The Living Landscape of Quebrada Jaime

Valparaíso, Chile. 2017–2018

Devant Asawla

THE LIVING LANDSCAPE OF QUEBRADA JAIME

Valparaiso, Chile, 2017-2018.

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‘Valparaiso is secretive, sinuous, winding. Poverty spills over its hills like a waterfall. Everyone knows how much the infinite number of people on the hills eat and how they dress (and also how much they do not eat and how they do not dress). The wash hanging out to dry decks each house with flags and the swarm of bare feet constantly multiplying betrays unquenchable love.’

‘I was amazed that those eccentric lives I discovered were such an inseparable part of the heartbreaking life of the Port. Above, on the hills, poverty flourishes in wild spurts of tar and joy. The derricks, the piers, the works of man cover the waist of the coast with a mask painted on by happiness that comes and goes. But others never made it to the hilltops, or down below, to the jobs. They put away their own infinite world, their fragment of the sea, each in his own box. And they watched over it with whatever they had, while oblivion closed in on them like a mist.’

* * *

‘The stairs start out from the bottom and from the top, winding as they climb. They taper off like strands of hair, give you a slight respite, and then go straight up. They become dizzy. Plunge down. Drag out. Turn back. They never end.

How many stairs? How many steps to the stairs? How many feet on the steps? How many centuries of footsteps, of going down and back up with a book, tomatoes, fish, bottles, bread?

Stairways!

No other city has spilled them, shed them like petals into its history, down its own face, fanned them into the air and put them together again, as Valparaiso has. No city has had on its face these furrows where lives come and go, as if they were always going up to heaven or down into the earth.

If we walk up and down all of Valparaiso’s stairs, we will have made a trip around the world.’

An extract from Pablo Neruda in the book, Valparaiso by Sergio Larrain.

Valparaiso, 1957.
Sergio Larrain

Valparaiso is a fragmented city;
Its landscape defines its thresholds.

Valparaiso's amphitheatre setting has seen the city become trapped in time, with its future outlook circumspect given its somewhat superficial tourist industry and the uncertainty surrounding its Port's relevance on a global scale. Colourful houses and art masks a city that is in desperate need of regeneration.

The day to day ritual of living perched high up in the hillside, commuting down to the urban plan and returning home in the evening is a *common figure* of life in Valparaiso. The boundary between the orthogonal urban fabric and informal rurality of the city is being traversed continuously. This threshold is encountered vertically as well as horizontally.

It is the landscape of Valparaiso that very much dictates the daily lives of its residents.

This project investigates the relationship between the urban and rural divide of Valparaiso, and at a metaphorical level, man's affinity with nature. The project seeks to remember traditions and crafts innate to Valparaiso and Chile as the catalyst for future upheaval.

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La Ciudad Abierta de Amerieda

Arica and Parinacota
Arica
Tarapacá
Iquique
Antofagasta
Antofagasta
Copiapó
Atacama
Coquimbo
La Ciudad Abierta de Amerieda
VALPARAISO
Valparaíso
Valparaíso
Santiago
Santiago
Rancagua
O'Higgins
Talca
Maule
Biobío
Temuco
Araucanía
Valdivia
Los Ríos
Puerto Montt
Los Lagos
Coihaique
Aisén
Magallanes
Punta Arenas
PACIFIC OCEAN
INTERIOR SEA

La Ciudad Abierta de Amerieda, 2017.

Live Construction in the Open City

Upon the excursion to Valparaiso, one week was spent in the company of Poets, Writers, Landscapers, Engineers, Botanists, Students and of course Architects in La Ciudad Abierta de Amerieda, the Open City, located near Concon on the coast of Chile.

The workshop enables us the opportunity to grasp the ethos of the Valparaiso School of Architecture. The school places and emphasis on the collaboration amongst students, poets and architects, fundamental to successful Chilean design.

The ultimate aim, to fully construct a resting station in the sandy dunes of the Chilean context. The notion of building at 1:1 scale seemed daunting at first to students of TU Delft. However, to the Chilean students of Valparaiso, live construction seemed all but normal.

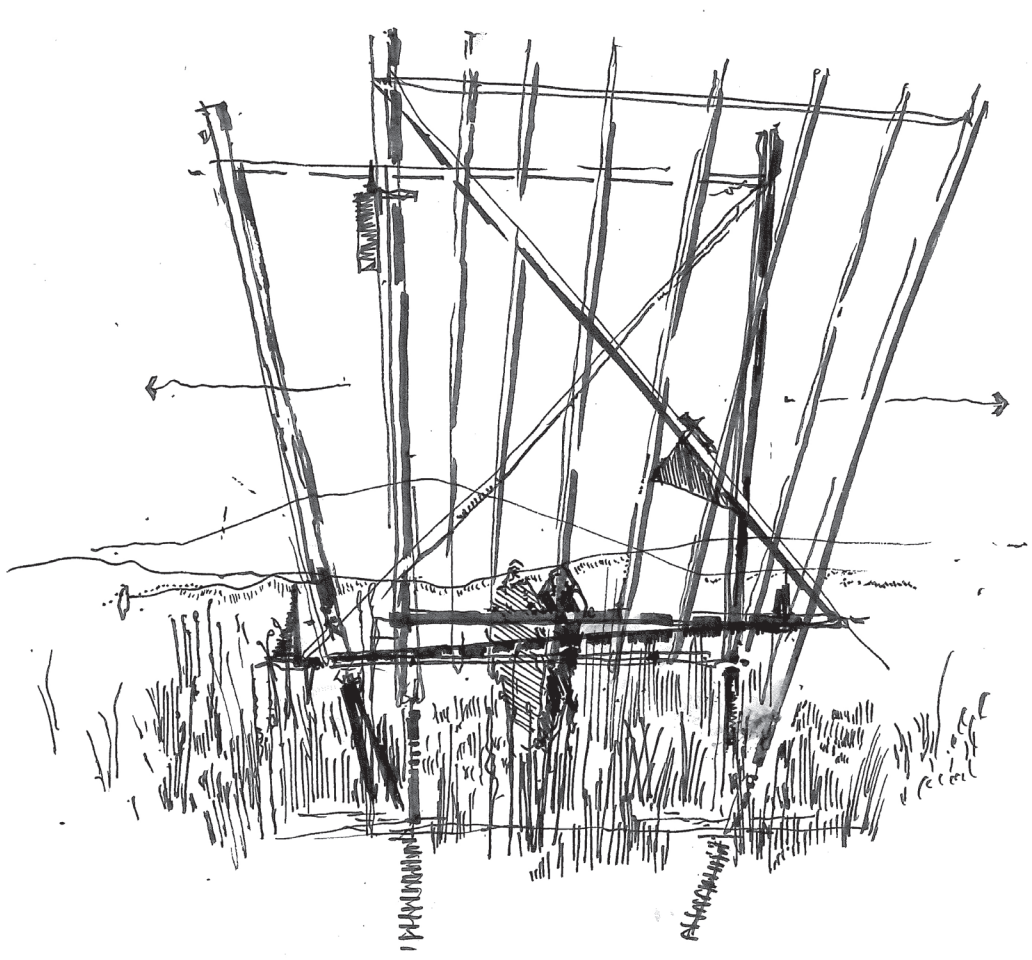
It was clear from this point that a certain way of education and knowledge being passed on through generations. Our Chilean counterparts were learning the ways of craft hands on. This differed significantly to our European methods of architectural education which remain rooted behind a computer screen.

An emphasis has been placed on how to build and the reasoning as to why things are being built key to the education process. It was clear that the thesis project will be based heavily around craft and tradition.

The significance of the environment has never been so important. Our relationship with nature is under scrutiny, the built environment a key contributor to the current problems surrounding global warming. It is refreshing to see an alternative approach to building within the landscape. A level of sensitivity and respect for the Chilean landscape was an unwritten rule, but an apparent conscious design factor in all that was established in this test lab of poetry and architecture.

Learning from different professions, decisions on what to build, how to build, why to build become debated fervently, A democratic approach, with a wide-spectrum of knowledge is applied. Can this ethos be replicated in a European setting. The key to the Open City's success is the limited number of contributors, a number that is capped to retain authenticity to the commune.

Three station points in total were erected over the space of three days. Pormenors, details, constructed in the Netherlands, each derived from a spatial condition, adorn each of the constructed unit. These resting points sit within the landscape and will naturally evolve over time. The flexibility of the constructed forms, allows ease of customization, for future members of the Open City



Initial Sketch of the Constructed Station Point

La Ciudad Abierta de Amerieda

The week spent in the company of Poets, Architects, Writers and Students of La Ciudad Abierta was eye-opening. A privileged experience that provided a unique outlook on the role of architecture and democracy.

Being amidst the boundary between the Pacific Ocean and the Interior Sea (Chilean Land Mass), one begins to understand the dialogue architects must comprehend between man and nature, land and sea.

The importance of Poetry and Narratives in informing architectural design is inspirational for a methodology of design that looks beyond architecture as a constructed form, but from a metaphorical and phenomenological standpoint. The way we experience space and how architecture shapes our emotions is something worth exploring.

A continued dialogue between colleagues, reinforce this ongoing collaborative and creative process mixed with democratic decision making.

With an emphasis on experimentation, the pressure to build the perfect architectural form was never a prerogative. This resounding idea of an architecture that is never complete, but facilitates the notion of continuation and adaptation, heightens the longevity of the projects life.

Acting as navigation markers and a place for rest, each construction responded to its immediate context as well as negotiating the issue of the threshold in existence between the Pacific Ocean and Interior Sea.

1:1 Construction

La Ciudad Abierta de Amerieda

Pormenor - Details

La Ciudad Abierta de Amerieda

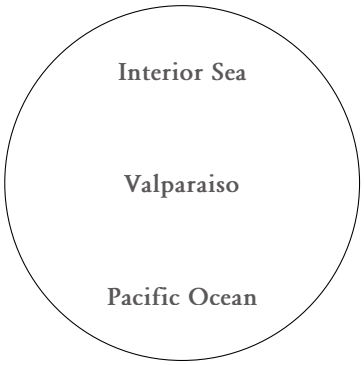
The Pacific Ocean and the Interior Sea

Upon my first arrival to Valparaiso in 2015, I travelled by bus from Mendoza, Argentina. From wine country to wine country, the double decker bus rattles its way across the Chilean-Argentinian border, winding itself between the snowy mountain tops of the Sierra Nevada.

This is the Interior Sea. This habitable landscape of Chile is to one extreme. A three hour bus ride down, one is transported from the white hills to the sandy beaches of Valparaiso.

With Chiles borders heavily defined by the Andes, the country experiences a compression of landscapes between one extreme of the sea and another of the mountains. This microcosm is also experience in Valparaiso with the cerros of the city creating an amphitheatre like quality to the city skyline. Santiago also experiences this common figure., The capital city's horizon is tempered by the Andes mountain range.

Predominantly a Port city, Valparaiso is the accessible gateway into Chile. It is the door, that the world can enter and can leave by. It is here that money, commerce, knowledge, people etc... is imported and exported. The city thrives from this sustained exchange. Its relevance is highly significant to the current economic success of Chile, one the more progressive countries in Latin America.



MENDOZA
Sierra Nevada de Los Andes
SANTIAGO
B. de Tongoy
R. de Limara
Chorrera
Pla del Governador
R. de la Ligua
Quintero
Cde. Concon
VALPARAISO
Pla. de Corona
R. de Maypo
Salinas
R. Cachapool
Pla. de Barrufs
R. de Lora
La Bahia de Valparaiso
MAR DE CHILI

Common Figures

The unique topography of the city has a great impact on both how the city is organised and how it is used. In structure, the hills of the city access the plan via a series of linear roads that fan across the amphitheatre city.

The North/East directionality of these connections contrasts with the horizontal movement enabled by the avenues and train line on the coastline. The physical arrangement of the city results in a particular practice of city life - a daily cycle of down and up the hill where residents of the hillside travel down into the plan of the city for work, school, shops etc... each morning, and return home into the hills in the evening.

The horizontality of the plan is further emphasised by a series of squares strung out across the length of the city, offering access to directly accessible public space for residents across the city.

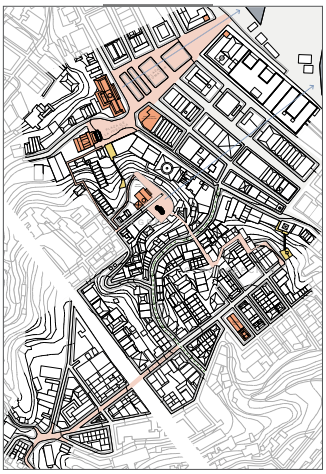
El Oceano Pacifico
The Pacific Ocean
El Almendral
The Urban Grid
Los Cerros de Valparaiso
The Hills of Valparaiso
Interior Sea
The Chilean Internal Landscape

Scales of Research

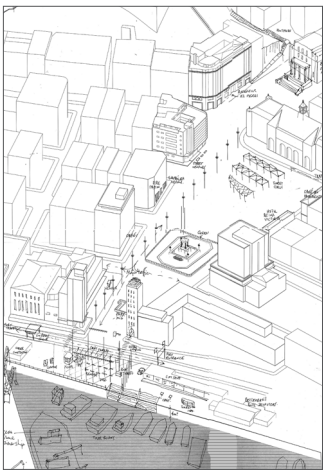
The focus of the field research centred around the *Common Figures* of Valparaiso; essentially building up an understanding of the city's composition. Working with Bronya Meredith and Max Gelibter, the data collected was fruitful and comprehensive, to such an extent that we could not physically log all of our findings for the P1 discussion.

Our first conclusion of the common figures was that these 'figures' coexist at varying scales. The approach to the research was to analyse the city from the macro scale, right down to the micro, collectively building up an image of how the city ultimately ticks. The micro informs the macro, and vice versa. A logbook, printed and bound was conceived before we had even departed the Netherlands, that provided the framework for data to be collected on site.

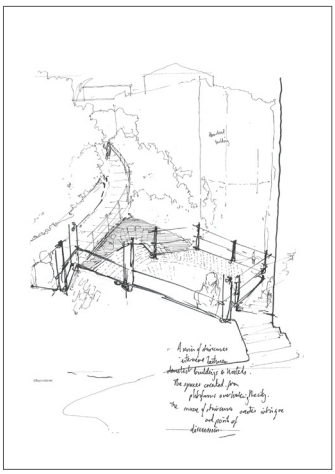
Upon arrival information was recorded by contextual 2D maps, isometric drawings of prescribed routes, narratives highlighting the phenomenological experience, photographic fragments and observational drawings. I found it was interviewing the local residents of the city as the most informative method. Challenging the english-spanish language barrier, talking to the residents provided an insight into the current plight of the city, learning about the demise of the Port, the saturated tourist industry and haphazard urban sprawl forcing people to move away from the city centre.



