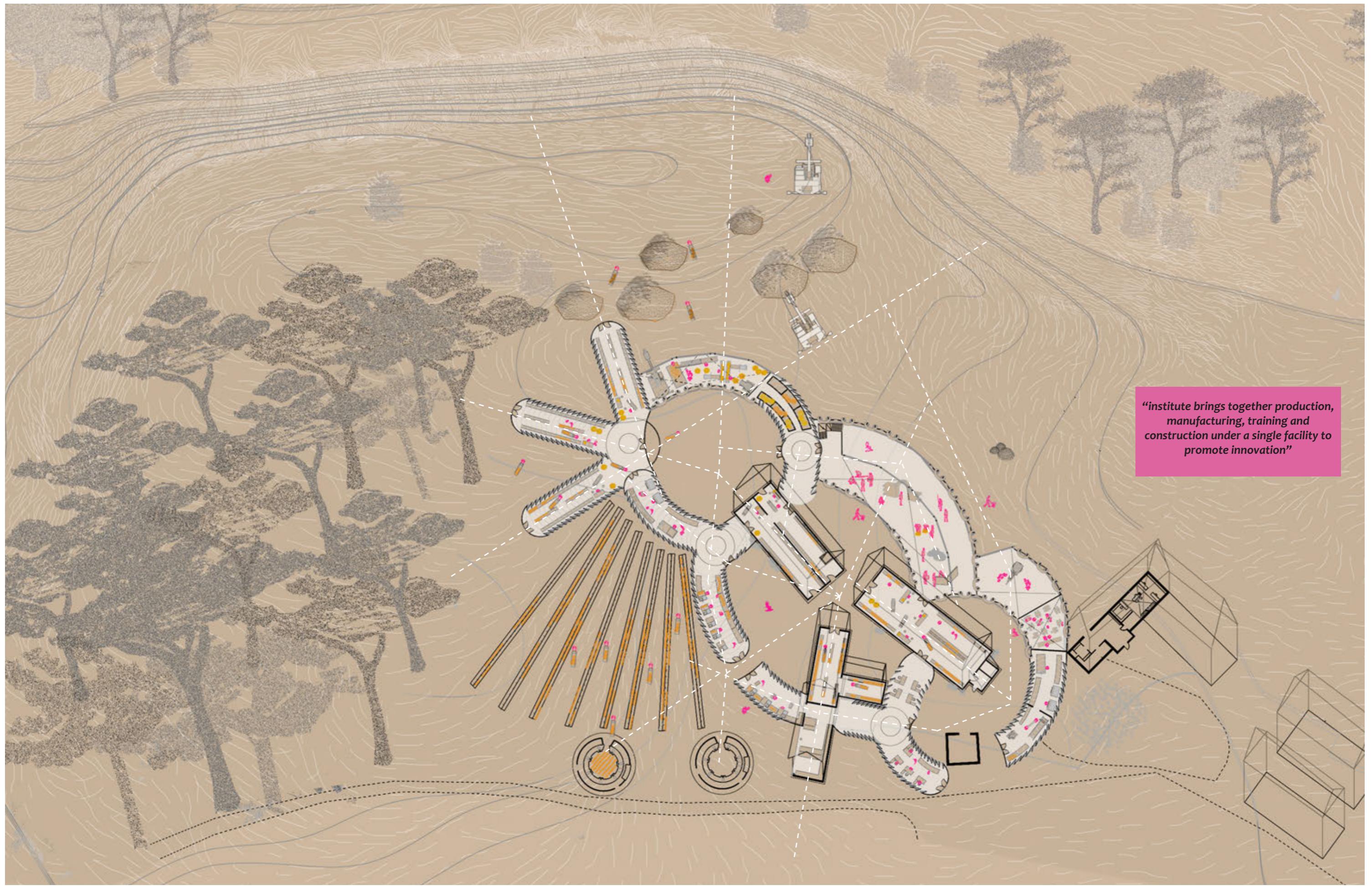
Site Context

Located in a small village of Bulmer, east of London, lies a 150 year old brick making company where clay excavation and brick making take place. Being one of the last makers of gauged bricks around England and to protect the dying art of gauged brickwork manufacturing the project imagines a new educational institute that popularises them. This institute brings together production, manufacturing, training, and construction under a single facility as opposed to bifurcated facilities spread over different sites to promote a cross-pollination of ideas and innovation.

The existing site facilities that are listed under heritage buildings have been used as support for the twisted four brick arches. These arches bend forward and are supported by each other where they end, resting against the existing listed buildings. These bent arches form a closed system of arched brick making facilities. These are in contrast to the open framed arched structure used as clay collection and brick construction facilities.