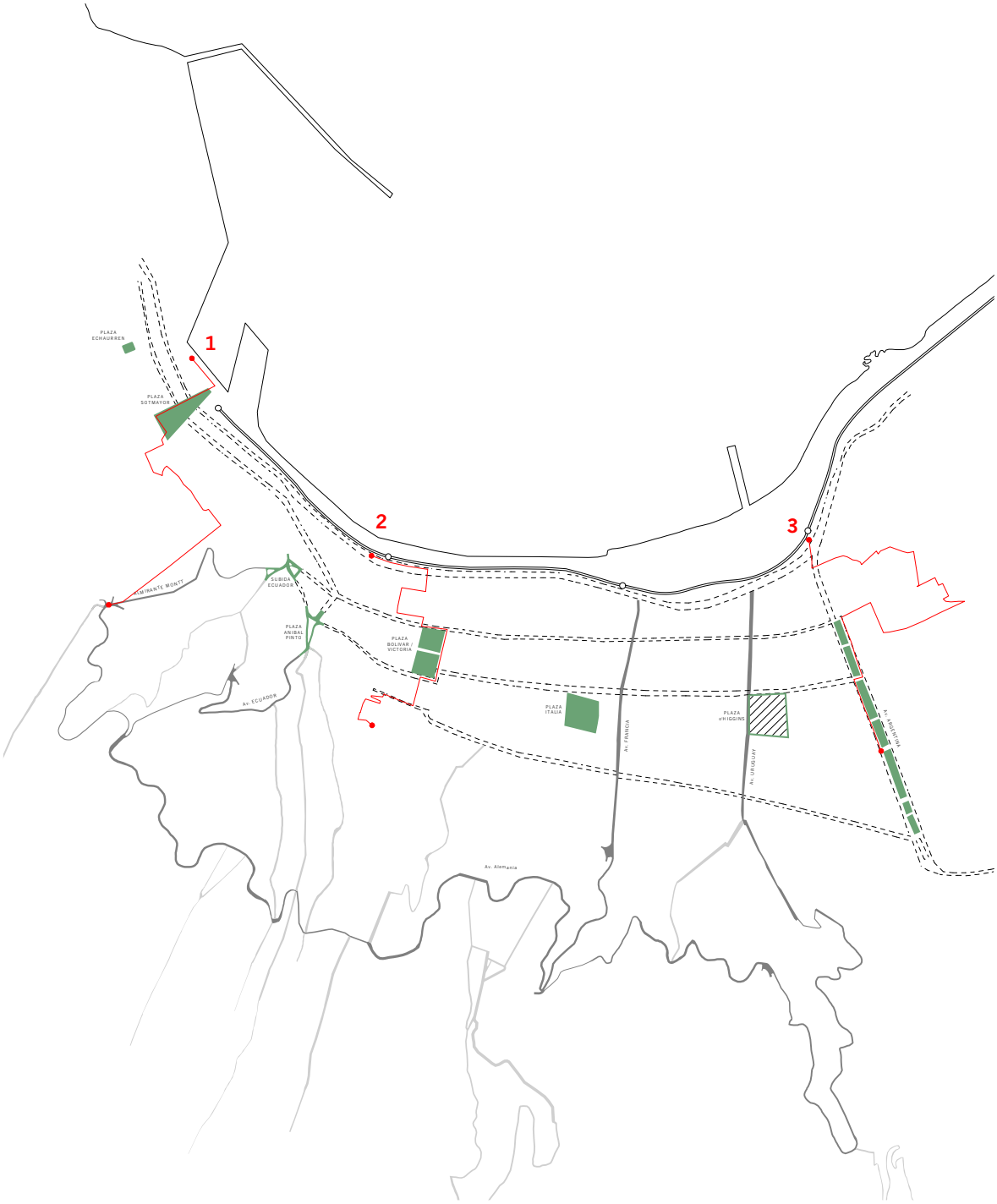
Macro



Meso



Micro


1
2
3
PLAZA ECHAURREN
PLAZA SOTMAYOR
PEMBANTE MONTT
SUBIDA ECUADOR
PLAZA ANIBAL PINTO
PLAZA BOLIVAR / VICTORIA
Av. ECUADOR
PLAZA ITALIA
Av. FRANCIA
PLAZA O'HIGGINS
Av. ARGENTINA
Av. URUGUAY
Av. Alemania

The Frames of Valparaiso

A successions of routes, eleven in total, were explored over a series of days that detailed the relationship between the waterfront and the hillside. Understanding the daily ritual of Valparaisian life helped us to understand how the city functioned. We charted the morning rituals of family life starting high up in the cerros, followed by the commute down to the city's plan; the lunchtime rush of the many voracious markets in the city centre; the evening get together in the public squares blanketed across the city plan; concluding with the arduous climb back home where people reside.

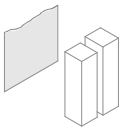
The flexibility in our field research on intermittent days allowed us the freedom to explore Valparaiso sinuous roads with no set objective. We chose to begin at significant destination points of commoning, whether it was the Cultural Centre, Avenida Argentina, Caleta Portales, to name but a few, to understand the role of designed urban interventions in an albeit chaotic city. Thereafter, following our intuition and going on to explore the city as a resident would do. It was only then, in the hustle and bustle of the urban context, do you begin to understand the *metaphorical substrate of Valparaiso.*

In doing so we stumbled upon the ever changing *frames of Valparaiso.* These viewpoints/miradouras constantly adjust with changes in perspectives.

They all share a common deep lying connection between the city's residents and the Pacific Ocean; something Pablo Neruda frequently writes about in his poetry. Simultaneously, we discovered the many urban gateways across the urban/hillside thresholds. These informal spaces form as meeting points in the city where the exchange of the commons takes place. They are not readily defined in architectural space, but more akin to the metaphorical realm.

From his writing desk at the top of his villa La Sebastiana, Pablo Neruda would have been able to survey the whole bay of Valparaiso. From this privileged vantage point, the viewer is within the secluded domestic realm of the house, and, in the same moment, presented with the entire city below.

The steeply sloping hills surrounding the plateau mean that this is not an uncommon experience to be enjoyed by Valparaiso's citizens: countless windows like this one act as constant reminders of the close relationship between private/domestic and public/urban.

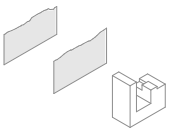


The haphazard urban grain can at times frame dramatic views across the city in narrow slots between buildings. In these instances, architecture forms a more restrictive and directive boundary to a view, intensifying the contrast between the adjacent and the distant.

Looking down or across a hill, the terrain can fall away rapidly, creating two strong components to a scene: that of the framing architecture and that of the cityscape beyond.

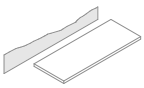
Calle Marconi | Slot Frame

The Frames of Valparaiso



When looking transversally across the city, the landscape presents itself as a series of elements diminishing into the distance. Buildings falling away in the foreground give way to a middle ground of lush greenery, where a quebrada cuts through the built fabric. Beyond this, where the hill has fallen away and risen again, another hill forms a more distant background.

N28
BRAVO

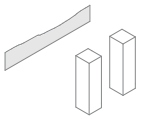


The city's v are one of its most renowned urban spatial figures, providing spaces where people can pause, rest and take in panoramic views of the bay. Their character is different to that of many other visual frames: they are broad, horizontal and expansive, whereas many other framing devices in the city are more constrictive.

Miradouras like this one at Plaza Bismarck can be understood as a larger, public version of the private domestic balcony, found in many houses across Valparaiso.

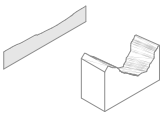
Due to the dramatically sloping terrain of many of Valparaiso's hills, the perspective afforded from many city streets can shift significantly within just a few steps. In these instances, the frame is dynamic.

As one rapidly gains altitude when ascending a hill, the horizon and position of the ocean in the field of vision can appear to rise and fall. Without changing direction, only walking forwards, new sectors of the city come into view.



From the plan it's rare to be granted a view of the ocean, because despite its physical proximity, the sight of it is usually blocked by buildings or the broad no-man's-land of the port area, concealed behind walls and high fences.

Plaza Sotomayor offers an exception: here, the monumental frame provided by the twin white towers gives way to a constantly changing picture of port activity beyond. As large cargo ships come and go from Muelle Prat, as goods are loaded and offloaded by the cranes and cruise ships and pleasure boats pass by, the inhabitants of the plan are offered a visual reminder of the city's foundational industry.

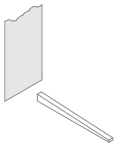


Valparaiso's unique topography means that in places the natural landscape itself frames the city. The steeply sloping sides of the quebradas historically have hindered their development, allowing them to remain as green ravines that penetrate deep into the city.

From the top of Avenida Francia, which connects all the way from the plan to the hills, looking back down towards the city, the winding path of the quebrada sits in contrast to the rear view of the extending city.

Quebrada Jaime | Landscape as a Frame

The Frames of Valparaiso



In the reverse of the scenario found in the hills, looking up from the plan the hills are segmented into views by the architecture. The sense of the city as an amphitheatre is always present, as the hills in the background are almost never out of view. Their perceived proximity and immediacy vary, depending on their steepness and the distance from the inclining terrain.

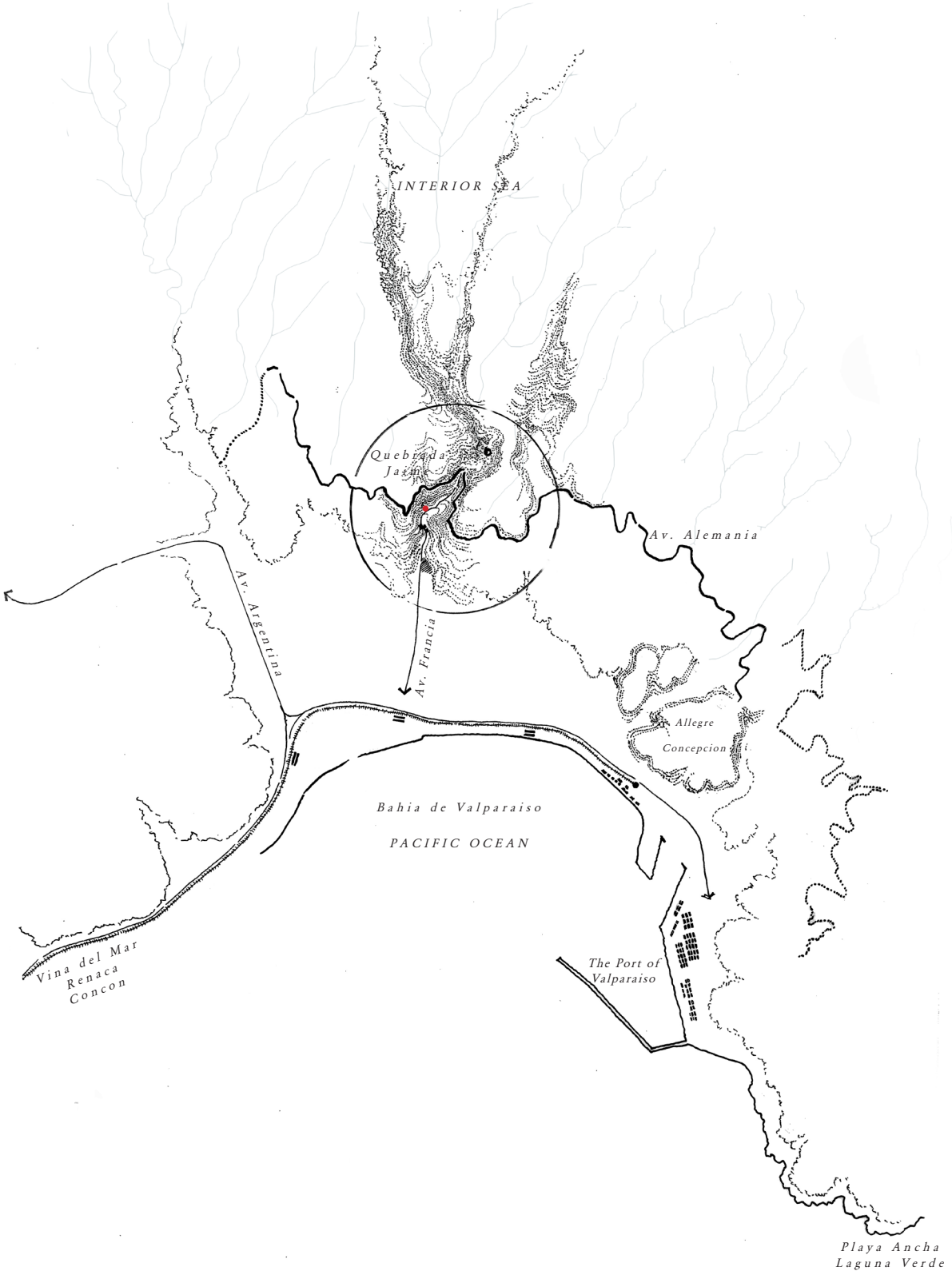
Thresholds

Valparaiso is a fragmented city. This is echoed by its geological make up. A clear disparity exists between the cities orthogonal plan, where people tend to work by day, and the informal hillside settlements, where people live by night. An investigation spatially and socially between this relationship is core to the design intervention. The focus of the research is isolated to the valley, Quebrada Jaime, which sits central to the city plan.

The re-stitching of the urban fabric and the rural fringes of the city will be facilitated by the manipulation of the surrounding landscape. Water is an invisible thread that connects the Pacific Ocean and the Interior Sea, a tie that must be celebrated and restored. An urban intervention will operate through the entirety of the valley, working at an urban scale to uplift this neglected section of the city. The quebrada has been likened to a living organism, composed of several organs that are tied together. The urban scale interventions will range from Landscaping, Residential Housing, Agricultural Farming, the researching and production of Adobe Construction Technologies as well as creating several Public Spaces of varying scales. The architectural design focuses upon the craft of Adobe Construction which is particular to the region, and the production of wine in an urban context. How can this currently forgotten and overlooked landscape, now become a productive landscape, promoting future prosperity and growth for the city of Valparaiso.

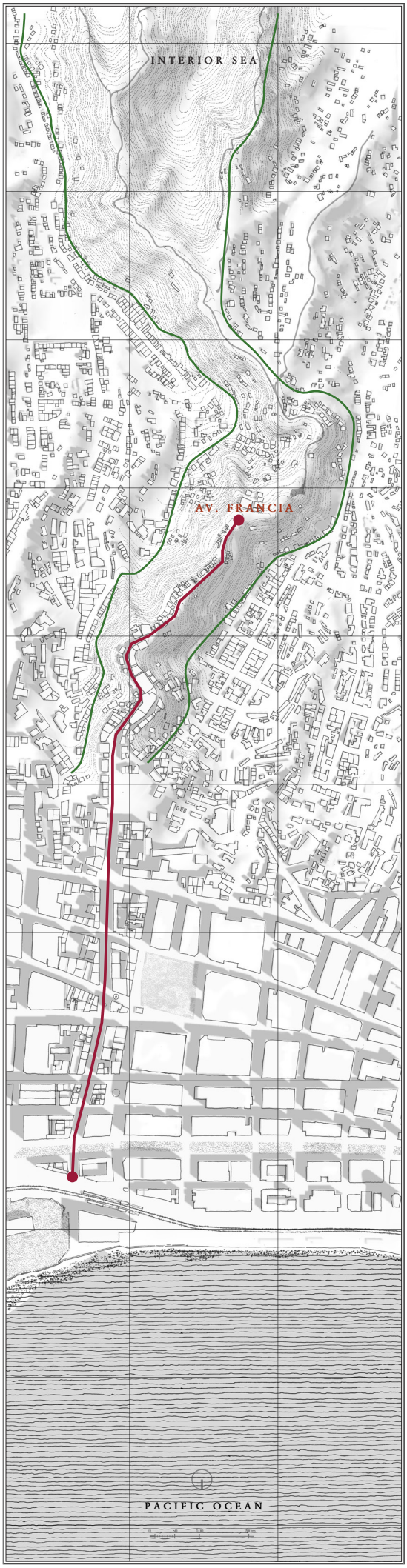
Quebrada Jaime exists between Cerros Monjas and La Cruz. This valley was formed naturally over time as the Estuario Jaime carved its way between the hills down to the Bay of Valparaiso over many centuries. Today, Quebrada Jaime is the only valley to physically connect between the Crown of Valparaiso, the rural boundary, and the City Centre, the urban plan with green connections. This has created a moment of geographic monumentality in the city's facade. The valley acts as a gateway, or portal, into the city centre and vice versa, a moment of urban compression. A condensed example of Chiles relationship between its mountains and sea. Quebrada Jaime currently plays host to Avenida Francia, merely a service road that reaches a cul-de-sac at its summit when connecting to the transversally running Avenida Alemania., A road that stitches he cerros of Valparaiso together. A significant crossroads.