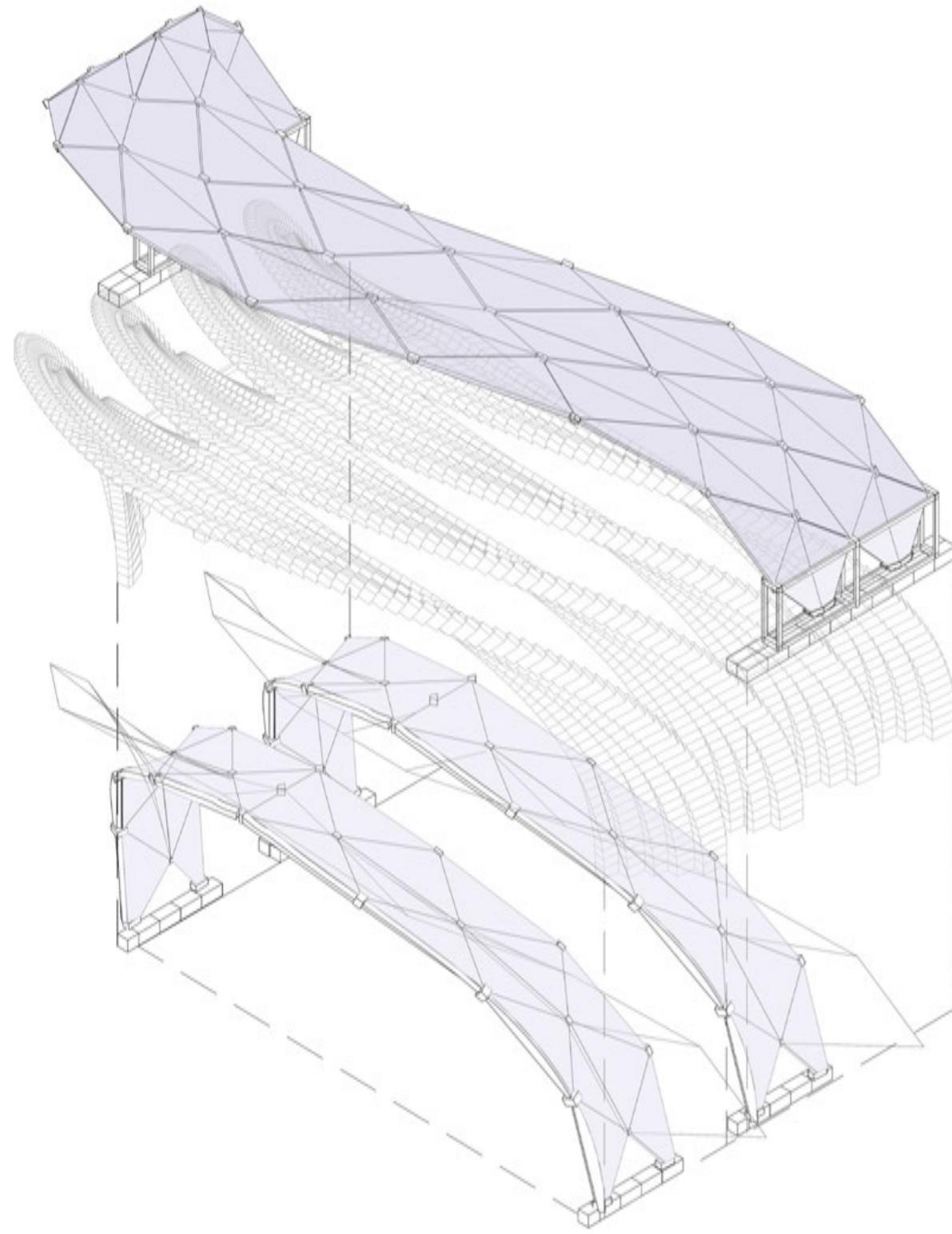






Technical Resolution

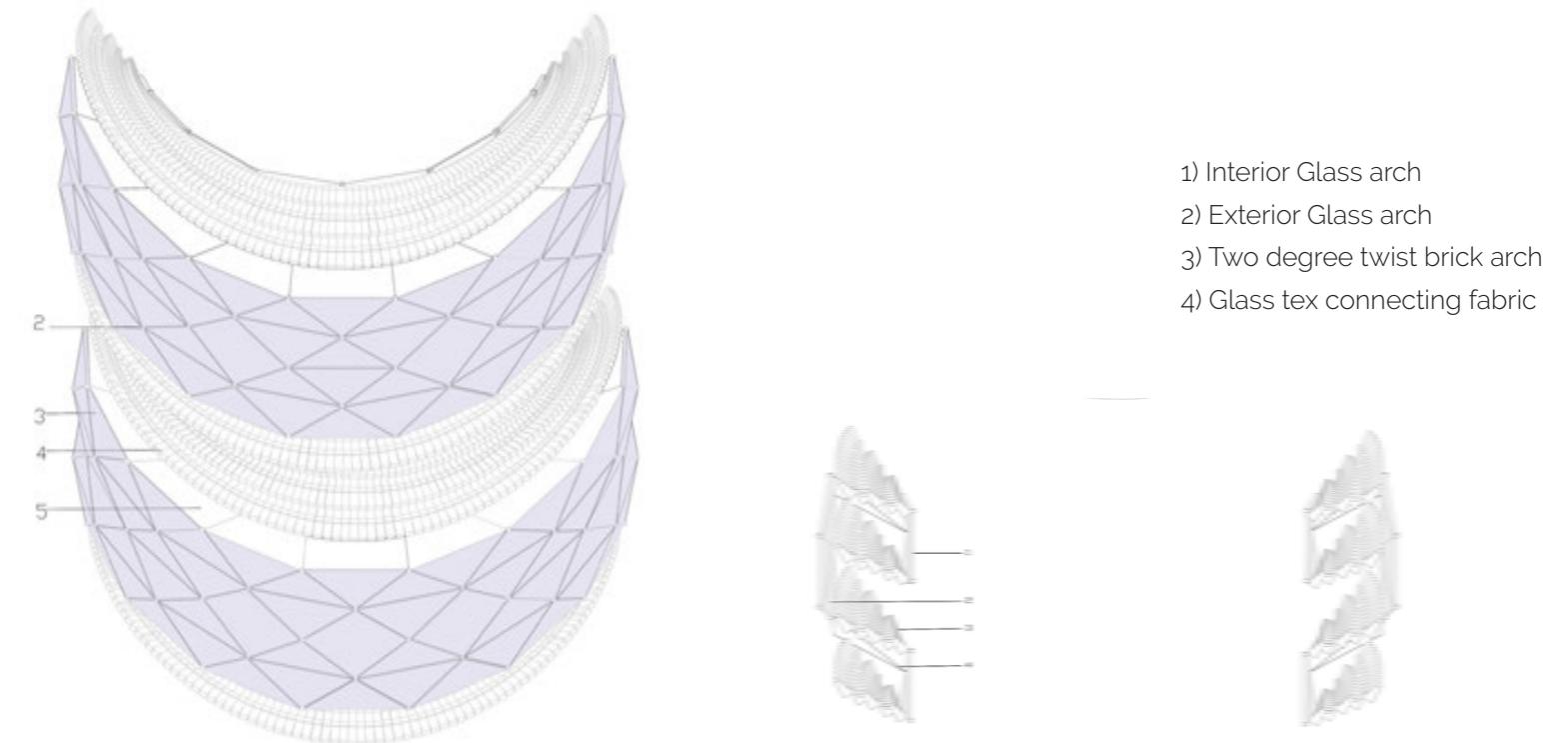
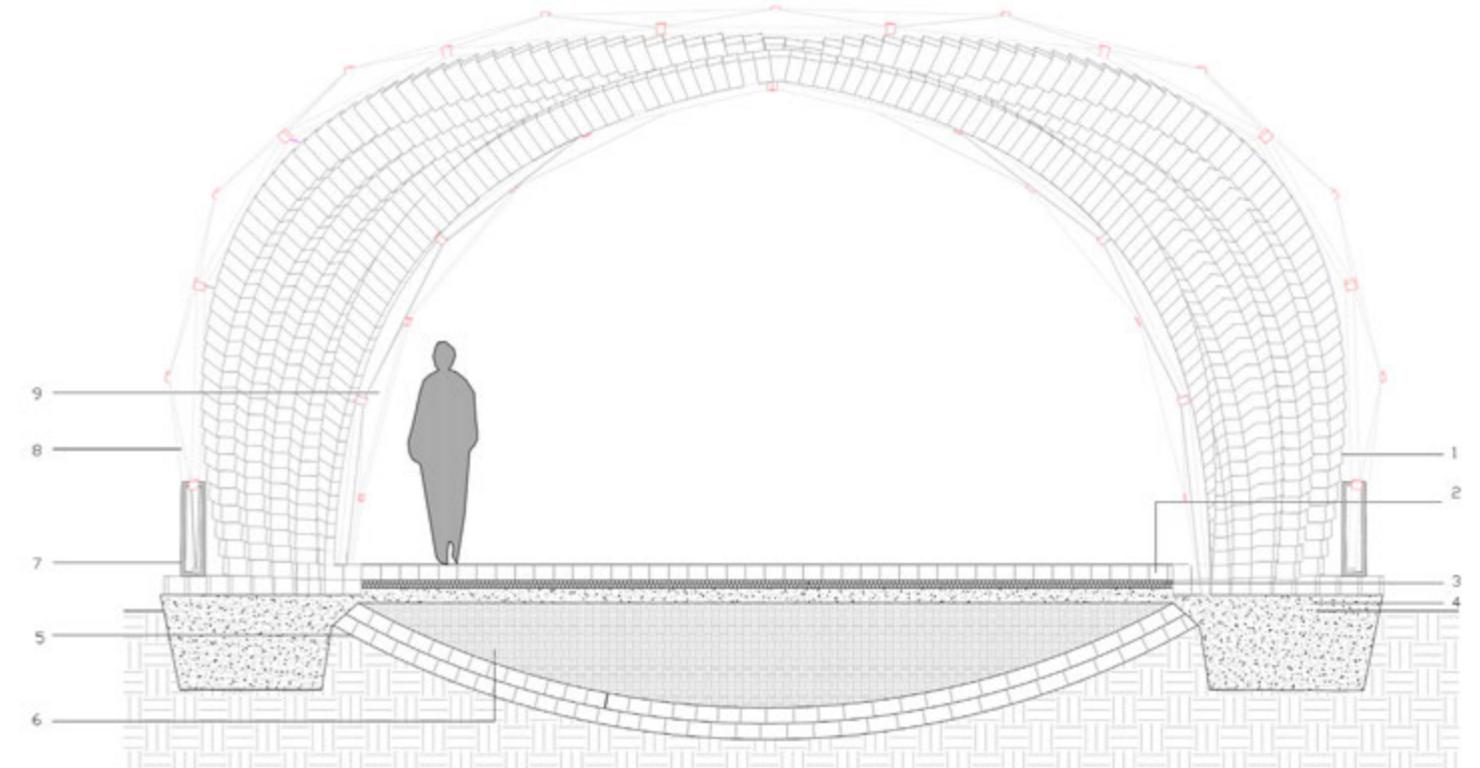
The closed brick arched facilities are detailed by thinking about a glass structure independent of the bricks. This glass arched structure is designed to provide an extra skin and to seal the edges along the arches. Following the geometry of the brick arches, folded plate glass arches are designed that fit on the interior of the arches alternating with ones fitted in the exterior of the arch.



13

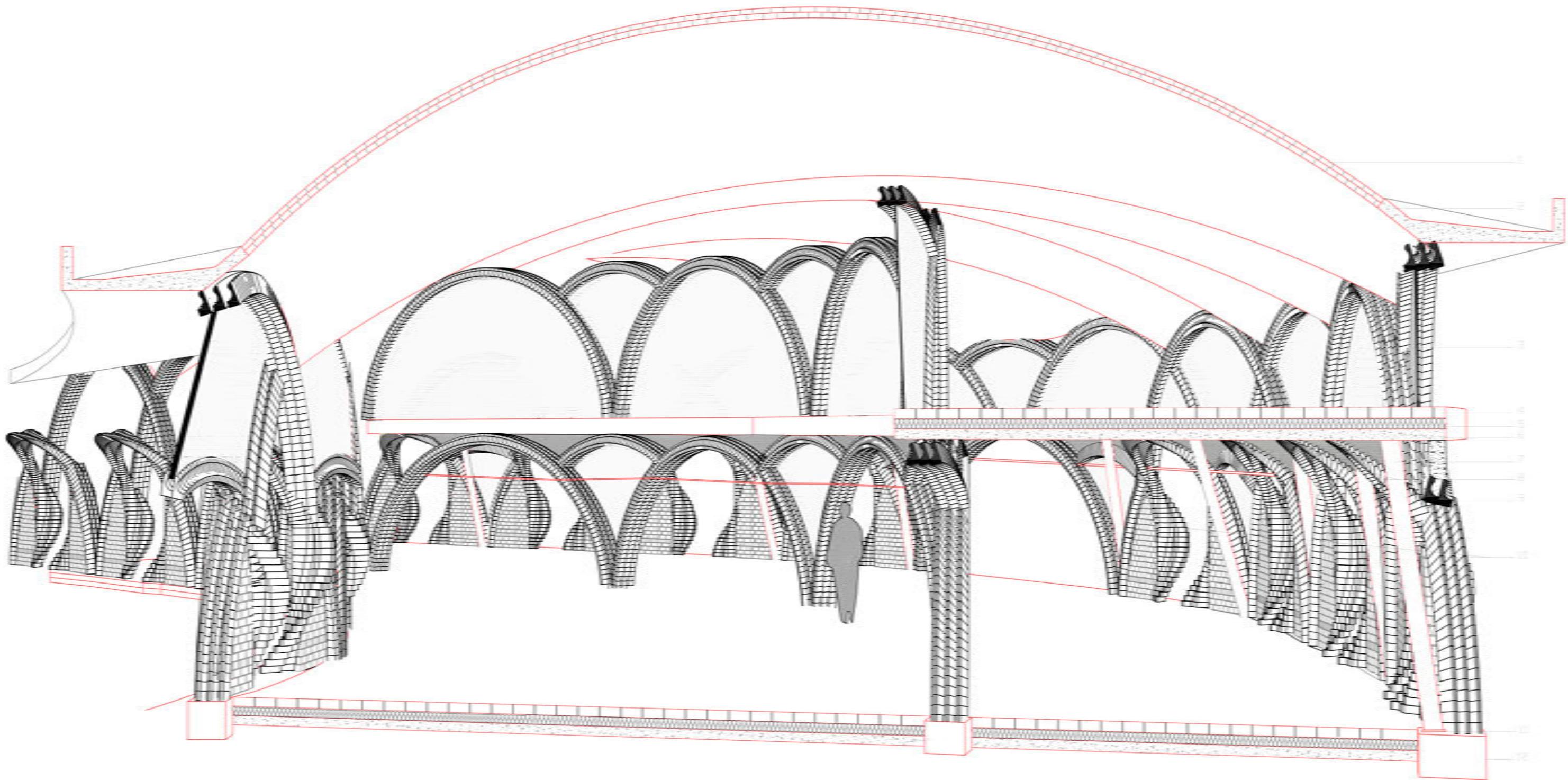
- 1) Two degree twist brick arch
- 2) 100mm brick floor
- 3) 50mm Insulation
- 4) 100mm concrete floor

- 6) Earth rubber filling
- 7) Exterior glass arch support
- 8) Exterior glass arch
- 9) Interior glass arch



- 1) Interior Glass arch
- 2) Exterior Glass arch
- 3) Two degree twist brick arch
- 4) Glass tex connecting fabric





- 1) Double skinned brick tile vault
- 2) Reinforced concrete edge connection
- 3) 12mm Glazing
- 4) 100mm Brick floor
- 5) 50mm Insulation

- 7) 100mm Steel column
- 8) 4 degree twist 2 brick arch
- 9) 2 brick bridging arches
- 10) 3 brick support arches
- 11) Steel plate
- 12) Concrete foundations

Technical Resolution

Expressive, ornamental arches are used as a framework for creating an open brick construction facility. Using the 4 degree twist arch with its buttresses as module, the elevation is detailed with additional steel poles for strength.