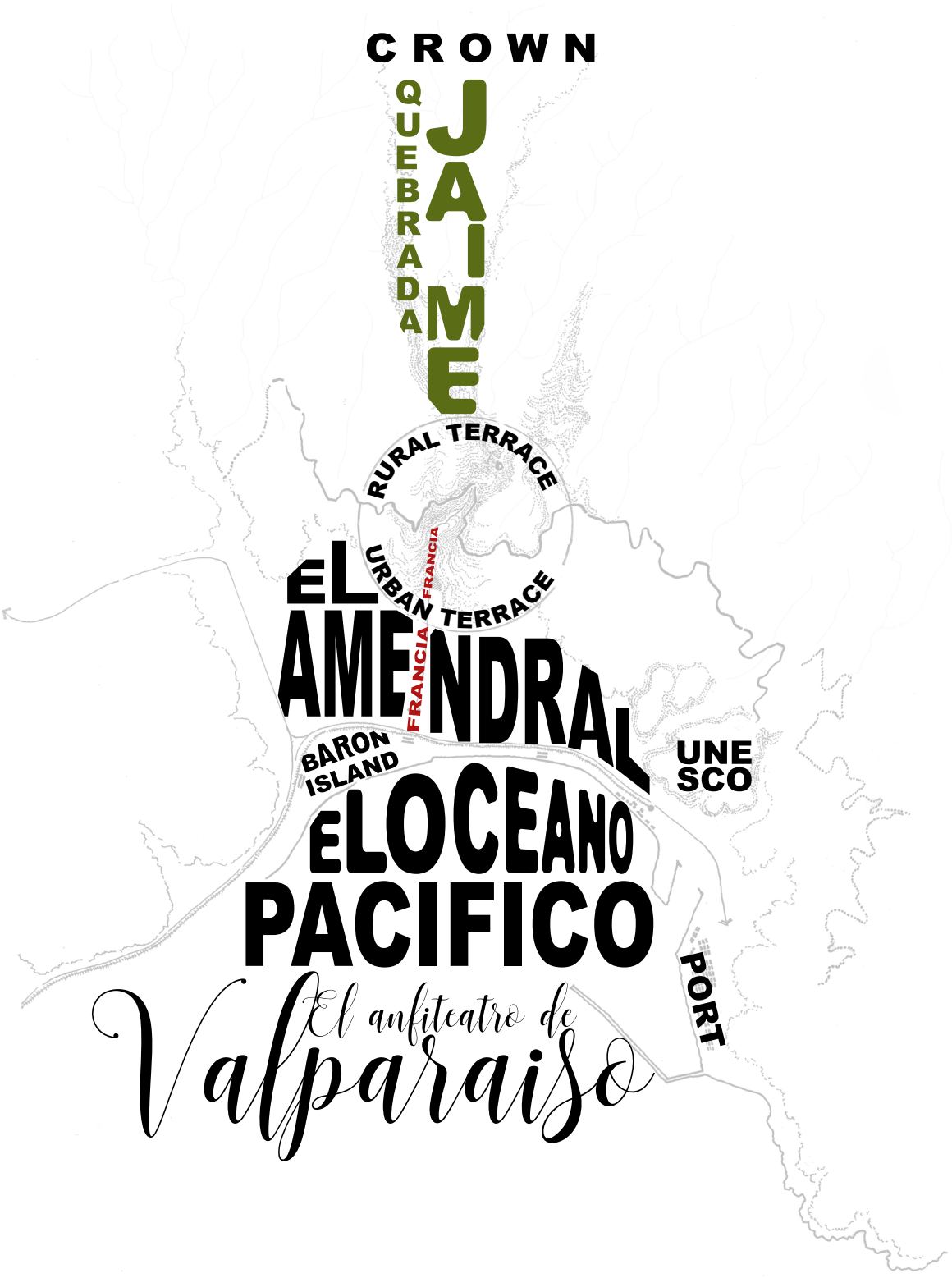
The project seeks to question the relationship between the residents of Valparaiso and their understanding of the land they reside upon. How can the natural resources that have shaped Valparaiso's past, shape the Valparaiso of the future. Consequently rediscovering man's affinity with nature.

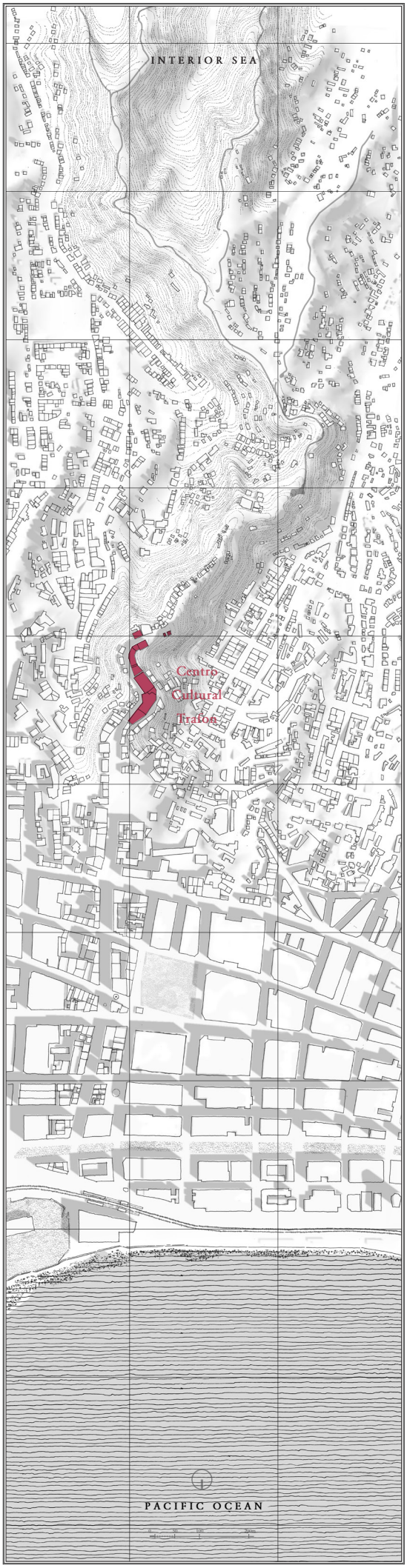

INTERIOR SEA
Quebrada
Jaen
Av. Alemania
Av. Argentina
Av. Francia
Allegre
Concepcion
Bahia de Valparaiso
PACIFIC OCEAN
Vina del Mar
Renaca
Concon
The Port of
Valparaiso
Playa Ancha
Laguna Verde

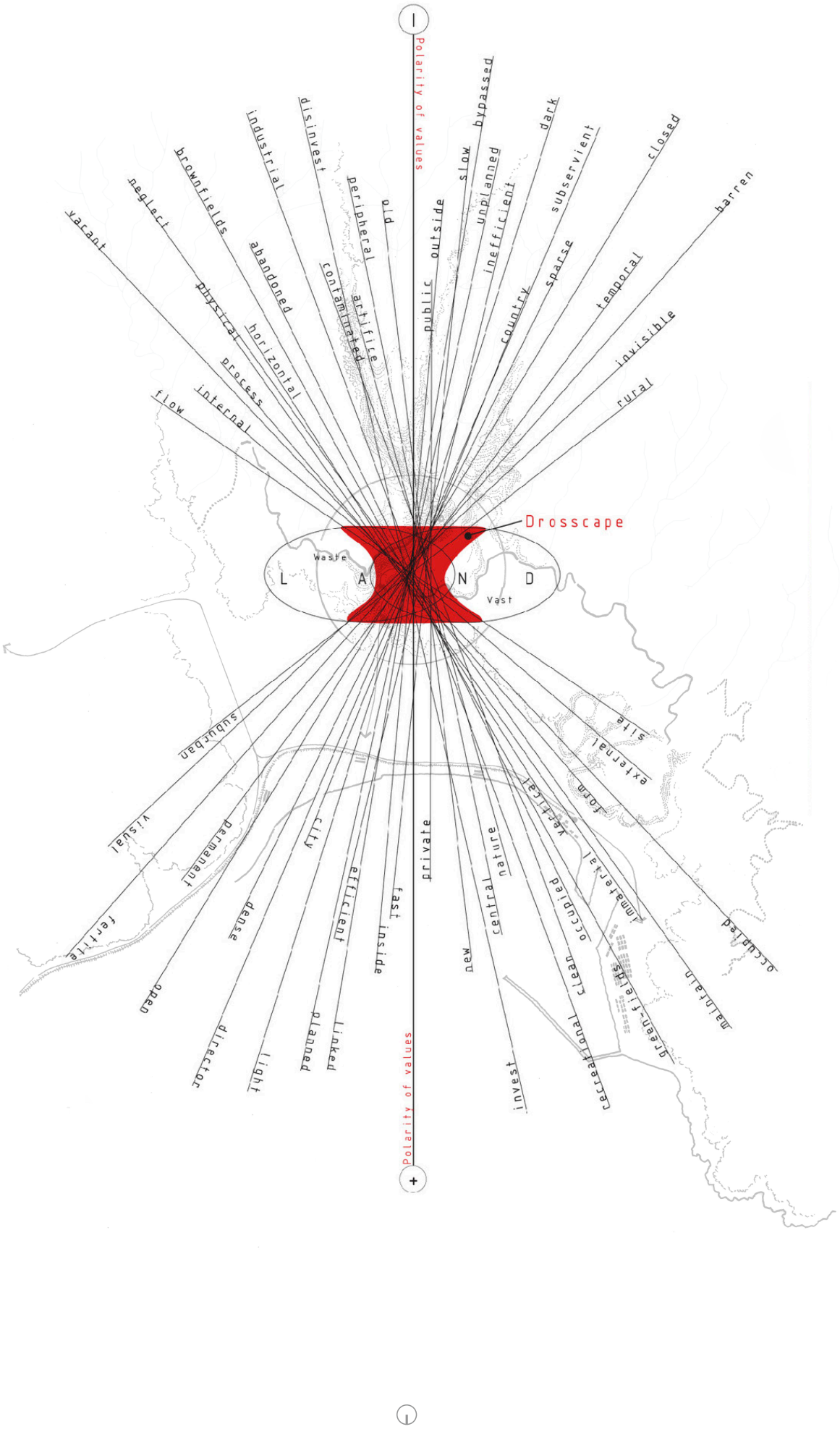
INTERIOR SEA
PACIFIC OCEAN

Aerial Map
Valparaiso


INTERIOR SEA
AV. FRANCIA
PACIFIC OCEAN


CROWN
QUEBRADA
JAIME
RURAL TERRACE
URBAN TERRACE
FRANCIA
FRANCIA
EL
AMENDRAL
BARON
ISLAND
UNE
SCO
EL OCEANO
PACIFICO
PORT
El anfiteatro de
Valparaiso


INTERIOR SEA
Centro
Cultural
Tirabuzón
PACIFIC OCEAN


Polarity of values
Drosscape
waste
L A N D
Vast
vacant
neglect
brownfields
industrial
disinvest
peripheral
old
public
outside
slow
bypassed
unplanned
inefficient
country
dark
subservient
sparse
closed
temporal
barren
invisible
rural
flow
internal
process
physical
horizontal
abandoned
contaminated
artifice
suburban
visual
permanent
fertile
open
dense
city
efficient
fast
inside
private
new
central
nature
planned
Linked
light
director
invest
agricultural
clean
occupied
fragmented
formal
material
artificial
external
site
occupied
mainlan
green-field

Wasted Landscapes to Productive Landscapes

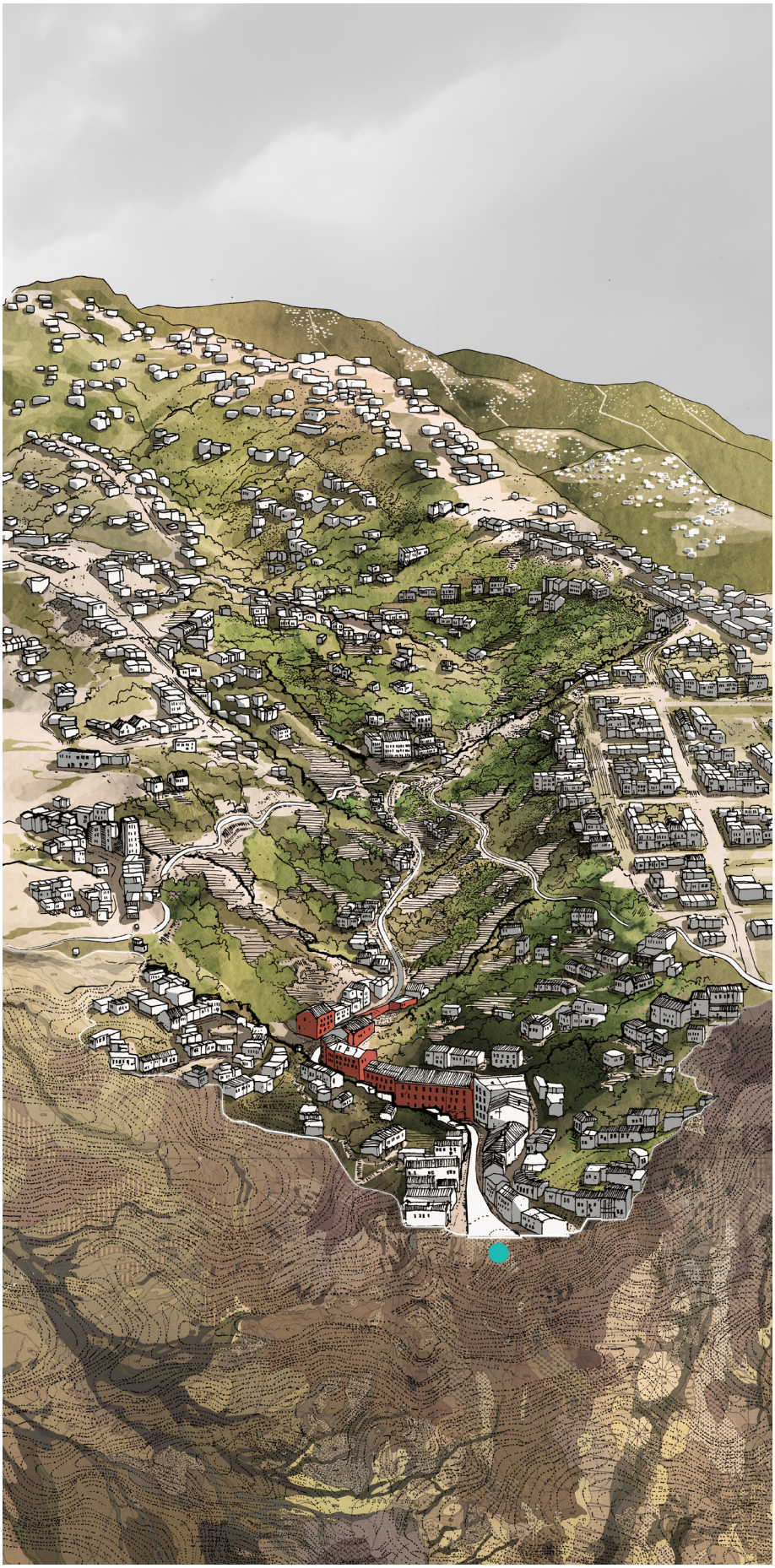
Alan Berger's, DrossScape, provided a study into the urban sprawl of many American cities post industrial revolution and at the height of the suburban movement. This ideology can be translated to Valparaiso's expansion across the El Amendral and informal sprawl up its hillsides. Waste is a by-product of this growing city; the quebradas became the landfill sites. Quebrada Jaime was no different. The valley played host to many of the brick and textile industries of the past. Currently these fabricas have fallen into disrepair and are infrequently used for public functions.

The urban intentions are to treat Avenida Francia as a productive landscape. That focused on reintroducing an avant garde industry back to the valley, revolving around craft and techniques synonymous to the Valparaiso region. This had been narrowed down to building through adobe, and the production of wine. Both of these processes have the commons central to its productivity. The primitive notion of mixing earth and pressing wine, means anyone can help to contribute to the process of production. What may seems archaic, has a certain craft which will be celebrated in the buildings design.

The building initially proposes the conservation of this craft which is in decline due to modern technologies. The building will celebrate the many facets to Adobe Building. A museum and education facilities will help engage with members of the community and create an awareness of the heritage. The building will experience an evolution where researching the possibilities of the craft for future developments. From this point on, innovations of new craft and techniques will follow. All in a twenty-five year cycle.

The project adopts a light cradle to cradle approach, simply rebuilding and re-imagining the face of Quebrada Jaime from the land its sits on top of. Walden by Henry David Thoreau has constantly been a guiding ethos when understanding our role within nature. This was only echoed by our experience in the Open City.

The idea stems from excavating the landscape, using the raw materials that are readily available at an arms length, to produce a tangible output. This inadvertently redefines and reshape the identity of one of Valparaiso's quebrada from an urban standpoint, mediating the urban/rural divide.



EVOS LIDERAZGOS!
PARA VALPARAISO
P102

diputado Osvaldo
URRUTIA
P103
MI GRAN DIPUTA

Walking through Quebrada Jaime

Sketching the urban/rural compression

The climb from the city's urban fabric to the summit of Avenida Francia is arduous, over 100 metres in height change in total. The true extent of the climb is difficult to comprehend initially when looking at the face of Quebrada Jaime, but the slope is deceiving.