UPLIFT

Spaces, Senses, Communities

"proposal foresees a future where food as well as houses can be grown within Vine Retreat itself creating a self sustained environment."



2020/ Competition

The Vine Retreat, Cambodia

Collaboration : Self



Grasshopper Design Iterations

The Vine Retreat is a stop for tourists from all over the world to escape to the countryside for a few days while practicing yoga and meditation engulfed by the beautiful views of mountains, with trips to the forest and daily offerings of fresh food from the homegrown gardens of Vine Retreat. These urban visitors come for a rejuvenating, quiet experience and a romantic retreat in search for rural simplicity.

Rural based architecture is important to 'uplift' communities as it provides employment and economic growth which is otherwise limited by migration of people from the countryside to the city.

Uplift provides opportunities to stop, pause, feel the sky and earth and its healing power for visitors at The Vine Retreat. What better way to create huts within rural environments than to create out of nature itself and so *Uplift* uses readily available, easy to grow bamboo to make elevated, comfortable huts. This proposal foresees a future where food as well as houses can be grown within Vine Retreat itself creating a self sustained environment.





Hyperboloid forms are strong form following structures, having excellent compressive & tensile properties. They are simple to create (eliminating the need to use curved sections) and allow

expressive designs using bamboo. The twisting hyperboloid columns of bamboo are able to carry heavy loads with minimal connections.

Using bamboo hyperboloids became a defining feature of the design for Uplift huts so as to minimize impact of structure on the ground. Two smaller hyperboloids carry the weight of the floor. The central main hyperboloid rises higher and holds the weight of the sloping roof beams. A central oval courtyard is formed that is symbolic with the idea to look inwards as part of yoga meditation. This acts as a divider for creating two distinct spaces for two people to share a single hut at the Vine Retreat.



1) Two smaller hyperboloids



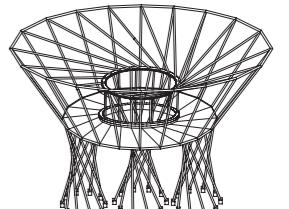
2) Floor supported on hyperboloids



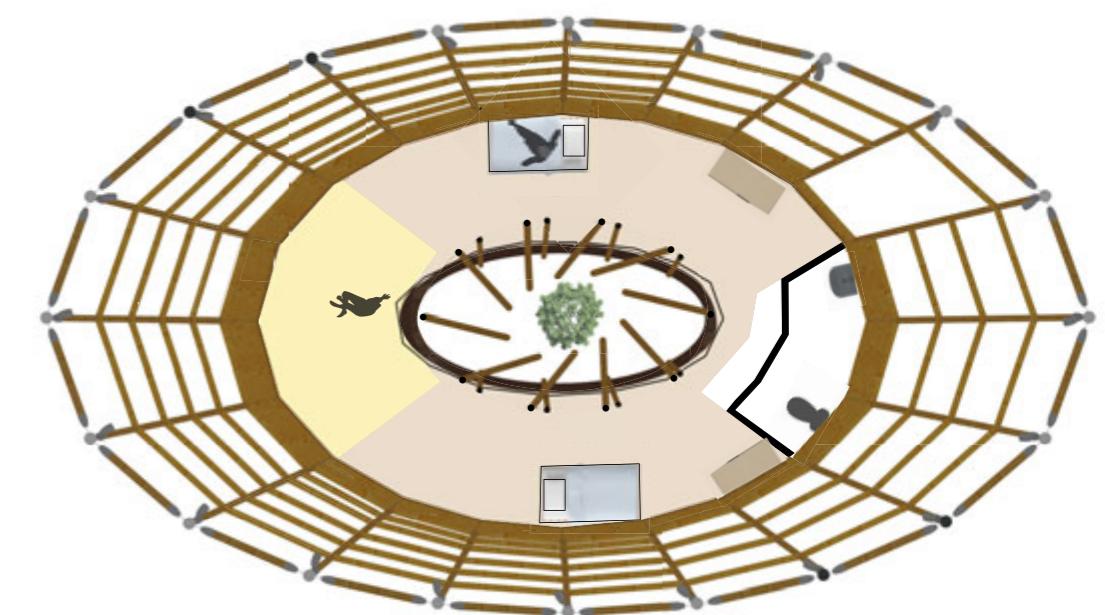
3) Central taller hyperboloid



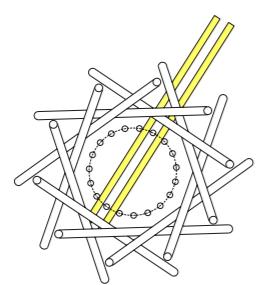
4) Formation of a light-well in the center



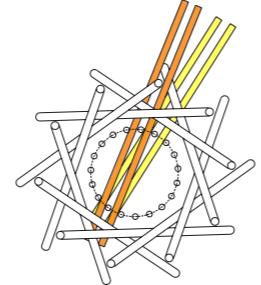
5) Roof supported on the central hyperboloid



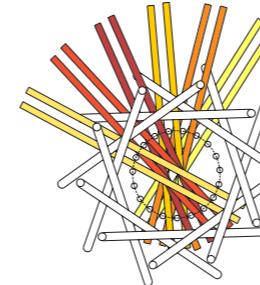
Diagrams showing
Cantilevered
Spiral Staircase
Mechanism



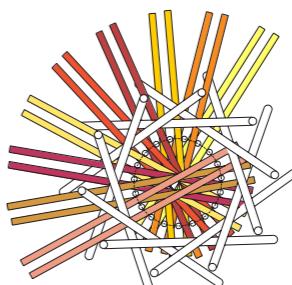
1) First stair bamboo poles are held together by circularly spaced bamboos, which support the diagonally extending stair poles across into the gap.



2) Second stair bamboo poles are rotated at an angle where they rest upon the first stair poles.



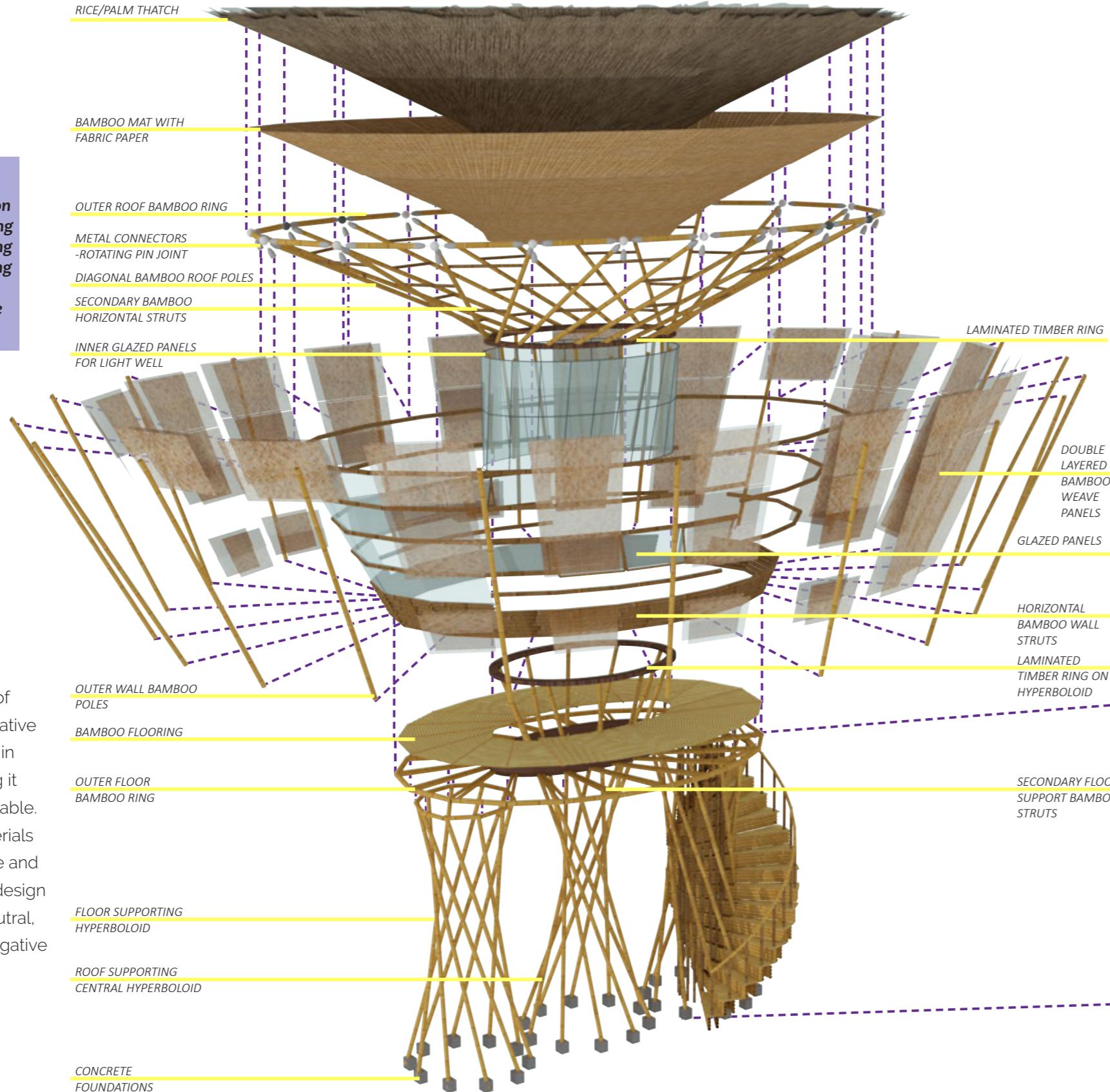
3) Two sets of bamboo poles for each stair tread continue to rest on one another as they rotate in the form of a spiral



4) The staircase bamboo poles are held together by the circularly arranged poles, located inside the hyperboloid poles supporting the floor