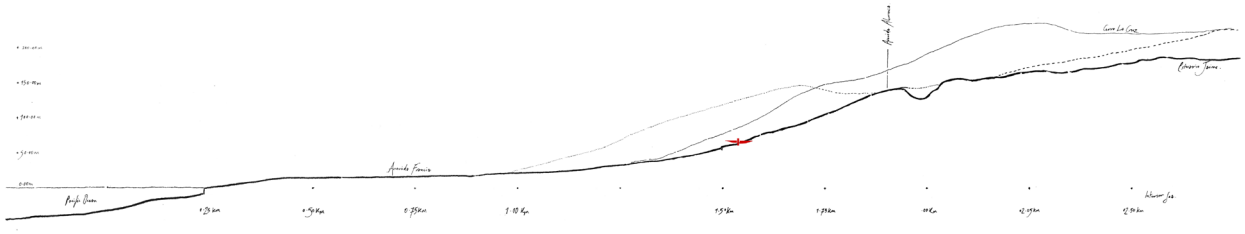
The experience of being deep within the vibrant market city and the shift to the peacefulness of the rural extents is staggering. The environments one encounters are constantly changing in just a short space of time.

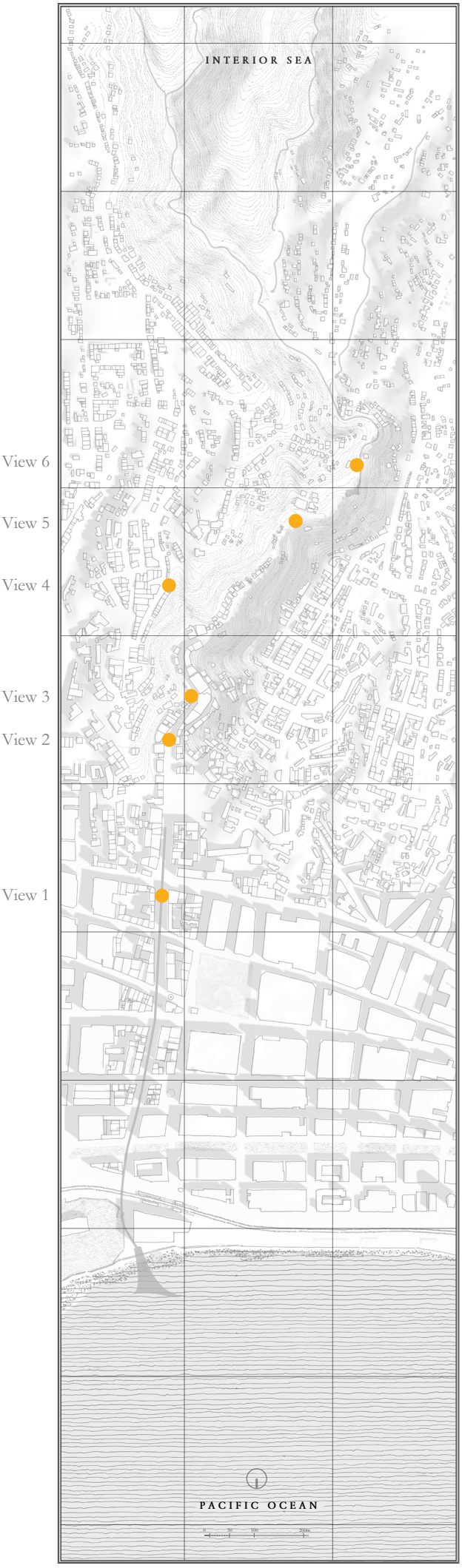
Cars and buses sweep along the street at high speeds. The rugged terrain hangs over Avenida Francia and manages to creep into ones line of vision frequently. What is most striking, is how this green crown of the city appears to be hidden at one moment, but then is revealed the next. Avenida Francia follows the contours of the natural topography. In doing so, the street snakes between the landscape, submissive to the geological valley. The individuals perspective of the quebrada becomes skewed and misinformed,.

The urban rural compression creates an illusion and alters ones perception of depth of space. High up in the quebrada, one can feel they are within arms length of the pacific ocean. This creates foreshortening. Our impression of the landscape is being dictated by the vertical drama and theatre of the space.

The phenomenological sketches on the next few pages highlight key points of the quebrada. From the hustle and bustle of the city, to the extreme seclusion of the wilderness surrounded by untamed wildlife.

One experiences many emotions when crossing the threshold between the Amendral and Cerros of Valparaiso.

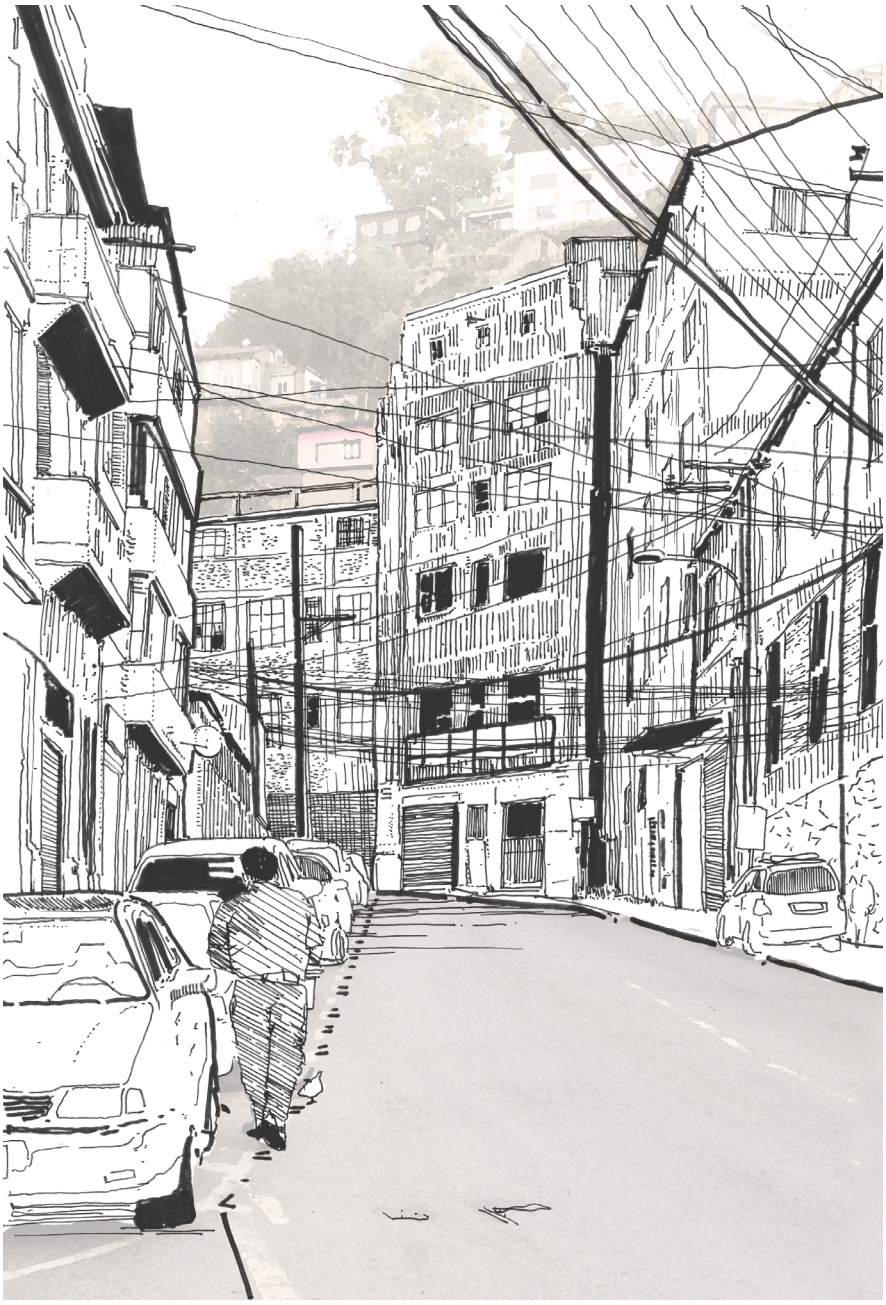



INTERIOR SEA
View 6
View 5
View 4
View 3
View 2
View 1
PACIFIC OCEAN

Two to three storey buildings line the orthogonal streets of Valparaiso. Avenida Francia is located East of the tourist hub and Port centre. The buildings are generally used for retail or industry purposes and are generally of low quality. Public space is limited and of poor quality. Street merchants appropriate the many sidewalks leading to the ocean waterfront.

Along Avenida Francia

Walking through Quebrada Jaime - View 1

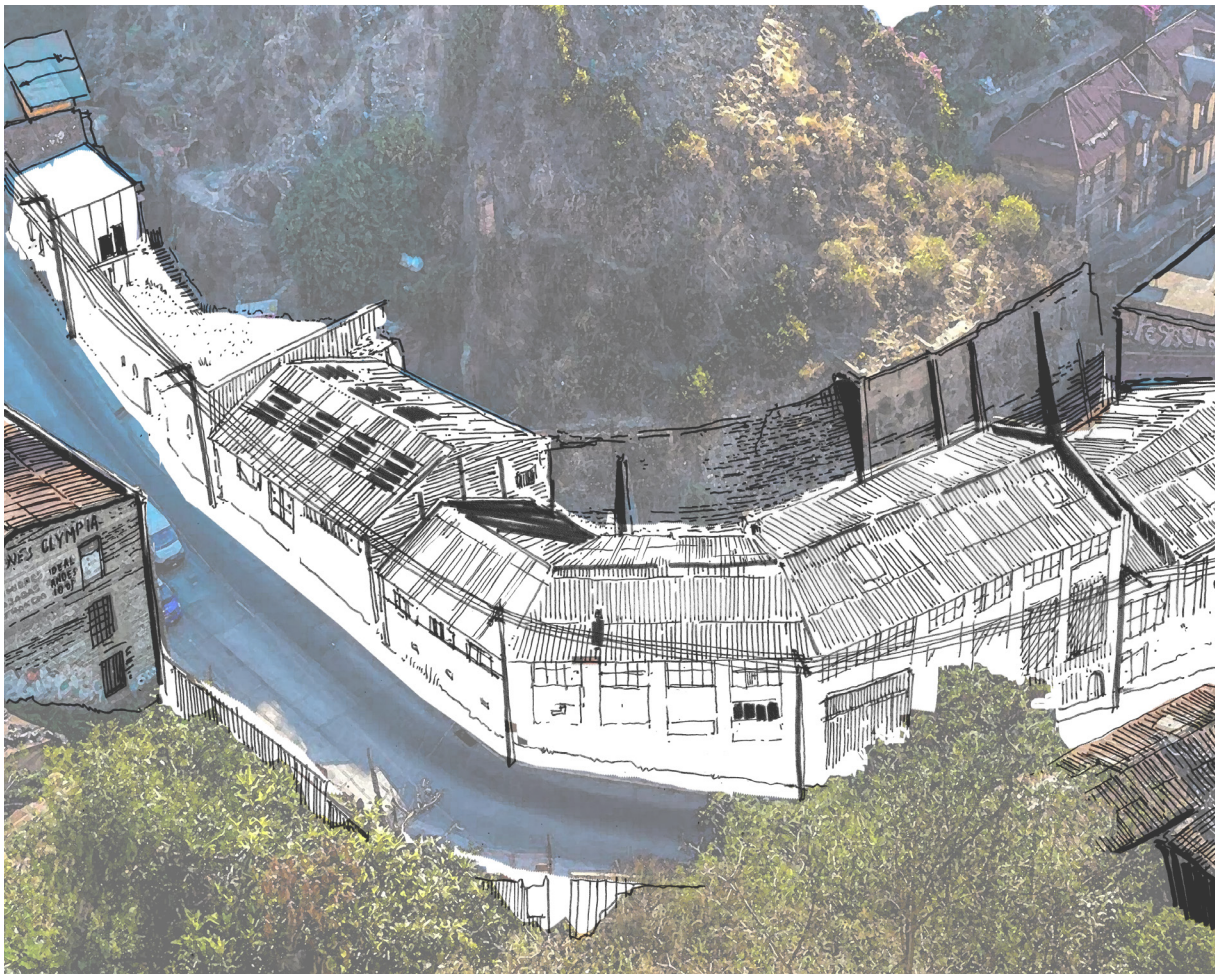


Centro Cultural Trafons front facade is immense. The brick face is old and worn out, but provides historic quality to an albeit poor neighbourhood. The industrial qualities of the building shine through. Large fenestrations and warehouse doors signify the transition from commerce to industry, all in the space of a few footsteps.

The Quebrada has the unique ability to contract and expand, to conceal and reveal. What was once hidden comes into the light, and what was apparent, becomes lost. This is governed by the natural flow of water that carved the landscape and has shaped the layout of the urban fabric. This is the point of departure from an entirely urban setting.

Industrial Graveyard

Walking through Quebrada Jaime - View 3



Aerial analysis of the Centro Cultural Trafon. A former brick factory that currently lies dormant. Its architecture snakes along the valley adding gravitas to the atmosphere. The height change from Trafon to the top of Cerro La Cruz is 90 metres in total.

The summit of Avenida Francia. This is where the road terminates and connects with Avenida Alemania. The framed view of the Pacific Ocean links the metaphorical Interior Sea with the physical Bay of Valparaiso. Low quality housing lines the street. Some lie abandoned and ready for upgrading or demolition.

Avenida Francia | Avenida Alemania

Walking through Quebrada Jaime - View 5

The point where the natural stream of Estuario Jaime transitions from an open above ground stream to canalisation. The rural fringes of city are served insufficiently by vehicular road access. There is ample shrubland, lush and fertile from the recent forest fire in 2014. Many homes were destroyed in this period.

Quebrada Jaime : Ground Conditions

To begin the investigation into Quebrada Jaime from a scientific point of view, it was important to map the different ground conditions of the valley.

Using a combination of historic maps, OS maps and aerial images, a conclusion survey was made highlighting the substrate and its varying components.

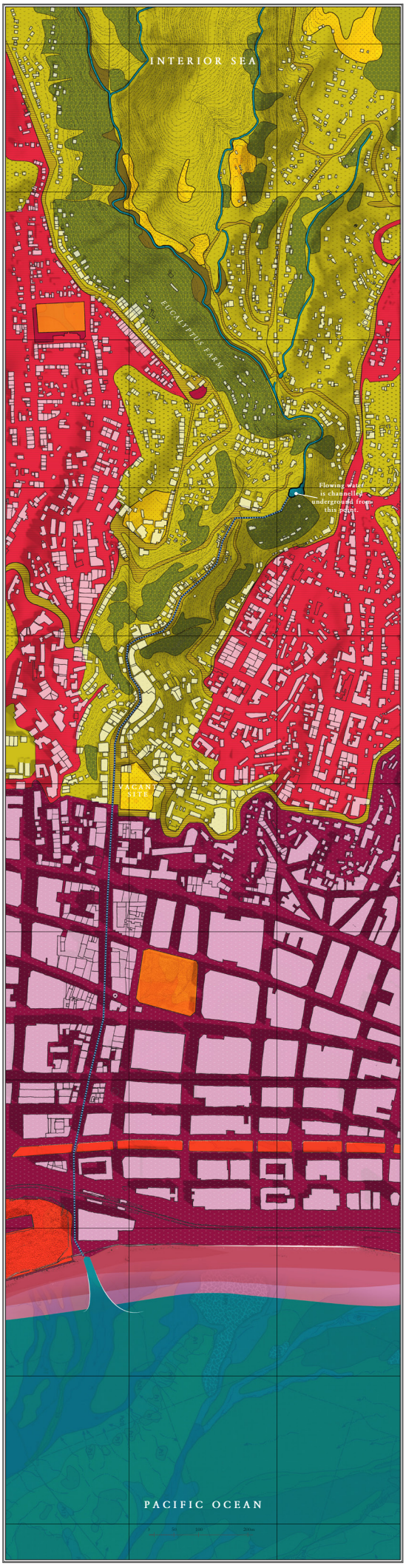
Due to the city's evolution over time. Artificial ground cover makes up a large proportion of the city fabric. This was due to the city's expansion eastwards, in doing so reclaiming land from the sea to artificially create a larger city. The proposed intervention in similar fashion recoups available land to grow from its centre.

If we are to analyse the city before its artificial expansion, Centro Cultural Trafon currently sits on top of the previous coastline, before it was extend outwards. This is the cusp of land meeting water.

The hills of Valparaiso are primarily made up of rock. This rock is mostly metamorphic, formed over generations under high pressure. A lot of which will be excavated and used in the construction of the landscaping and terracing.