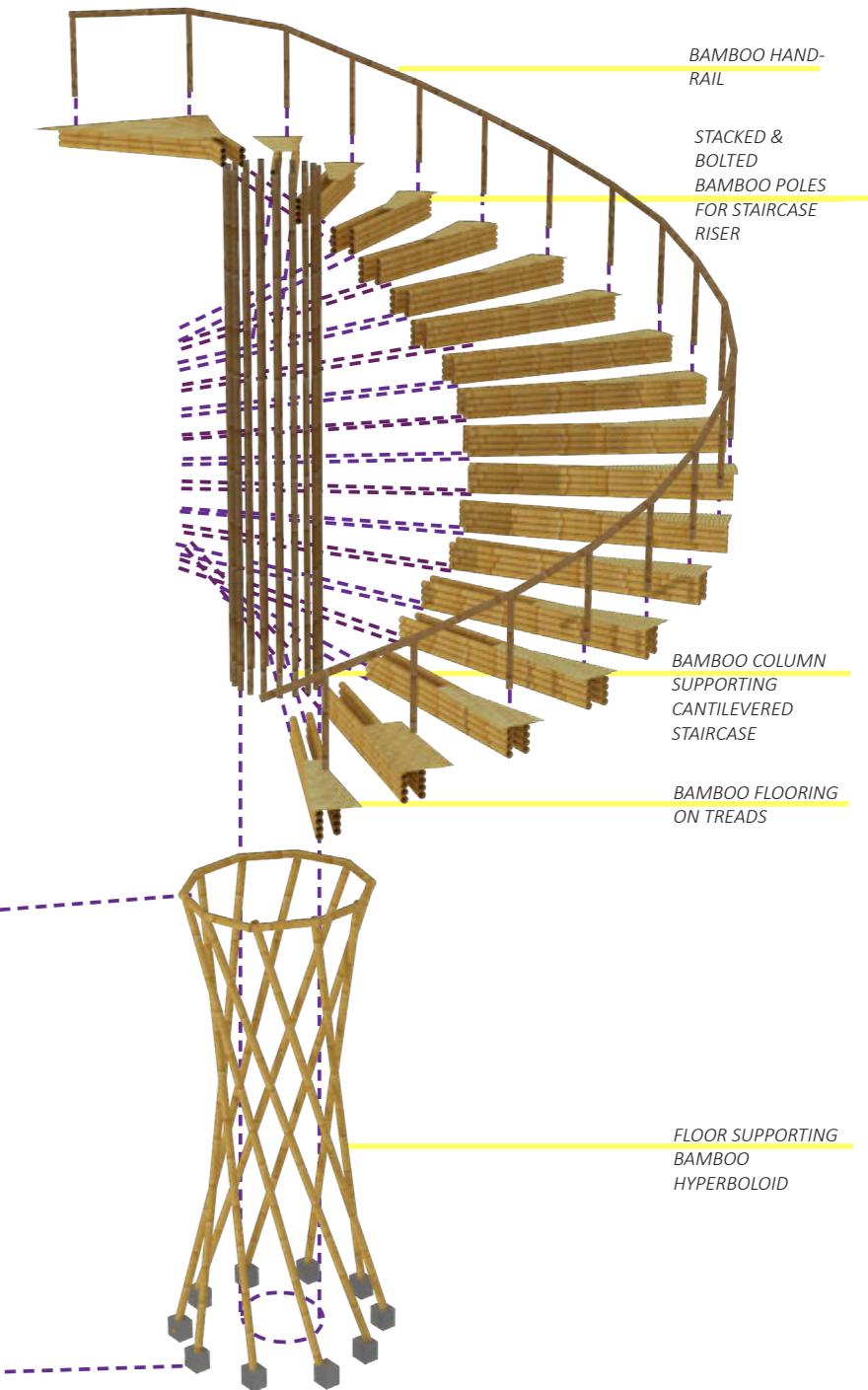
Exploded Axonometric
for Hut Module

"rather than using materials that are carbon positive and then working through design to making it carbon neutral, starting with carbon negative materials is a definitive advantage"



The Huts are built out of bamboo, a carbon negative material. It is abundant in South East Asia making it cheap and readily available. Rather than using materials that are carbon positive and then working through design to making it carbon neutral, starting with carbon negative materials is a definitive advantage.

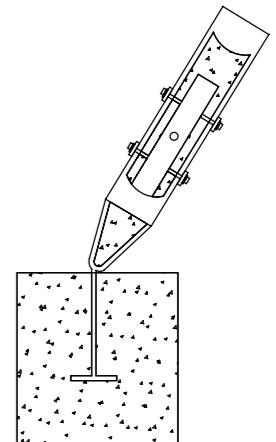
Exploded Axonometric for
Cantilevered Staircase



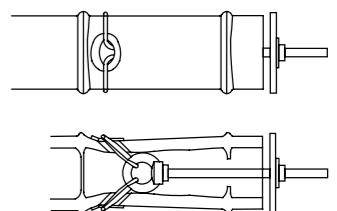
The *Uplift* huts are designed in a way to maximize space for foliage and so as not to disturb the soil conditions by placing the huts at ground level, instead they are placed above ground at a height of 6-9 meters to be able to view the surrounding landscape with its farms, mountains and forests. Nestled above, it becomes a symbol of escapism from the exterior world, an opportunity to look inside by reflecting the simplicity and openness of the surrounding nature.

"nestled above, it becomes a symbol of escapism from the exterior world, an opportunity to look inside by reflecting the simplicity and openness of the surrounding nature "

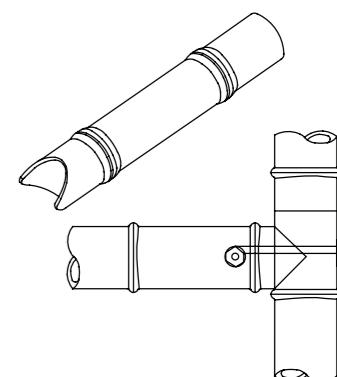
The Interiors for the *Uplift* huts provide a calm, earthy yet simple space for habitation that 'uplifts' senses through the surrounding views. It creates a balanced setting to reflect on the interior and exterior subconsciously through spaces.



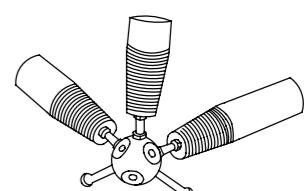
1) Isolated Concrete Foundations



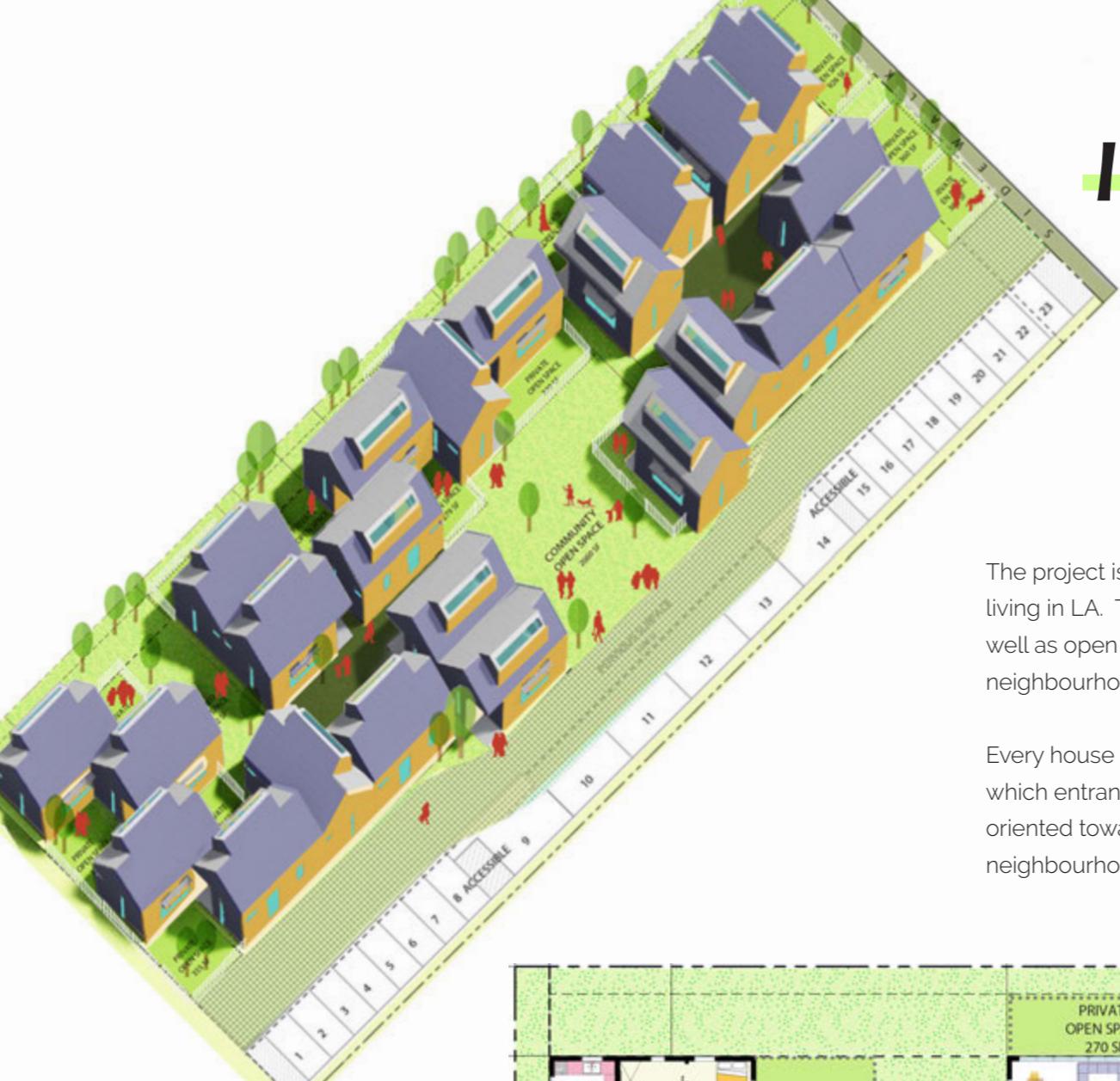
2) Pre-Tensioned Lashed



3) Fish Mouth Cut & Fish Mouth Joint/ Tee-Joint



4) Steel Rotating Pin Joint



IN-BETWEEN SPACES

Veteran Housing

2019 / Professional project

Los Angeles, USA

Collaboration: SwiftLee Office

The project is conceived with the need to provide low-income housing for veterans living in LA. The housing project aims to provide identical private living spaces as well as open community areas hoping to create a safe balanced living, in happy neighbourhoods for veterans of all ages and backgrounds.

Every house has its own private backyard or sometimes shared yards along which entrances of houses are located. The living and kitchen spaces are oriented towards the gardens to provide natural light and view of the surrounding neighbourhoods.



REMODELING FUTURE

Educational Masterplans

2019-20 / Professional project

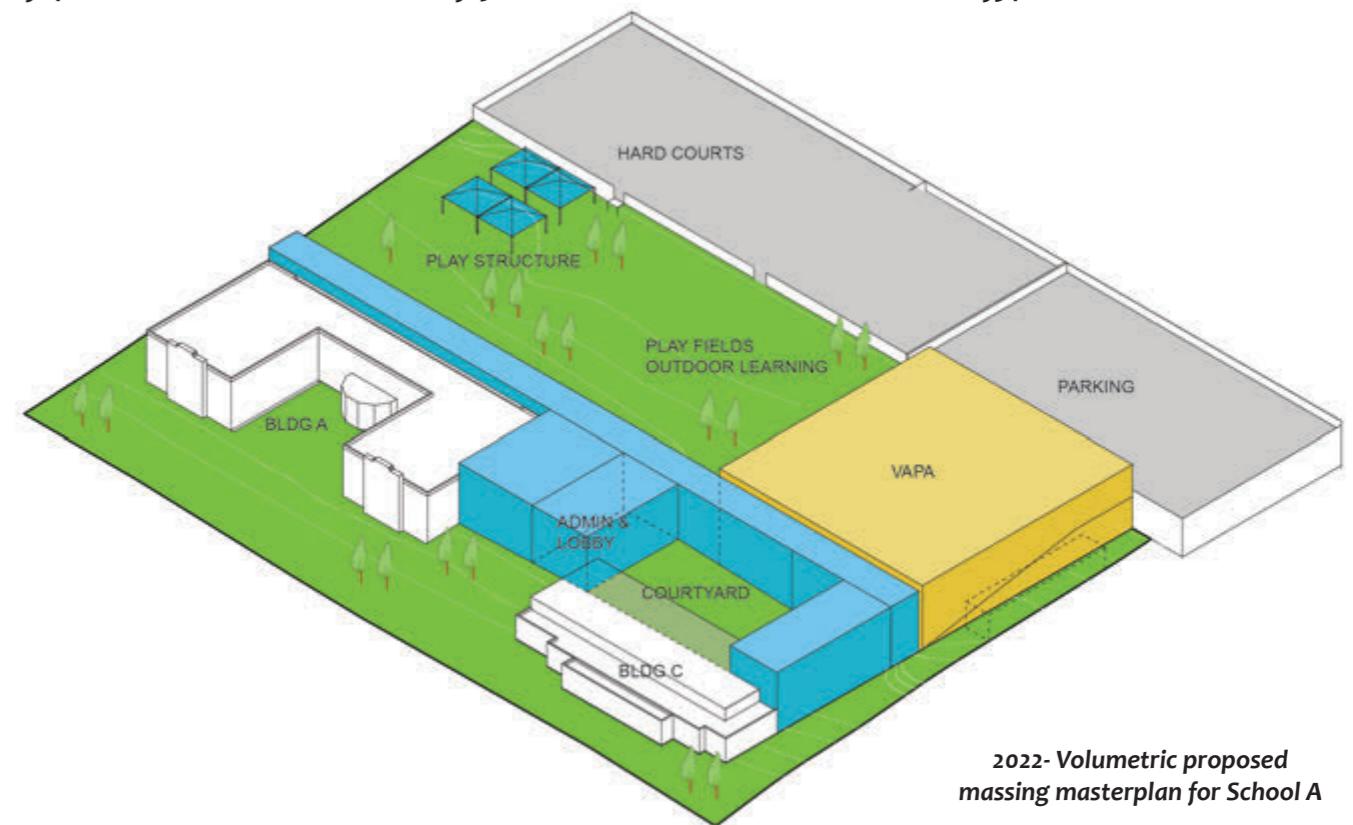
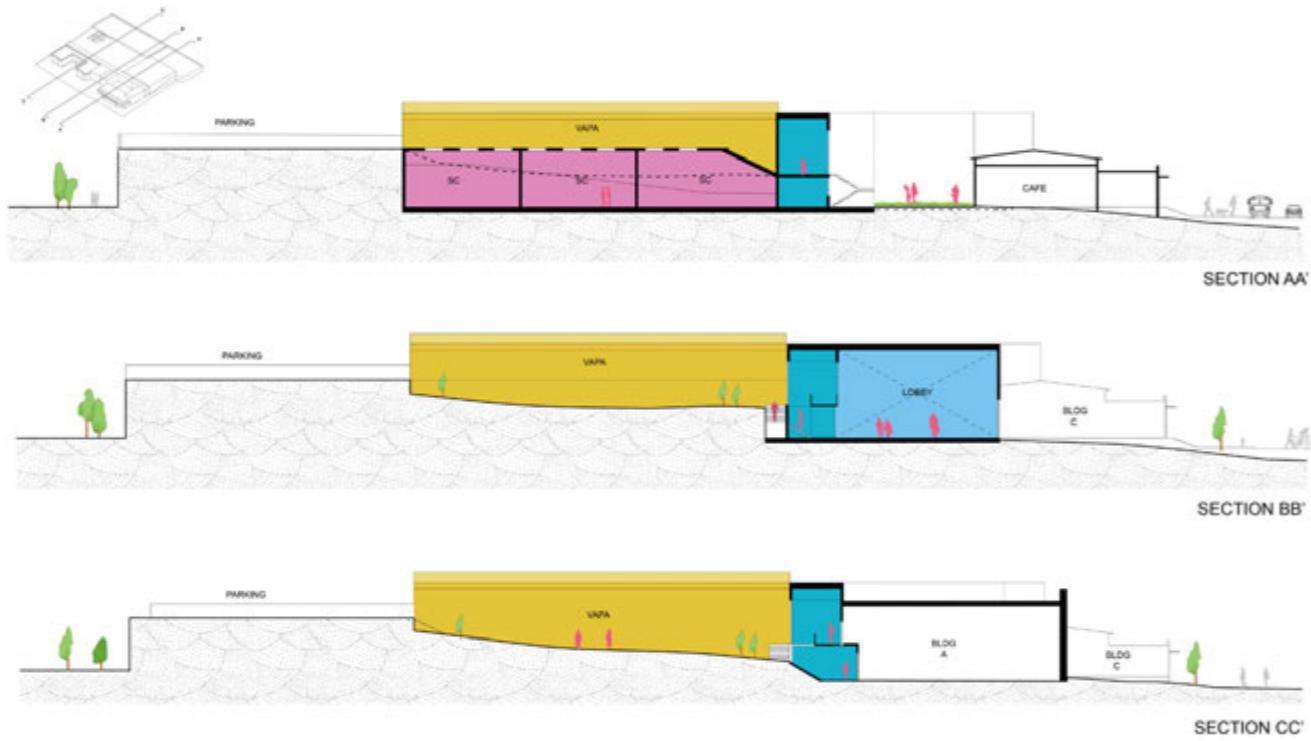
Los Angeles, USA

Collaboration: SwiftLee Office

The project revolves around future planning of educational spaces within Public Schools in a bid to increase their popularity and competence over private schools or charter schools.

The Public schools are often piecemeal extensions over many years and thus lack a sense of organisational coherence and do not have enough facilities to attract students of all backgrounds. The masterplanning exercises try to overturn this by giving building coherence to the schools and introducing spaces where free learning and flexible spaces can be made possible.

"piecemeal extensions over many years and thus lack a sense of organisational coherence and do not have enough facilities"



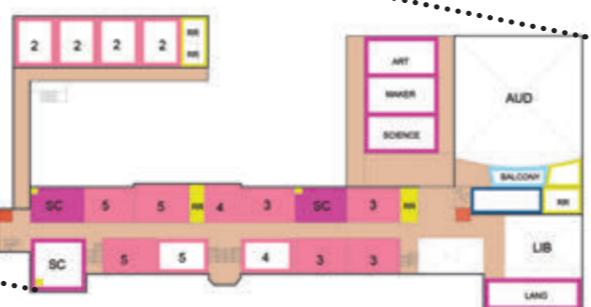
2022- Volumetric proposed massing masterplan for School A





Proposed programmatic Distribution

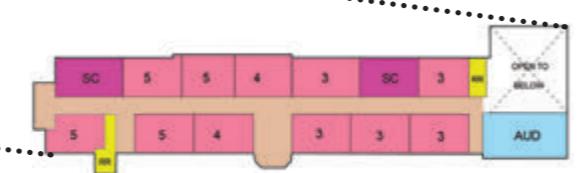
"vehicular and pedestrian movement, special learning classrooms versus regular fixed classes, public and private entrances, administrative versus student zones, soft and hard landscapes"



Existing programmatic Distribution

Among the series of masterplanning exercise, the existing context is thoroughly investigated to understand the site and its limitations. Staff and principle meetings, site documentation with various consultants helped provide a complete picture for the schools drawbacks and advantages.

School B : The project rethinks-vehicular and pedestrian movement, special learning classrooms versus regular fixed classes, public and private entrances, administrative versus student zones, soft and hard landscapes, etc to create diverse, learning environment .



JAM SESSION

Socrates Sculpture Park Kiosk

The kiosk's palette of industrial materials that includes corrugated aluminum and steel reinforces the setting of nearby warehouses and factories; it also references the history of manufacturing in Astoria. Additionally, the jagged lines and panels of vibrant colors and varied textures recalls the syncopated rhythms of jazz greats who once called Queens their home.