In between the two hills, the quebrada is the most fruitful when considering adobe construction. Sand, clay and silt quarry's are aplenty. Soil is easily attainable for short term and long term purposes. The soils of Quebrada Jaime differ from the soils of other quebradas.

What ties the entire landscape together is the common thread of water. A stream in existence runs from the tip of Valparaiso down to the ocean. This will form the spine for the projects urban masterplan. Associative program will branch off of this. An urban tissue of green is a direct consequence of this life-source. It should be heightened and celebrated as a common figure of Valparaiso.



Substrate

- Water
- Clay/Sand
- Metamorphic Rock Substrate
- Artificial Land Cover
- Earth Substrate Nocalcic Brown
- Eucalyptus
- Wetland
- Public Landscaping

Quebrada Jaime : Living Organism

When analysing the geological makeup of the city in further depth, a series of nodes begin to evolve with key points of interest. This is how the urban strategy is formed.

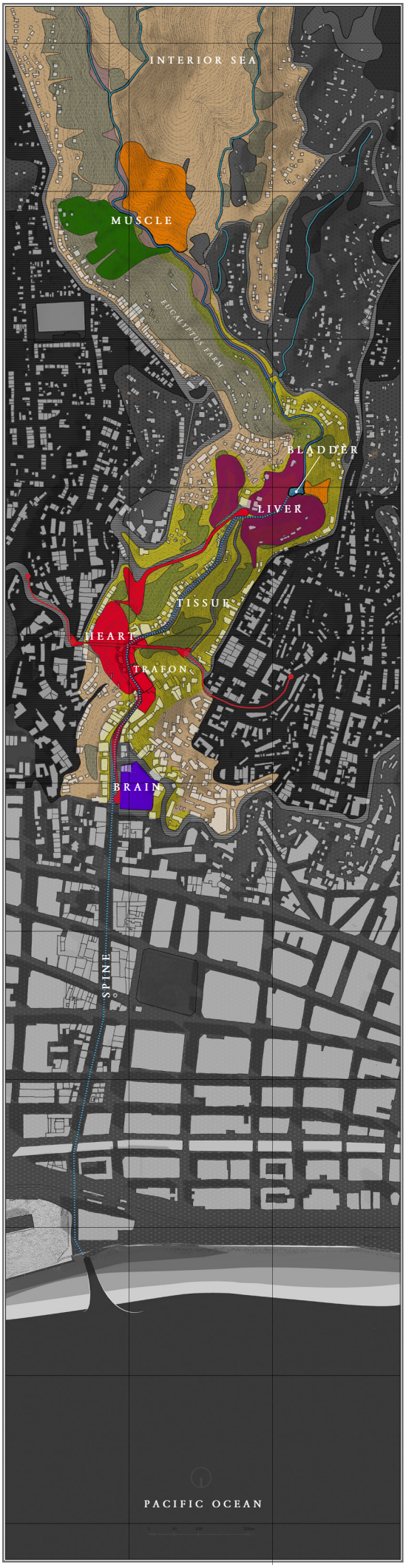
The Heart is the focus of the project. It is the threshold point between urban and rural. This is where the industrial building will be built and forms the epicentre of the entire masterplan. Appropriation of the landscape will take place and local Portenos will establish new communities at this point. This will work in tandem with an agricultural upgrade and the proposals for urban farming.

The Liver, regenerative in nature, investigates rebuilding communities that were affected by the great fire of 2014. Here homes will be restored by local techniques of adobe construction. Building materials will be salvaged from heavily affected homes. This site in the south will become the test lab for conservation of the craft and an opportunity for experimentation in new housing designs.

The Brain sits north. It allows for a civic presence of the urban masterplan, a face to the whole idea of converting wasted landscapes to productive landscapes, an education facility that operates at a regional and international level.

More materials can be salvaged high up in the hills of Valparaiso. A space has been earmarked for the quarrying of raw materials and the sourcing of eucalyptus. This is in consideration for an industry that will operate at a more city scale.

The spine and tissue. Water and Landscape will be the defining features for the success of this masterplan. The overall ambition, to use landscaping as a means of providing public, recreational, agricultural and social space that ties a divided city together.



Organs

- Muscle
- Liver
- Bladder
- Tissue
- Centro Cultural Trafon
- Heart
- Brain
- Spine

Project Objectives

Here is an outline of the key aims for the project,

1. Addressing the Frame | Gateway Duality. Restitching an urban fabric that is divided through metaphorical gestures.

2. Converting a current Wasted Landscape to a Productive Landscape.

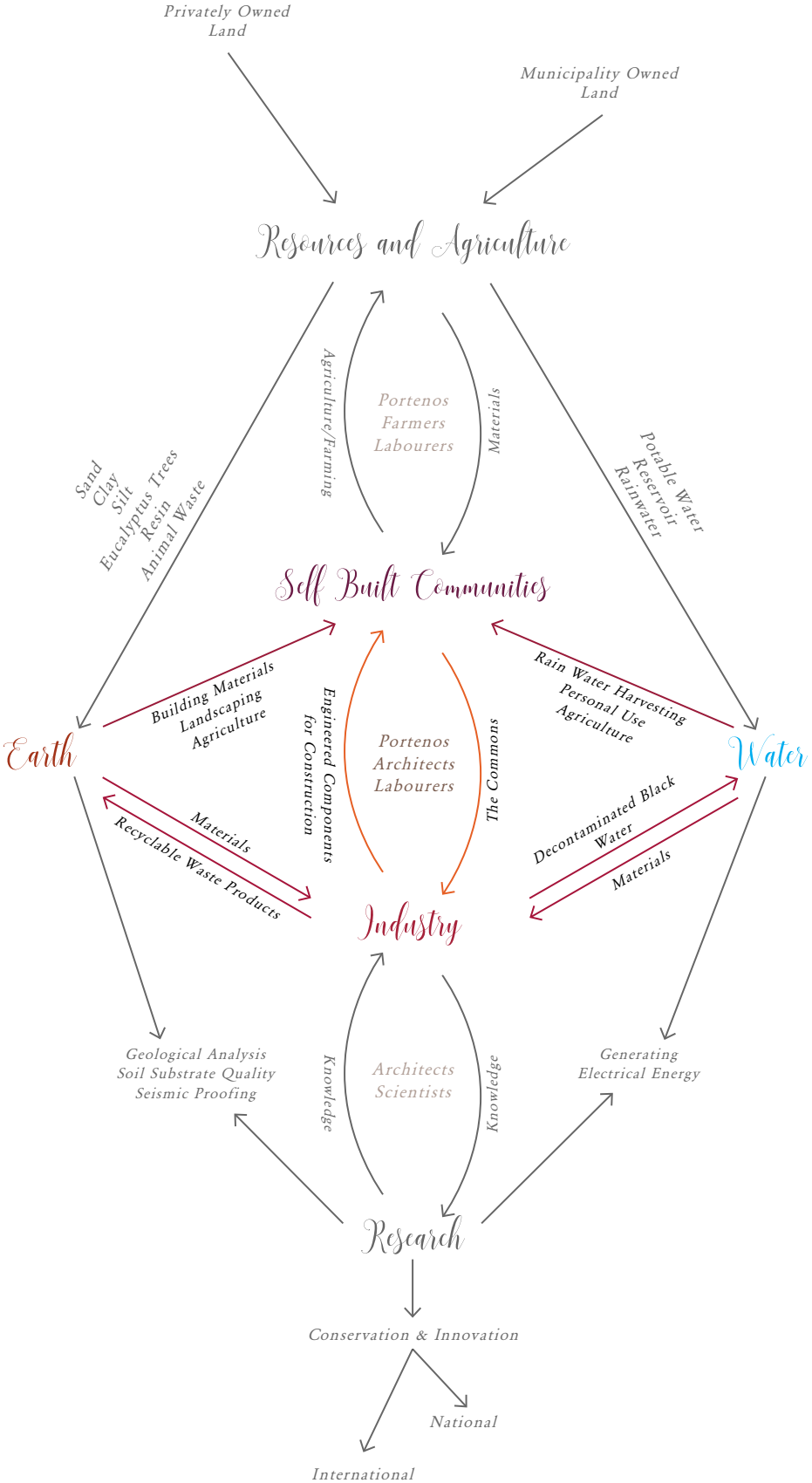
3. Proposals for a New Urban Realm & Metropolitan Park that operates at a productive, social and recreational level.

4. Celebrating the invisible thread of Water that once shaped the valley.

5. Celebrating & Educating Chileans of Traditional Adobe and Wine-making Craft. The conservation of this craft, and prospective future innovations behind it through research.

6. Introduce an architecture that challenged the domesticity of Valparaiso's Urban Sprawl.

INTERIOR SEA

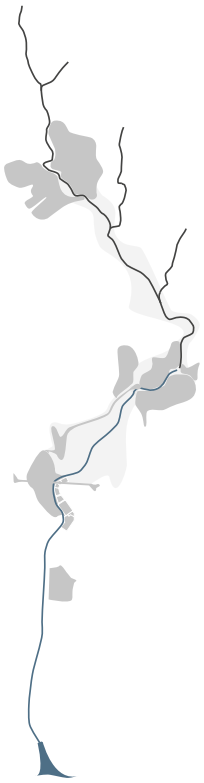


PACIFIC OCEAN

Scale Model 1:2000

Physical Representation

A series of speculative collages exploring the urban masterplan



Avenida Francia was formerly known as Quebrada Jaime. The valley was carved from the estuary that ran from the interior sea down to Caleta Jaime at the Pacific Ocean. This spine has been fruitful for many communities to thrive upon, yet no community is built directly beside the natural artery.

In the early 1900's, the estuary was buried beneath ground level, as the open stream became canalised, superseded by a vaulted structure made from bricks.

The image of Quebrada Jaime is still evocative, as a stretch of green space runs from the hills crown down to the table. The monumentality of this topographical phenomenon is unappreciated and could be heralded with an intervention.

Celebrating the forgotten Estuary of Jaime

Spine

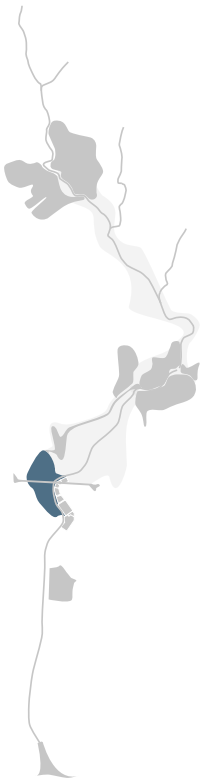
Bar the relevant Port of Valparaiso, the city has little innovation or export domestically and internationally. The tourism industry has profited in recent decades, however this is forecasted to saturate.

The importance of a new avant-garde industry is reliant upon the research of adobe construction. A more cultured and scientific form of application could be profitable to the future of the city as pioneers of this particular form of constructing.

A research facility offering more civic qualities, placed on the threshold of the city centre can become the gateway to the proposed landscape masterplan. Its architectural quality must be inventive and experimental. Its contextual impact must be uplifting to the community and the deteriorating East of the city centre.

Research Faculty & Laboratory

Brain

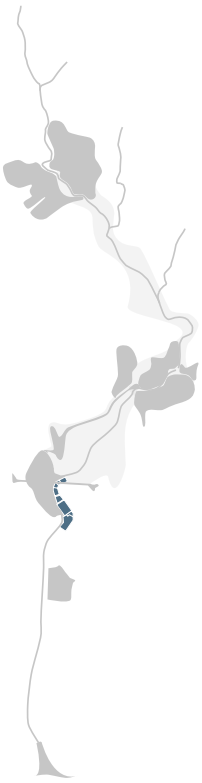


The industrial core of productivity will take place at the base of the Cerros in the valley, at urban street level. The project will propose to reconnect with the rural street at the summit of cerros La Cruz and Monjas.

A site of immense steepness provides a challenge in adobe construction techniques and an opportunity to redefine the facade of Quebrada Jaime and the Cerros, La Cruz and Monjas on a macro-scale. The excavated plots of land provide the basic framework for young families to build their homes through adobe techniques. The organic nature of the community built on the face of this quebrada is undetermined and at the hands of the residents themselves. A vertical vineyard will provide ample green space for the residents.

Excavating the Landscape

Heart



Centro Cultural Trafon will remain ever-present in the evolution of Quebrada Jaime. Initially built as a brick and textile factory, the building will undergo many changes in programmatic use over the coming decades. The open plan space varies as it snakes its way down Av. Francia. The initial use will be a storage facility, where raw materials used for on-site construction can be kept. A temporary warehouse.

This will evolve to become a market place for local residents to buy and sell produce in a curated space. The diverse space will have a street presence. Theatre, music and performance space inside the building will also be apparent on the street. The market street key to the interventions success. New cafe and restaurant facilities will also be forecasted.

Uplifting the existing Centro Cultural Trafon

Heart

Valparaiso currently suffers from a lack of green space. As a consequence public squares in the city centre become densely populated and offer light relief. The only traceable residue of green space, the rurality of the city entering the plan, is Av. Francia.

In order to promote the longevity of this space, the current vehicular road will be remove. A new metropolitan park connecting the crown and the table will be heightened, through landscaping. The natural slope will become more inviting, water features will be integrated in the valley. This urban tissue will be connected by program that involves the various aspects of adobe construction, from researching techniques, down to sustainable material resourcing. The existing landscape becomes worked and alive.

A Recreational Landscape

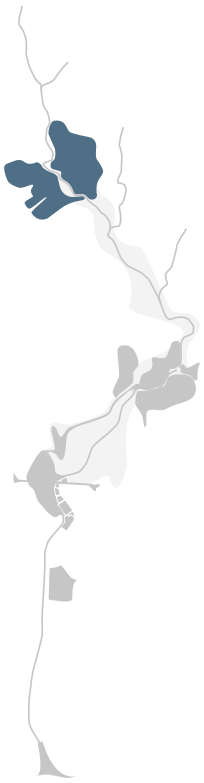
Heart

The city of Valparaiso is very susceptible to forest fires. In recent times, the Great Fire of 2014, swept through many communities living on the periphery of the urban condition. Many buildings and homes were destroyed and are remain in urgent need of restoration. A site currently exists at the summit of Av. Francia. This location will become the test-site where members of the community and local architects will come together to rebuild the community. Using basic techniques of Adobe construction, the buildings will be restored. This site also offers the opportunity to experiment with alternative methods of constructing; almost a Test-Lab scenario, in respect to earthquake and fireproofing.

This site is also the point where the open stream of Estuario Jamie becomes canalised. The intention is to create a reservoir before the water runs underground to promote outdoor leisure pools and a water source for the community to rebuild.

Restoring Fire Hit Communities

Liver



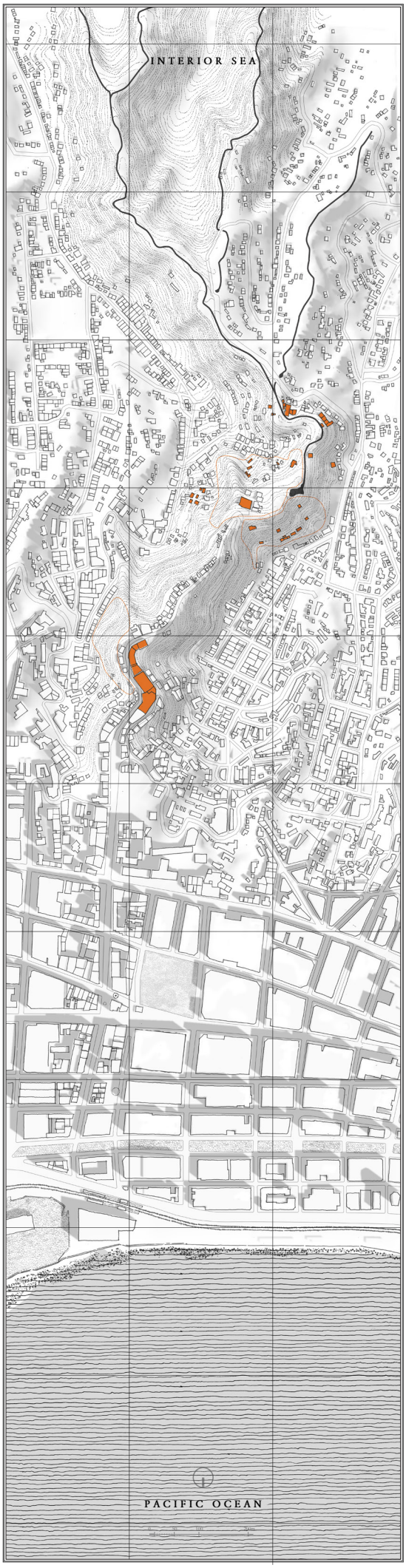
The acquisition of materials is fundamental for the construction of adobe to take place. Natural resources such as clay, sand, silt and water must be easily attainable to make the process of mixing quick and easy.

The materials mentioned are all sustainable. Resourcing of eucalyptus trees must be managed and farmed in an efficient manner. Localised farms at the top of Quebrada Jaime can become the base point for construction across the entirety of the city as well as the Quebrada itself.

These satellite building material sites can be replicated across the crown of Valparaiso as source points.

Sourcing Natural Reinforcement Plants

Muscle



PHASE 1

0 - 5 years

LIVER

Restoration of homes that were destroyed in the Fire of 2014.
Recycling of materials that survived from the destruction.
Establish community centre.

HEART

Occupation of the existing Centro Cultural Trafon.
Re-purpose the ex-fabrica, modern interventions.
Administration/Head Office for Quebrada Jaime Masterplan.
Site clearance across Trafon.

PHASE 2

5 - 10 years

BLADDER

Excavation of earth to expand the entry of open stream to vaulted stream.
Build retaining walls of reservoir.

SPINE

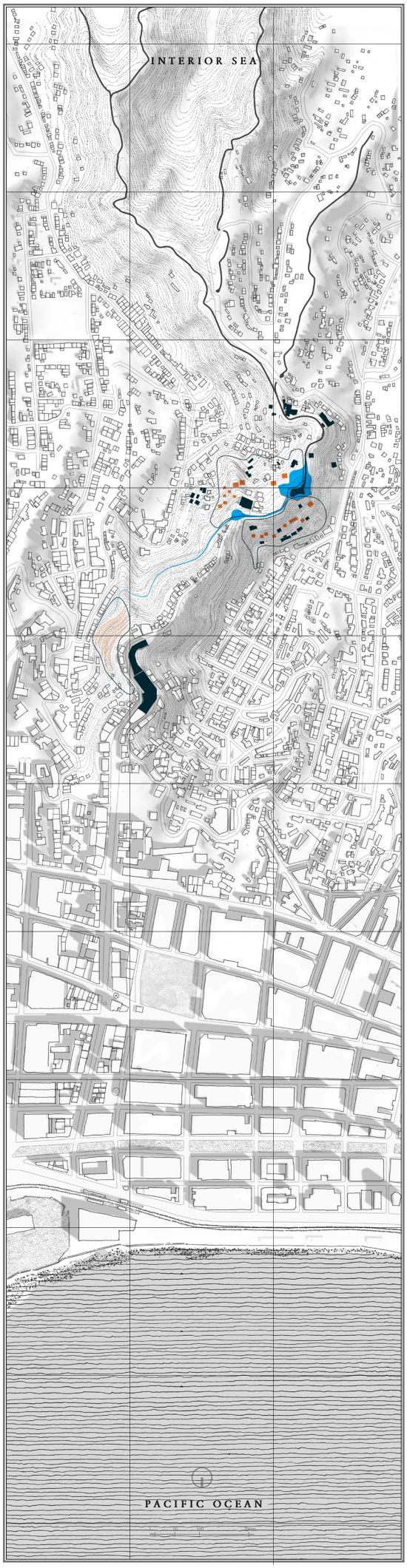
Water is channelled above ground from Estuario Jaime and connects to the terraced site.

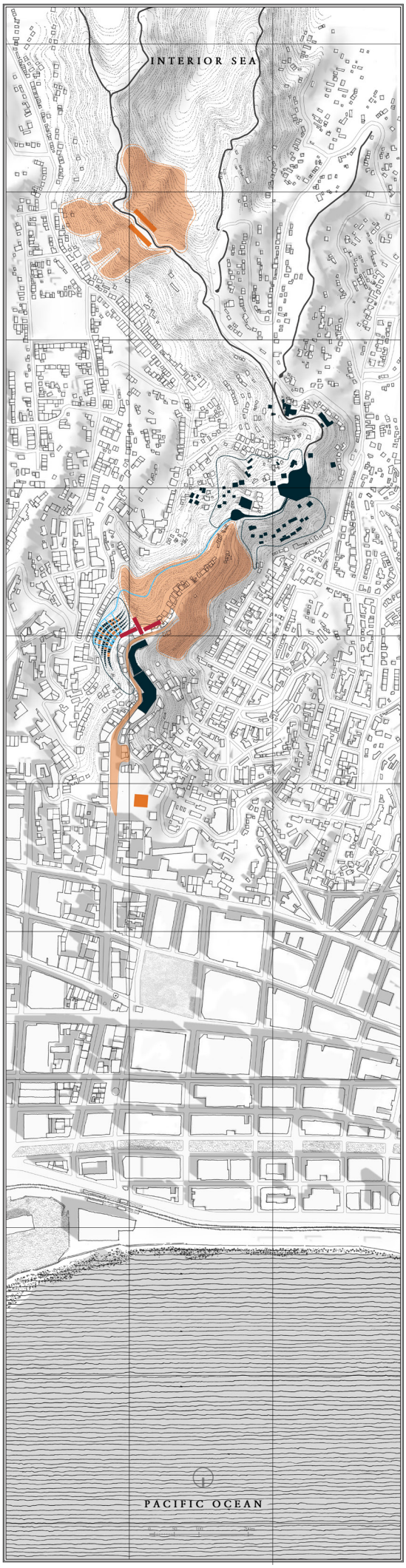
LIVER

Expansion of community with new build homes.
Public program introduced including shops and commerce.

HEART

Centro Cultural Trafon becomes used regularly for public activities. The surrounding space is landscaped for outdoor events.
Excavation of Earth for vineyards and housing to be built.
In-situ concrete foundations laid. Building of retaining walls.
Allocation of plots of land for homes to be built.





PHASE 3

10 - 20 years

MUSCLE

Material site founded in the North of Quebrada Jaime.
Administration for preservation, management and sustainability also advocated.

SPINE

Water channelled into the terraced housing site.
Water flow is regulated and controlled.

TISSUE

Re-landscaping of topography either side of Av. Francia.
Existing homes of poor quality demolished. Residents re-housed.

HEART

Centro Cultural Trafon expands its commercial presence.
The flexibility in the space enables a market place to form and community centre to form in direct relation to the adobe workshop.
Construction of Adobe homes in the terraced site.
Annual cultivation of terraced vineyards

BRAIN

Existing buildings on site demolished and removed.
Construction of Technology Facility in empty site on Av. Francia.

PHASE 4

20 + years

MUSCLE

Similar quarry sites established across the Crown of Valparaiso to support further construction.

SPINE

Water channelled across the bridge to support both sides of the Quebrada.

TISSUE

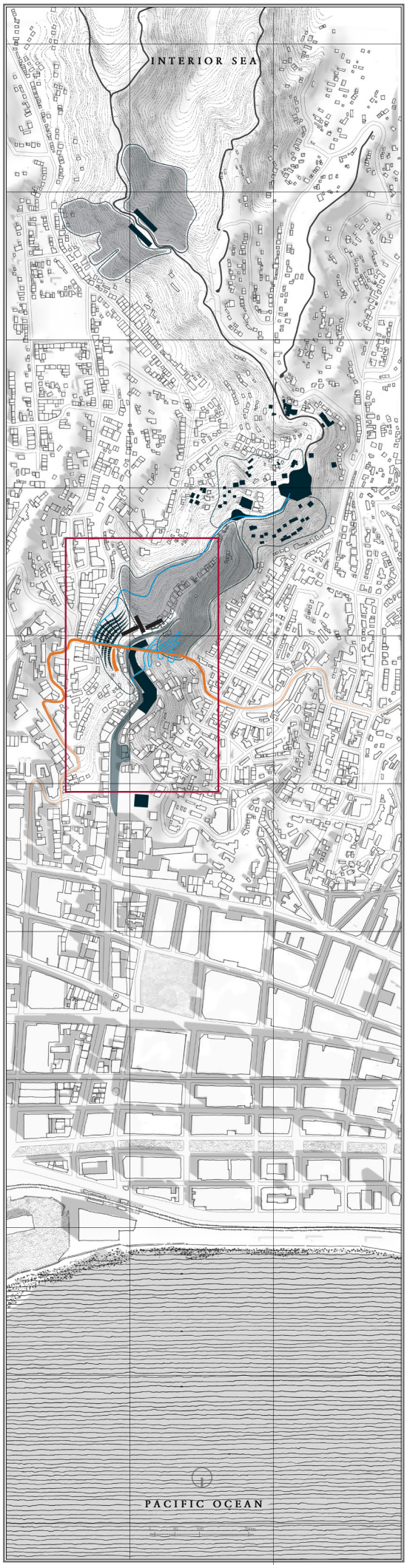
Av. Francia is removed from Quebrada Jaime.
Service dirt road remains to support flow of materials.
Urban farming is now supported in the Quebrada.

HEART

Bridge connection above Trafon connects Av. Alemania.
Centro Cultural Trafon functions as a market place for local residents.
Museum of constructing with Adobe also introduced, Conservation of local craft with daily workshops. The historical context educates locals and visitors of the city.

BRAIN

A new entry to the Metropolitan Park of Valparaiso is marked by a garden at the Research Facility.



Existing Site Conditions

1. Centro Cultural Trafon sits central to the Quebrada. It currently signifies the gateway between the urban fabric of the city and the rural fringes. The building is infrequently used for public events and social functions.

2. A merchant site within the city's orthogonal grid suffered from a fire in 2017. The current property remain abandoned and there is scope for renovation.

3. Buildings marked in red are under serious threat of demolition. They can either be upgraded or materials can be reclaimed for future construction.

4. Ascensor Las Monjas defines the elevation the hillside. The funicular system is currently closed. An art installation helps to identify the cable car system from afar.

AV. ALEMANIA
AV. FRANCIA
AV. ALEMANIA
Construction in Operation. Residential Building Unit
views
views
3
Vacant Site owned by C.G.T. Car Parking Facility
CENTRO CULTURAL TRAFON
2-3 storey residential housing block.
Storage Site MetalWorks
1
2 storey residential home. Acquisition of land. Demolition and rehousing of occupants.
Centros De Rehabilitación en Valparaiso
BS Chile Laminates, Flooring and Ceramics Retailer
Ascensor Las Monjas (cerrado)
4
Merchant Site
Former Merchant Site. Plot in current state of disrepair.
2

Strategy for Intervention

The strategy for intervention is completed in three main stages. The landscape will be allowed to evolve naturally and the appropriation of the surrounding context will thrive from this. The intention is to see Quebrada Jaime evolve naturally, under the stewardship of local Portenos in the coming decades.

1. Excavation of earth and rock in areas marked in red will be used in the Adobe construction, This material is directly sourced from the immediately surrounding hillsides. After the architectural intervention is complete, this locally sourced material will be used to rebuild the local community.

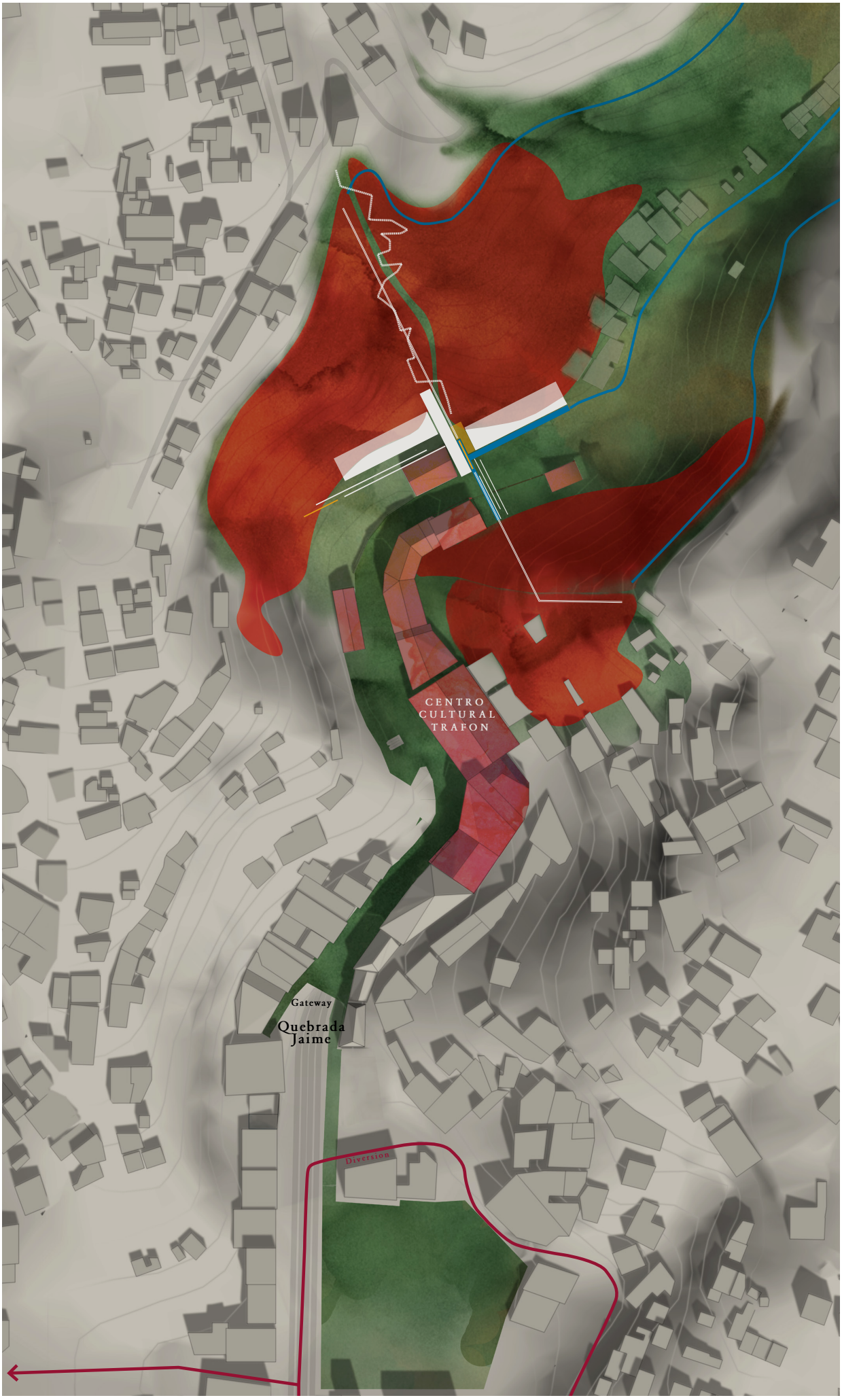
2. Simultaneously, terraced hillsides are completed with fertile soil. These terraces will allow for a productive agriculture. A series of vineyards will change the face of the quebrada. This facade will evolve with seasonal harvest of grapes and fruits. An urban winery will be core to integrate farming into the city.