"kiosk with its openings and niches promotes engagement as an object that can also then be inhabited"



2019 / Professional Competition entry

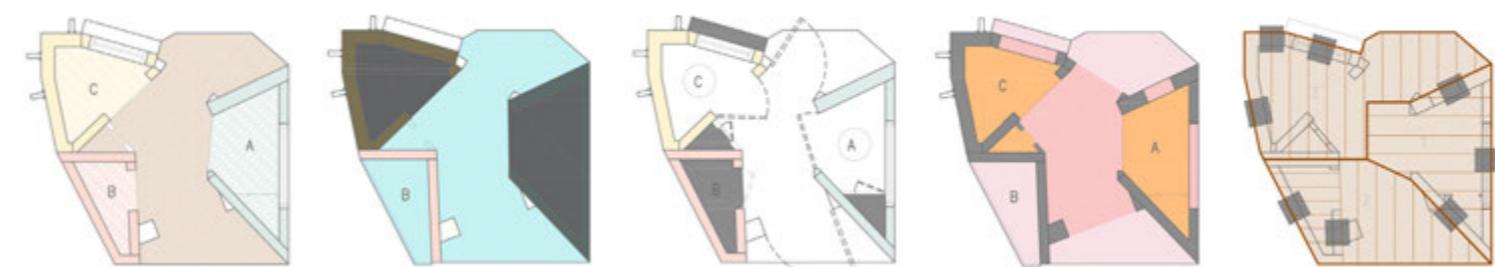
New York, USA

Collaboration:

Valerie Schweitzer Architects

Jam Session: Socrates Sculpture Park Kiosk celebrates the industrial context of Socrates Sculpture Park. It furthers its mission to provide a shared social venue for unusual artistic expression.

The sculptural dimension of the kiosk, with bold geometric forms and raw materials, announces the park as a place for leisure and fun artistic happenings. The kiosk with its openings and niches promotes engagement as an object that can also then be inhabited.



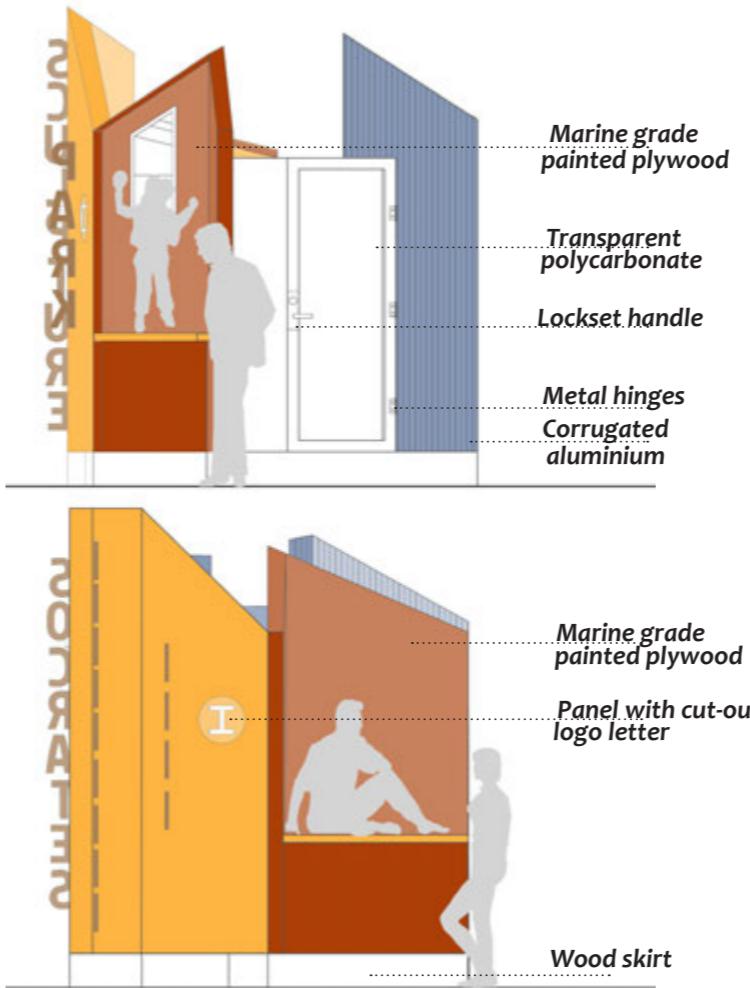
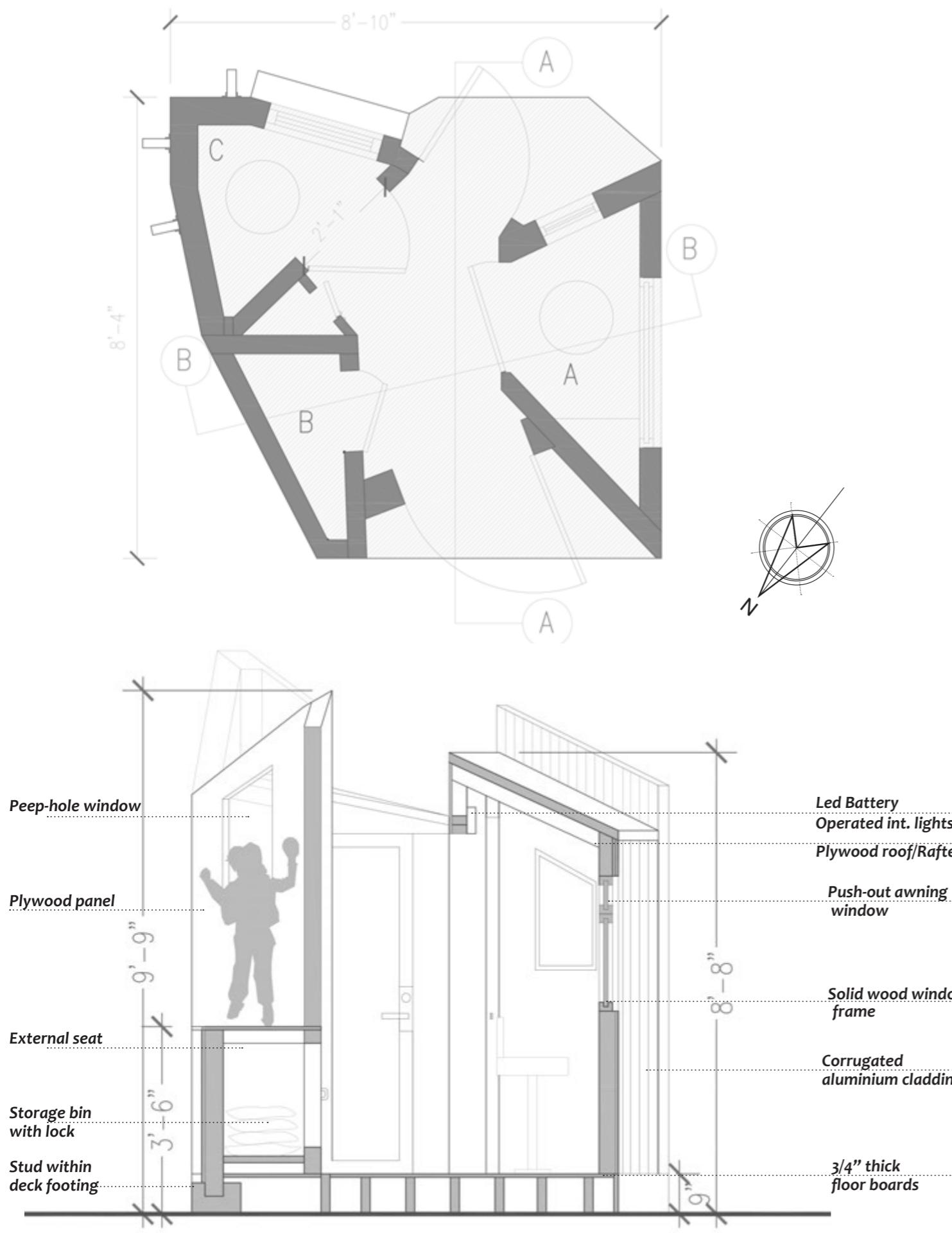
Booth A
Booth B
Booth C
Deck

Rooved vs open to sky

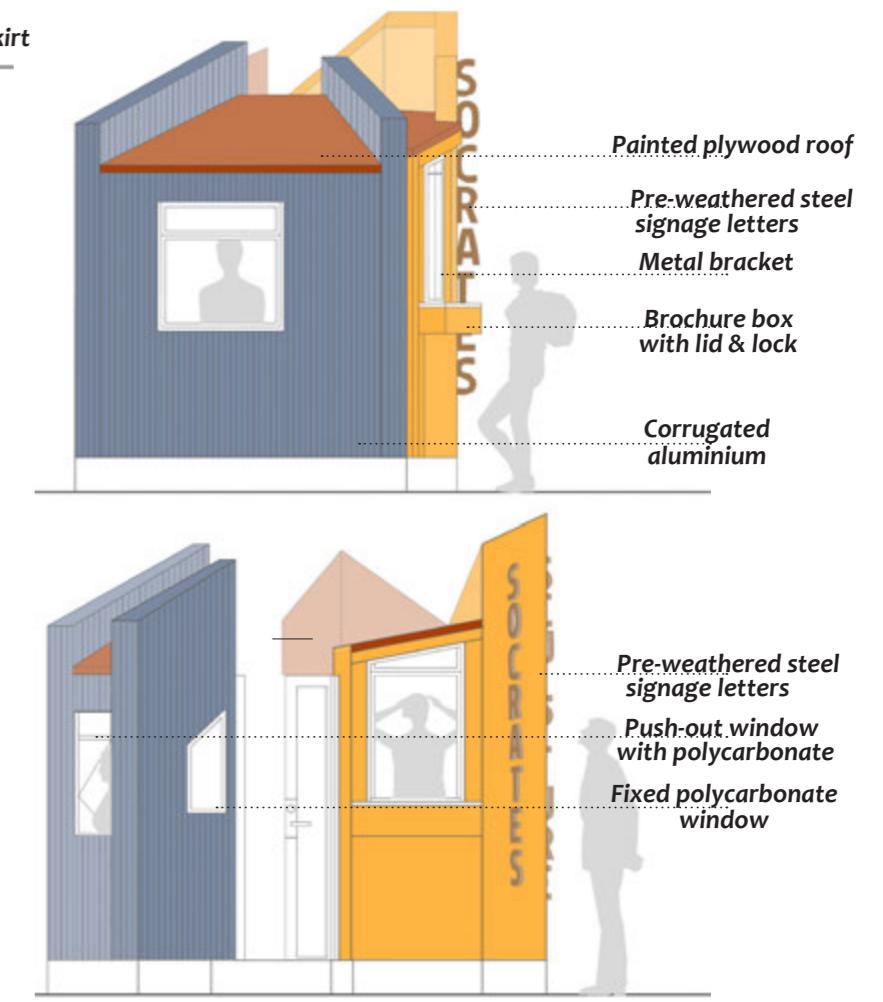
Lockable
storage

Private
Semi-public
Public

Deck footing
T- Floor Joists



"the jagged lines and panels of vibrant colors and varied textures recalls the syncopated rhythms of jazz greats"