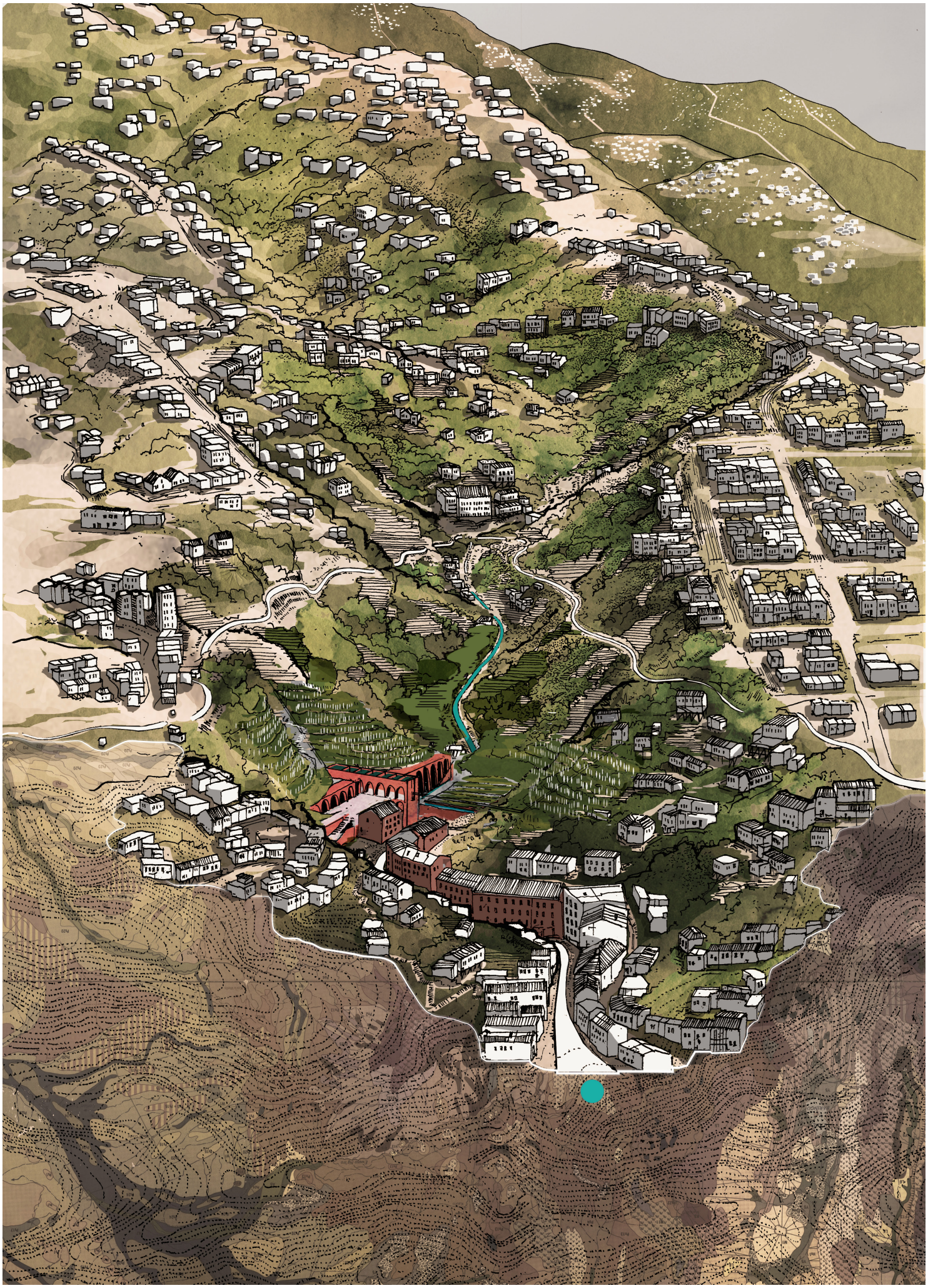
3. Re-landscaping Avenida Francia into an urban metropolitan park connecting the urban context with the rural fringes of Valparaiso. This will reinvigorate the public realm of Quebrada Jaime. The architectural intervention will mark the gateway point of transitioning between the urban context into rurality.

Additional Considerations for a wider Strategy.

* The abandoned building across Centro Cultural Trafon, now hosts an electrical generator, converting kinetic energy of a water turbine built on site into electrical energy. The Powerhouse will go on to provide electricity for the neighbouring cerros and Avenida Francia.

* Avenida Francia will be closed for vehicular access. The road has been diverted to Calle Pocuro, which now connects Avenida Argentina with Avenida Alemania. This will allow for sustained traffic flow at an easier slope. Avenida Francia becomes solely pedestrianised, reinforcing the notion of a green metropolitan park for the residents of both the city centre and rural fringes.


CENTRO
CULTURAL
TRAFON
Gateway
Quebrada
Jaime
Diversion



Architectural Intervention

A Gateway Building

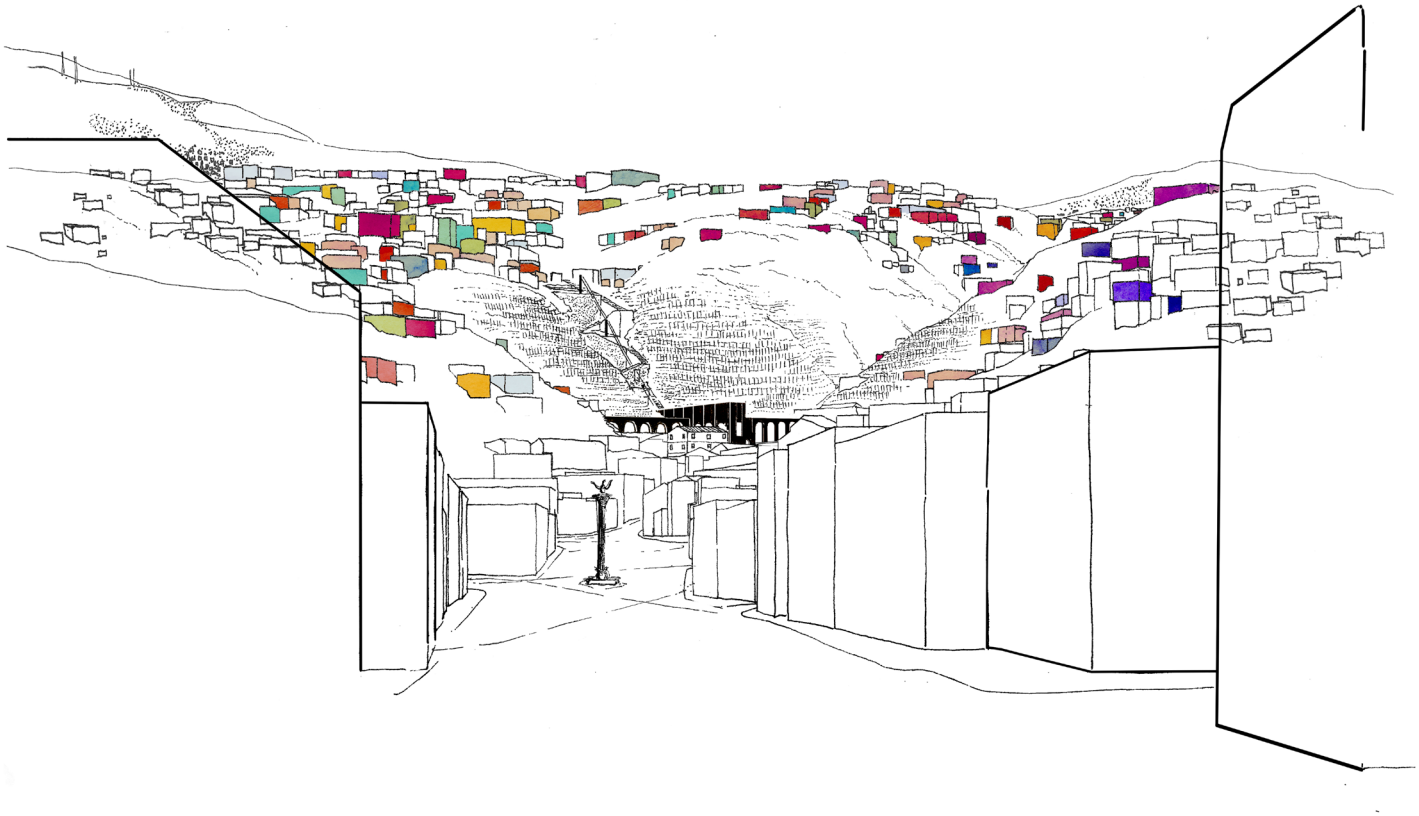
The built form sits heavy in the landscape. The facade of the building is reminiscent of the aqueducts of many an ancient Roman city, often perched among the hilltops.

The buildings facade is appropriate. A set of arches reach out invitingly to the existing street of Avenida Francia. These portals, identical in dimensions are tunnels into the landscape that sits beneath.

The architecture is striking, it is buried beneath the hillside, propping up the vineyard which rises to the heavens above.

The blanket of houses which sit in a mosaic like pattern dresses the hills of La Cruz and Monjas. The incremental growth of the city has sprawled up its hillsides, like many of the valleys and quebradas.

This architecture does not follow the status quo. It is striking and of great monumentality. It challenges this preconceived idea of building within Valparaiso's hillsides. The architecture challenges the immensity of the landscape. Currently, dwellings are rather submissive to the natural topography; this newly proposed architecture challenges this underlying dominance and changes the dimension of Quebrada Jaime's facade.



Visual Gateway experienced within the city fabric

Avenida Francia

Initially the project suggested the restoration of the disused Cultural Centro Trafon (centre of Quebrada Jaime) as the starting point for urban intervention. However, the edifice currently functions as a public space for art events to take place. The design therefore sought to supplement the existing, with a new building constructed from experimental, but relateable adobe techniques. This new architecture helps compliment the existing to create a new public space that can be accessed by the neighbouring cerro hillside residents as a hub. It also forms a gateway between the rural outskirts of the city and the beginning of a newly proposed urban metropolitan park. The building becomes an urban connector in its immediate context of the valley and Valparaiso on an urban/rural scale.

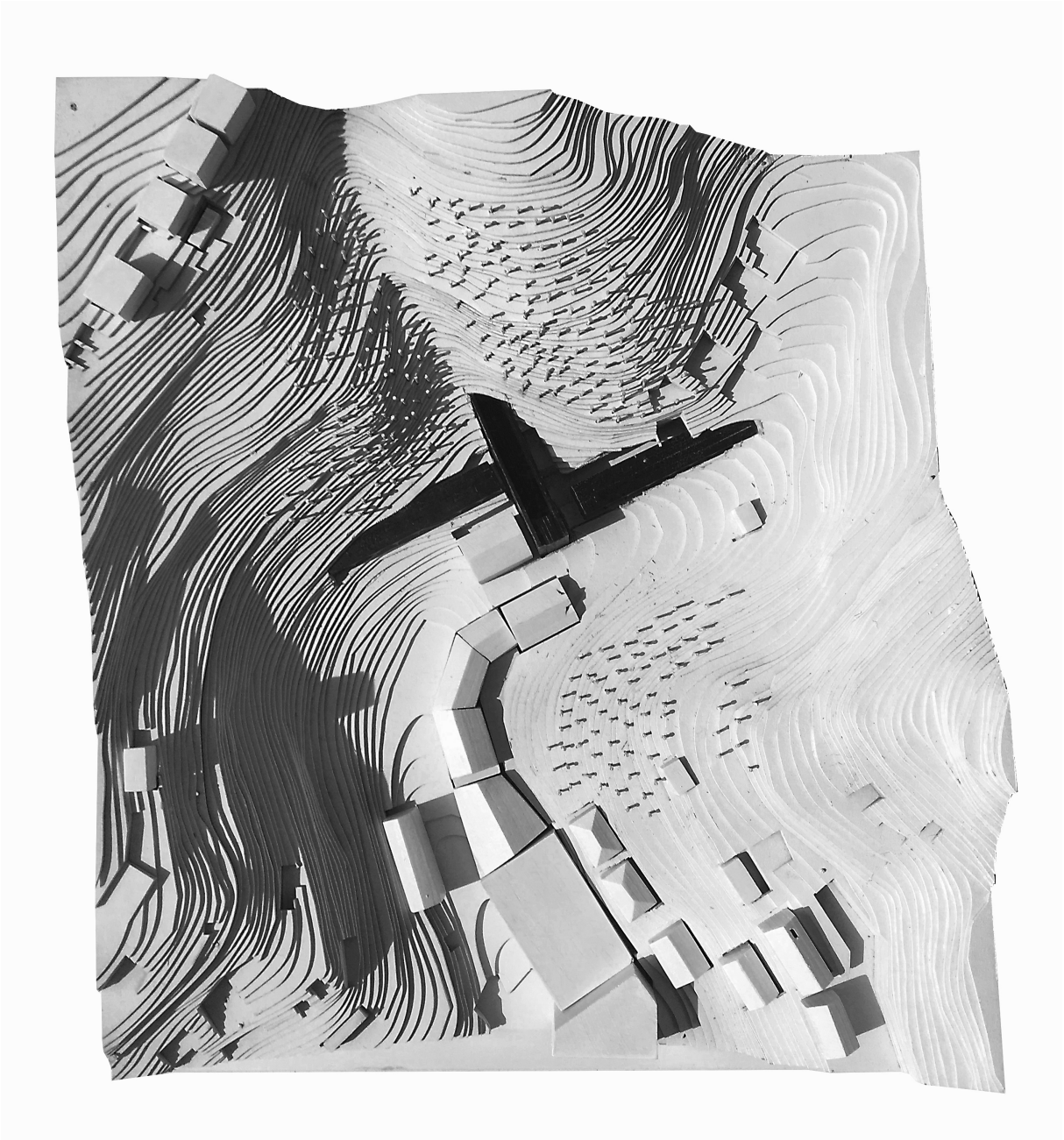
The building is very intelligent in the way that is has the ability to conceal and reveal itself. There are parts of the building that exposes itself to the context. This creates points of commoning, where people, materials water and landscape come together and the actions of pressing wine and mixing adobe take place. Elsewhere the building becomes closed, inward looking, a reflection of the quebradas innate intimacy. This helps to create a level of-domesticity to the project, that an industrial building can sometimes fail to deliver. Moments of silence and preservation, materials remain static and in the darkness. Shafts of light into the space create a museum like experience where the raw materials in adobe and wine become exhibited. There is a spectacle being created.

The building functions at different scales. There is a level of domesticity to the production that is intentional. This is not a large scale factory pumping out bottles of wines and batches of bricks. That is not to say that it does not have the capabilities, facilities and space to expand. The idea is to create an understanding of the different ingredients required in production. Making Chileans aware of the process/craft and the products available all under one roof. The building can expand and contract based on its needs. A larger supply of raw materials can be extracted higher up in the Quebrada. This is the same for wine production. The terraced vineyard currently offers a limited harvest, but more grapes can be sourced from distant planes.

In the immediate context grapes are sourced from the hillside to which the building sits under, and earth is excavated from the hill also to support the adobe production. The quebrada undergoes seasonal change, as well as annually. The facade of the quebrada is constantly evolving. Material extracted from the land, is imported into the building by a mechanical system, reworked, reshaped and reapplied in the form of modernised construction back into the cerro.
The program of the building is relatively simple. An open floor plan allows flexibility of use. Production varies from adobe based construction products, ceramics, glassware, amphorae etc. A more artesian form of industry. To also promote future thinking, research facilities are located on the second floor, exploring the untapped science behind adobe craft. The building technique has long been readily used in Chile, but its true knowledge and understanding is less detailed. The design promotes production and experimentation of Adobe on site, with localised earthquake, fire and water resistant testing.

The detailing of the building follows this notion of hybrid relationships; how the urban meets the rural. Old construction techniques meet new. The application of adobe in the building is limited to the front of the building, a series of vaulted arches. The space encountered between the exposed rock from the Quebrada and this facade is negotiated with a lightweight timber floor and concrete infill. Blackened Steel is implemented to varying degrees as a buffer to provide a contemporary materialisation to the building and highlight openings, fenestrations and minor nuances.

The section of the building is layered. The building reveals and conceals, creating permeability and opaqueness in its design. The section varies depending on where the landscape meets the building. The orthogonal plan might suggest a formal space of little variation. However, the landscape is allowed to thrive and supersedes the built architecture, inadvertently creating a succession of diverse and interesting architectural spaces. At times concealing parts of the interior, at other times, revealing all. The framing of the rock and vice versa the view out to the sea is a duality that is constantly being explored.