MIMICKING NATURE

A Look Through Point

2018 / Competition

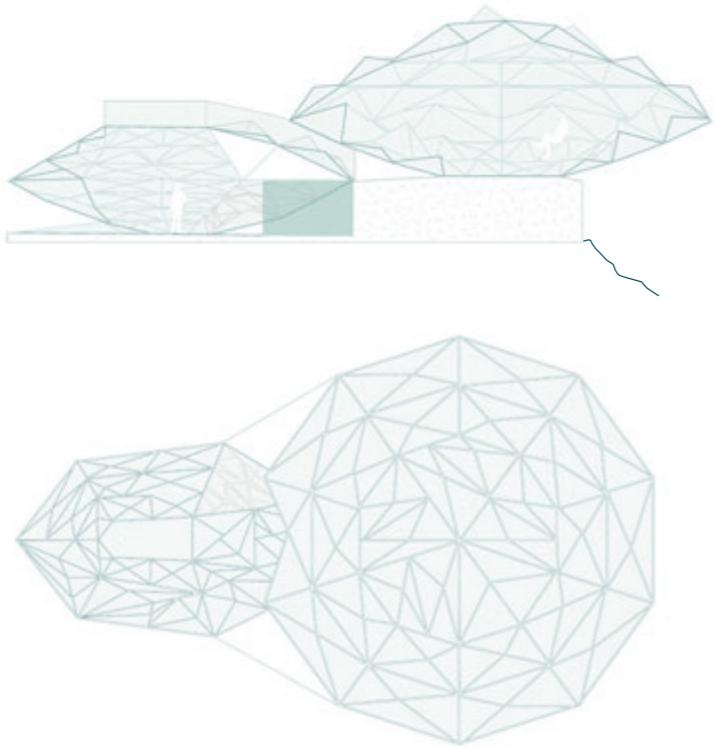
Mount Nemrut, Turkey

Collaboration : Self

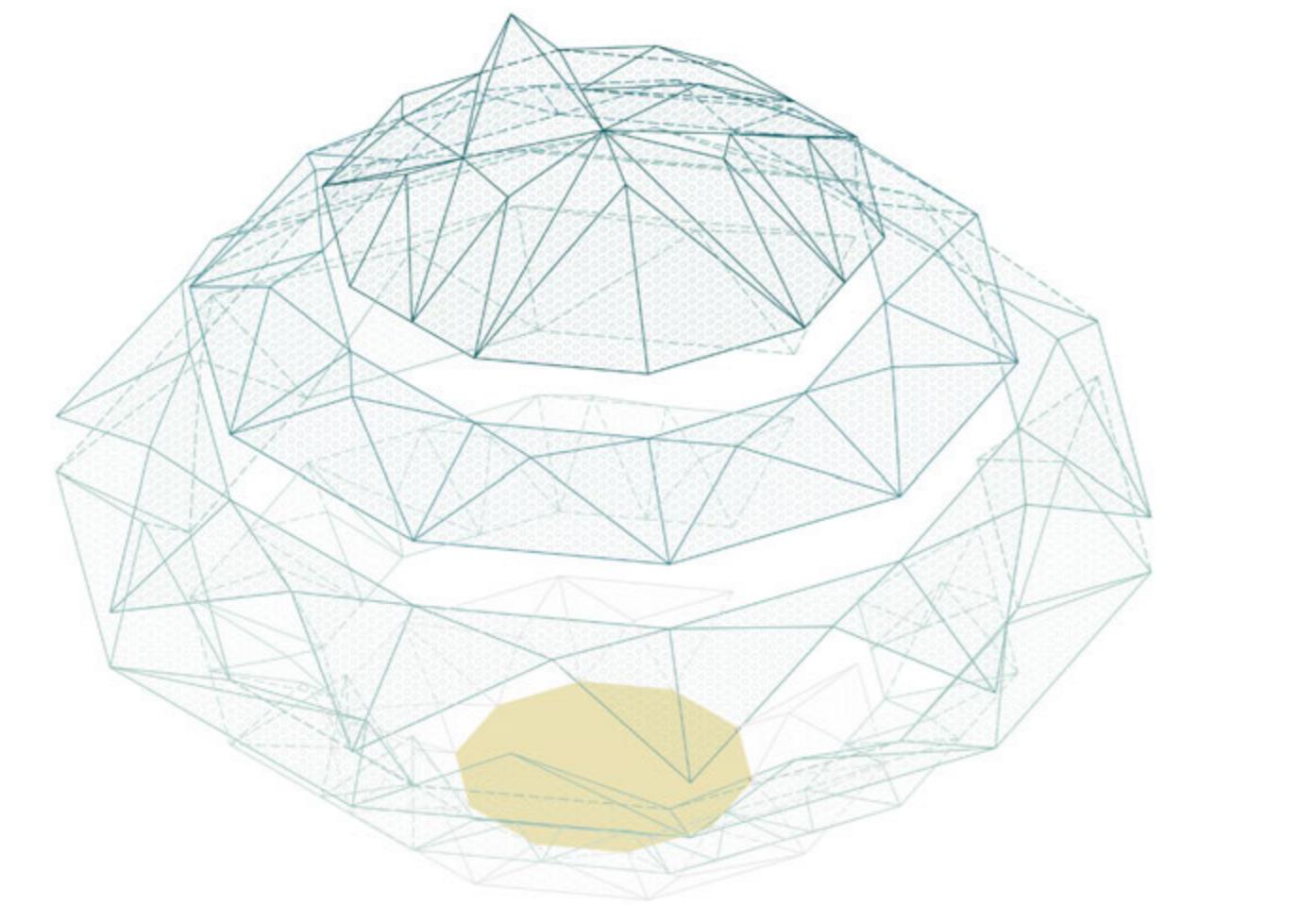
*"blurring the boundaries
between built space and
environment"*

'Mimicking Nature': A Look Through Point springs from the need to enjoy the views of Mount Nemrut's delicate landscape in a dynamic space. Unlike most look out points where the need to experience danger as well as the landscape comes with using strong steel beams for cantilevering over edges, this project aims at doing the complete opposite. It provides a soft abstract space that looks like an ephemeral object in the landscape, overlooking the immense caldera.

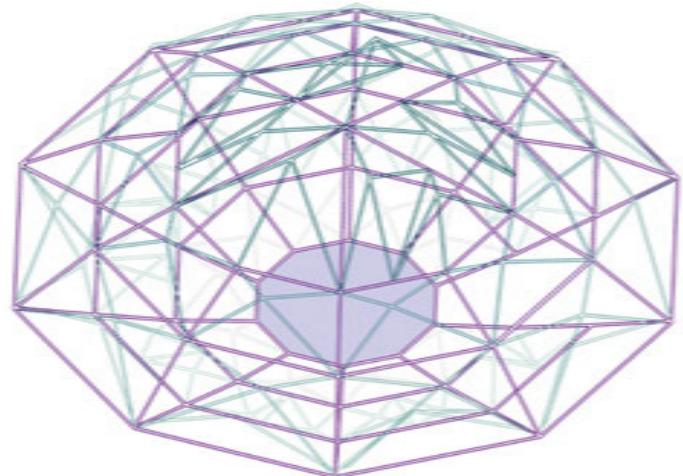
The structure hovers above the crater and the light transparent mesh shell allows views not only from it but through it, thus blurring the boundaries between built space and environment. It mimics the delicateness and elegant unevenness of the landscape.



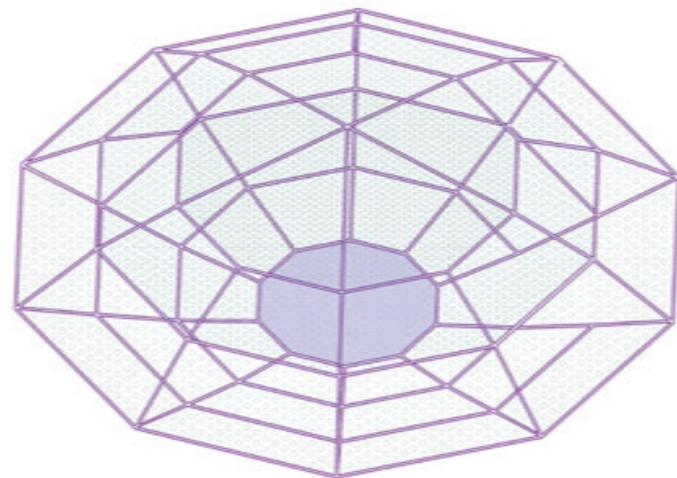
"an ephemeral object in the landscape, overlooking the immense crater"



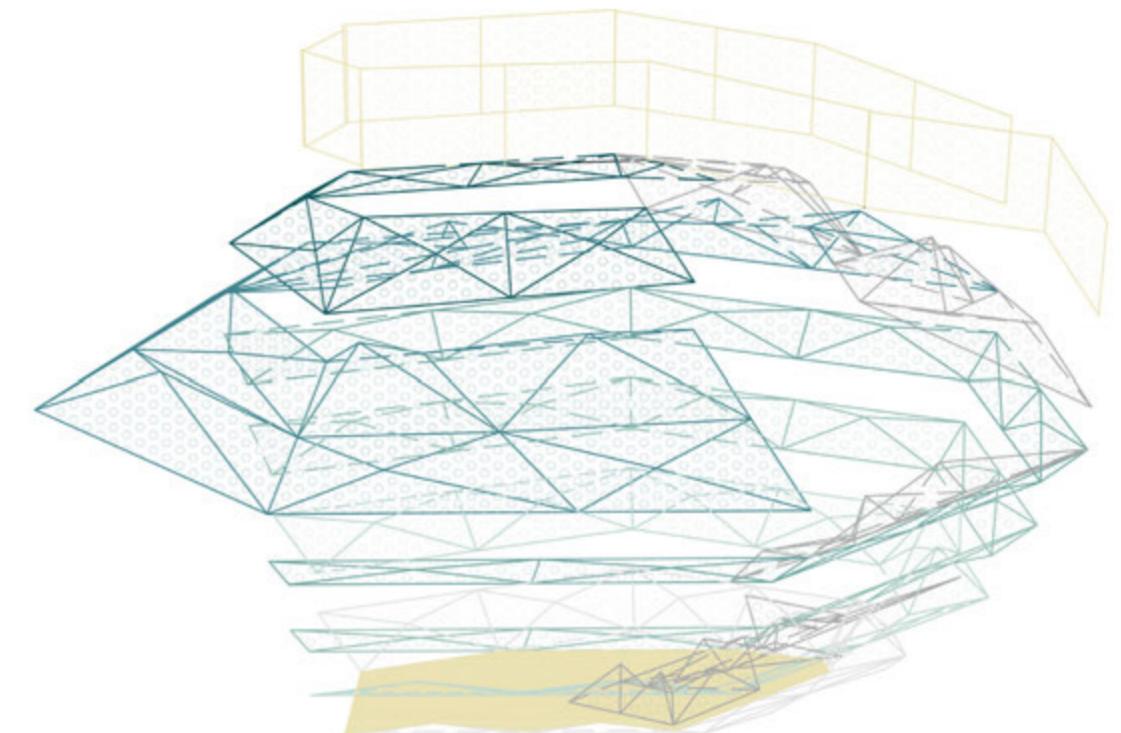
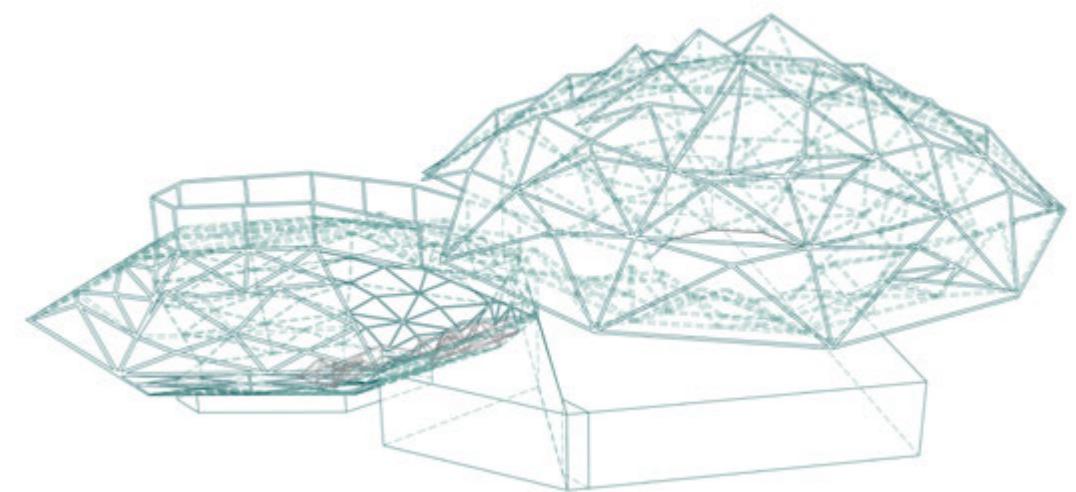
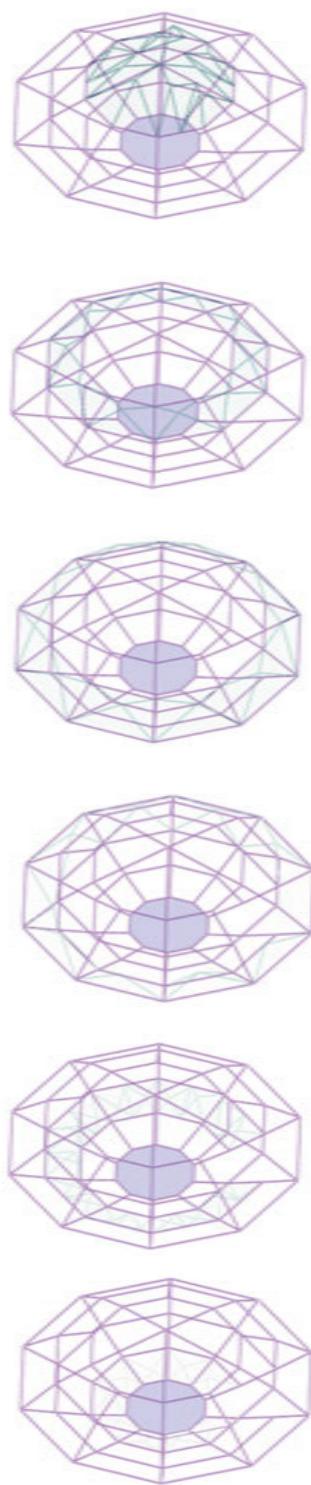
Secondary mesh

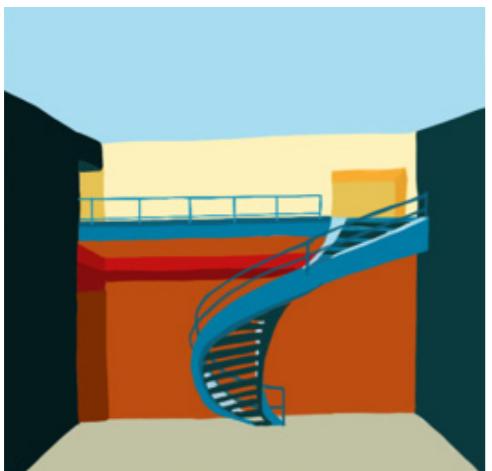


Primary mesh

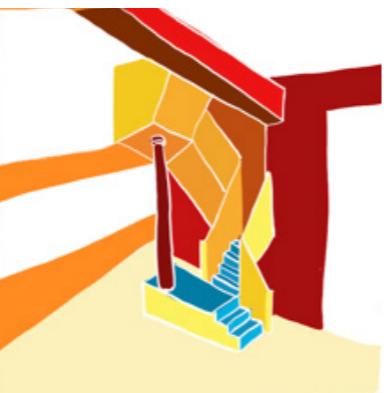


Budget restrictions dictated the design of the structure to be made of elements that can be easily fabricated and quickly assembled on site. The secondary structure consists of triangulated metal mesh pipes and planes attached to a primary network of steel pipes that form a symmetrical dome like structure. The structure sits with its base on the edge on the caldera, with metal meshes fanning out, hanging over the caldera, almost floating like a cloud bubble.





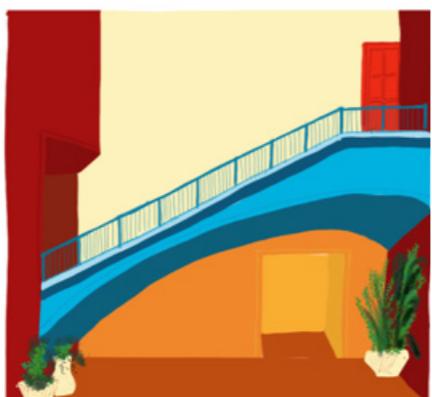
staircase framing a
courtyard



stand-alone sculptural
staircase



staircase contrasting
heavy and light



staircase as a bridge



staircase creating a
porous/fluid edge



staircase as a continuous
element/story



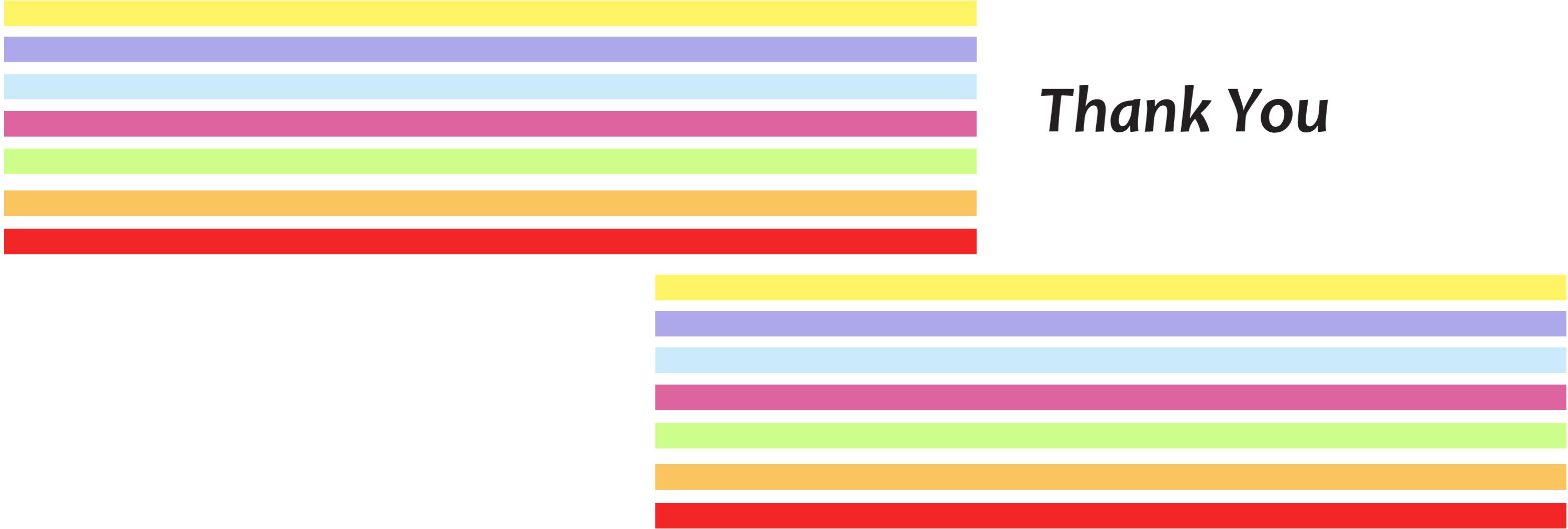
staircase that frames
opening



staircase as a wall



staircase as a
boundary



Thank You