Birds Eye Overview

Context Model

Horizontality v Verticality

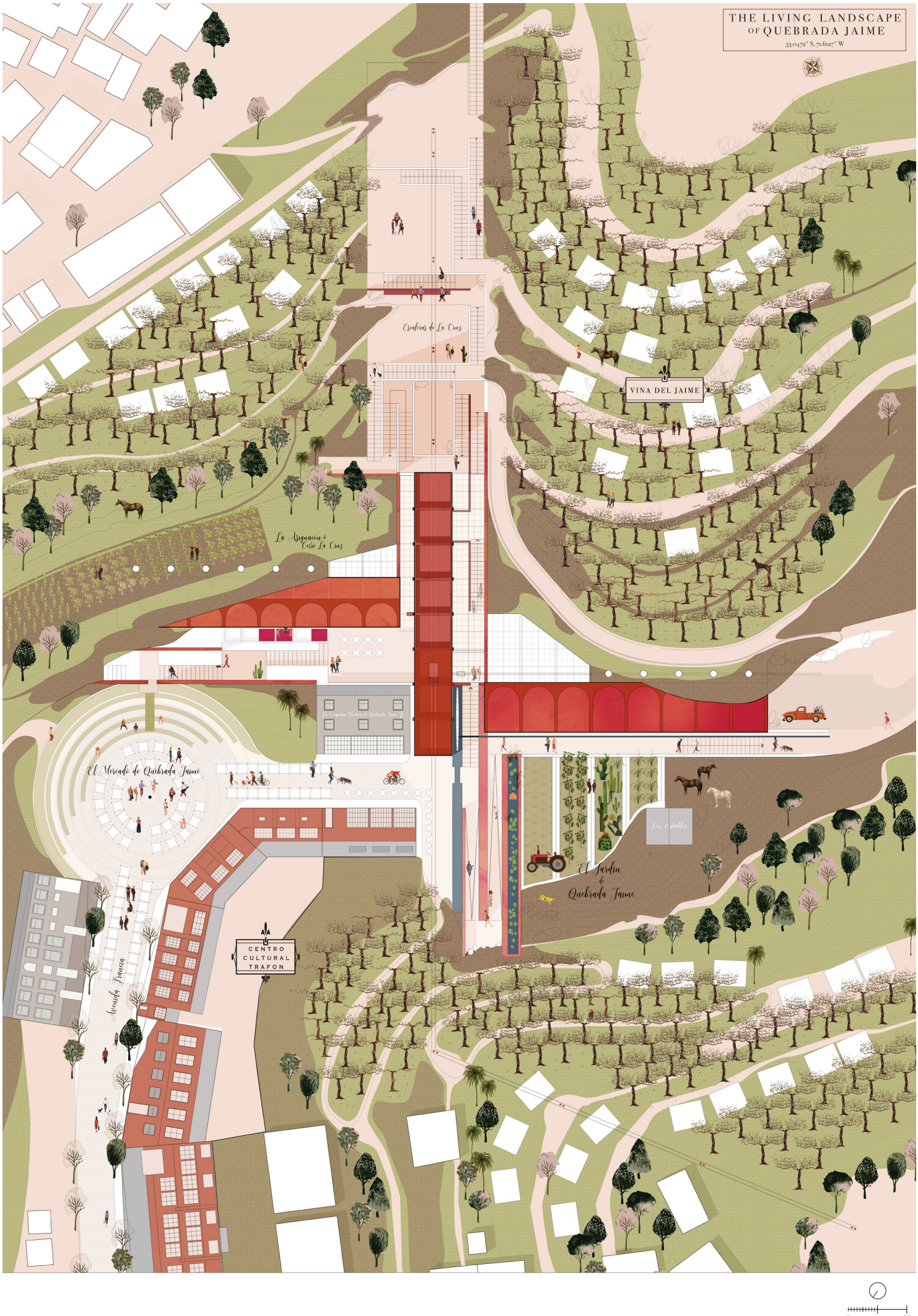
The built intervention sits directly opposite the Centro Cultural Trafon. The street of Avenida Francia remains to some extent. Trafon slaloms its way around the contour of Quebrada Jaime, the new infrastructure does not. It is orthogonal and intentionally cuts into the landscape. As a consequence the buildings rectilinear form has informed a relatively simple interior floor plan.

Intermittent spaces are created as a consequence of a building that sits independent to the landscape. The landscape now merely navigates its way around the built walls of the atelier and winery. At points the building reveals itself to the open air, at other times it is buried beneath the earth and all but hidden away.

The landscape sweeps past the adobe structure horizontally as well as vertically. This is reflected in the site plan across which explores the building in both plan and elevation form. There is a strong relationship to the façades composition and the floor plan.

The ancient looking site plan draws upon influences of parallel projection in design. The building is a reflection of traditional crafts, it only felt right to follow suit in the method of representation when contextually locating the building amidst steep hillsides.

Illustrative Plan influenced by historic Persian / Byzantine Miniature Manuscripts.
Context Plan

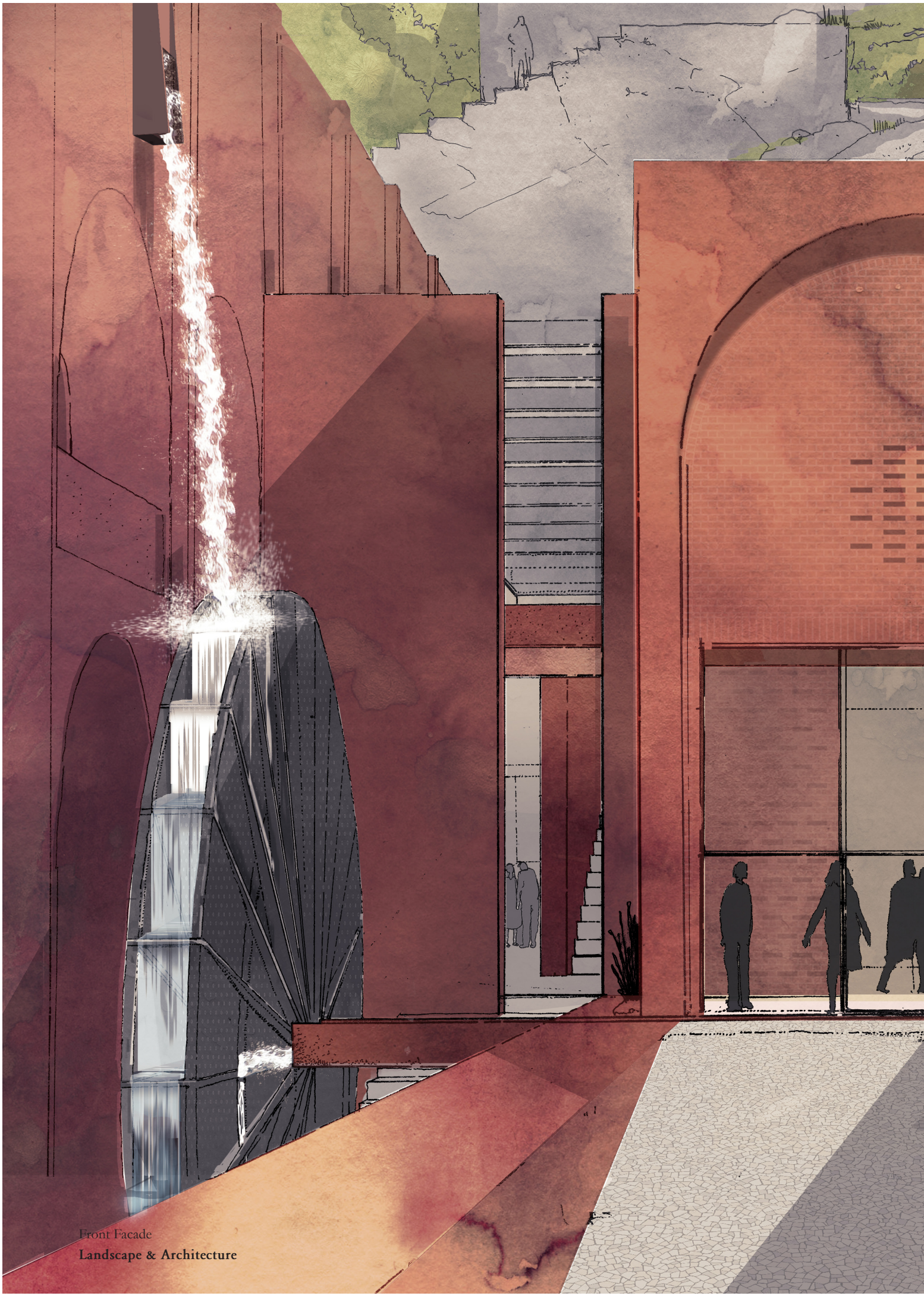

THE LIVING LANDSCAPE
OF QUEBRADA JAIME
33.0472° S, 71.6127° W
Escaleras de La Cruz
VINA DEL JAIME
La Asignacion de Cerro La Cruz
El Mercado de Quebrada Jaime
Les Etables
El Jardin de Quebrada Jaime
CENTRO CULTURAL TRAFON
Avenida Francia
0
metres
10

Landscape and Architecture

The buildings materiality reflects the natural earthy tones of the surrounding context. In order to sit seamlessly with the immediate surroundings, the buildings facade adopts a reddish hue, the natural tone of the earth and soil extracted from the surrounding hillsides. There is minimal additives applied to the adobe mixture. Maintaining the integrity of the raw ingredients was an important decision in defining the appearance of the building.

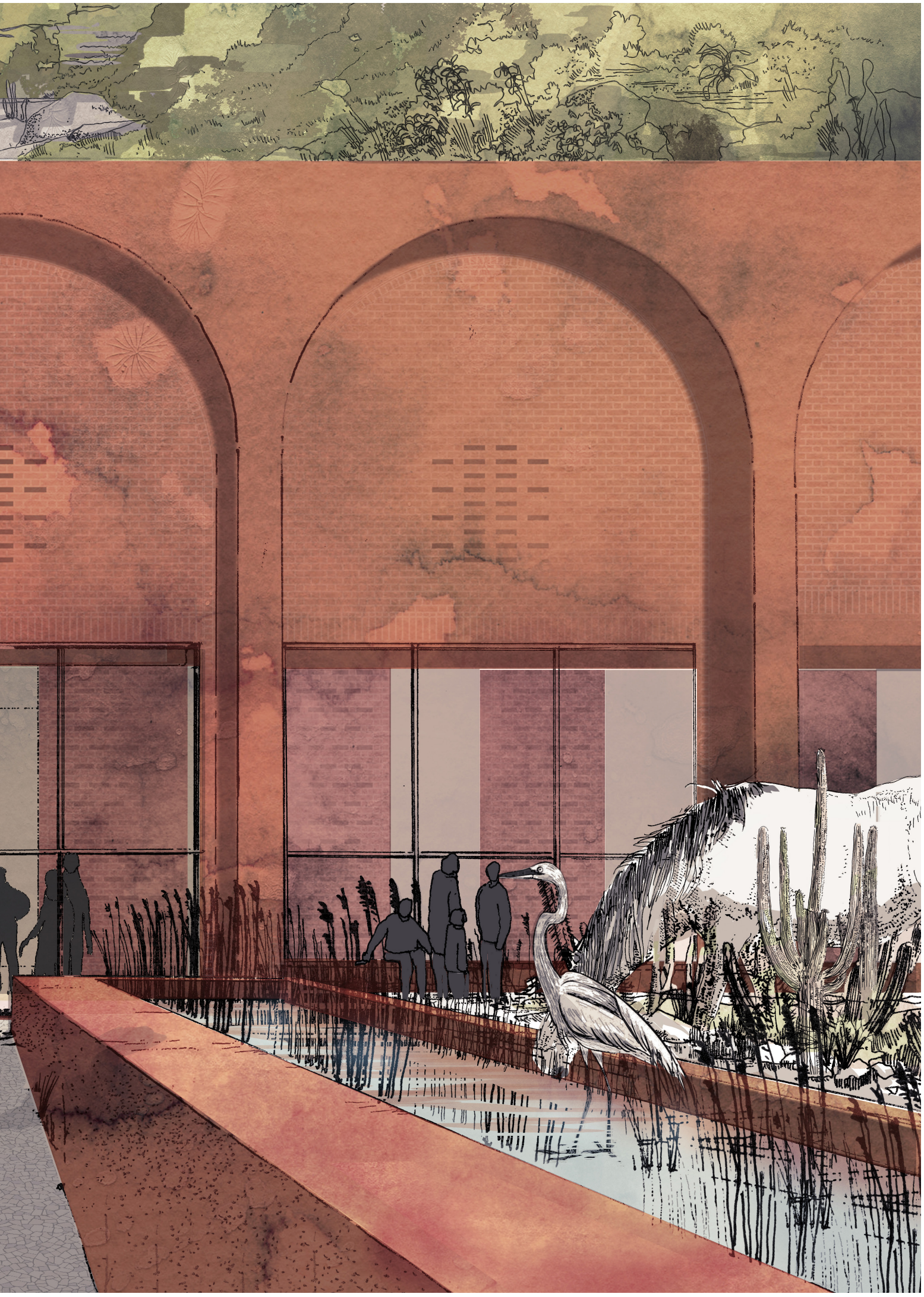
The building has little ornamentation. The buildings integrity is clear, the excavated land is left raw and bare. The architecture is durable, but over time it will erode in the same manner as the landscape. With the initial scope of the building to conserve the craft of adobe construction, its second phase will look at innovation. How will advances in research inform the future design of the building when it is in need of restoration.

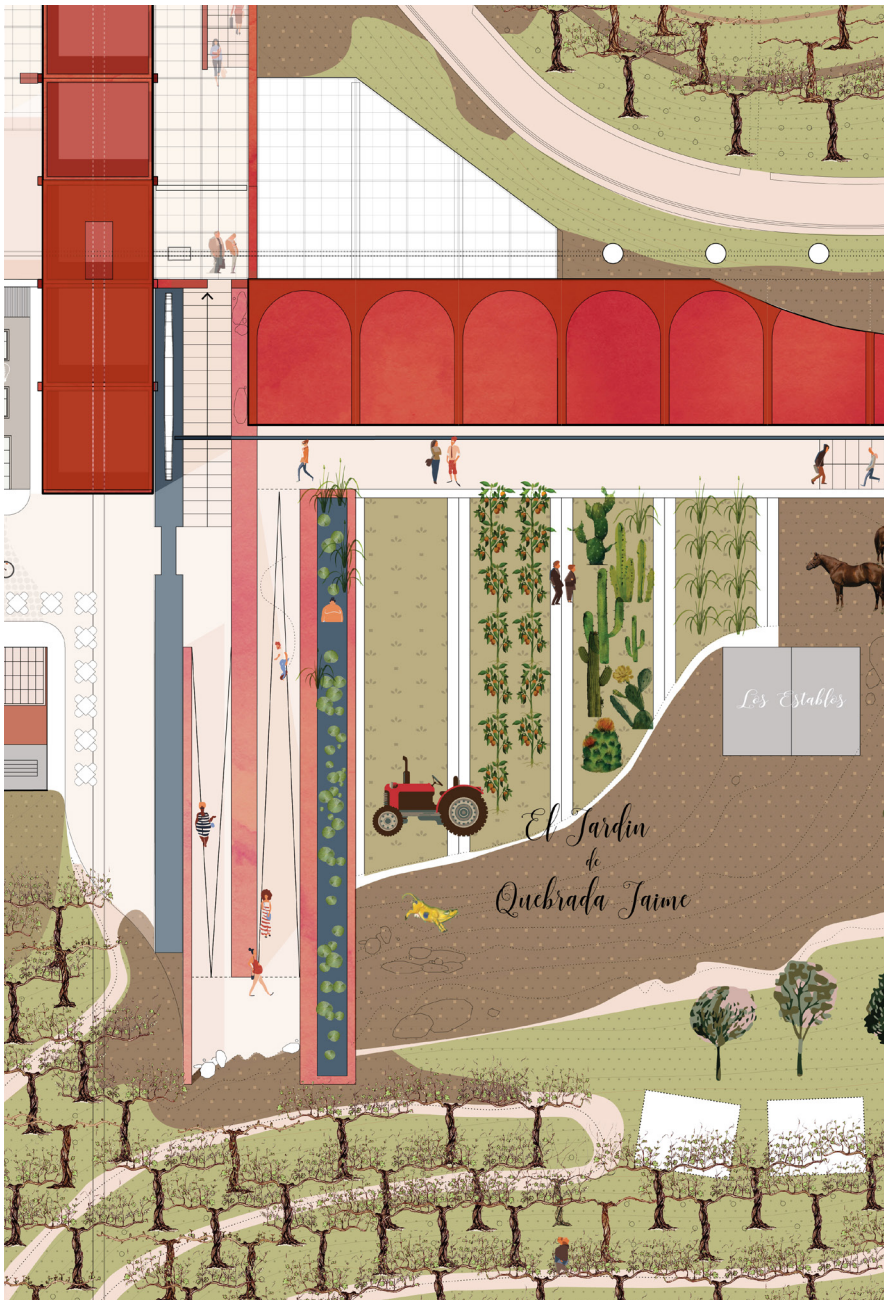
Avenida Francia is now completely pedestrianised. Vehicular access is restricted to the delivery of goods. The street now becomes used as a marketplace and encourages further social use of the existing Trafon building. This point of centrality becomes the starting point for an urban metropolitan park which rises up Quebrada Jaime.



Front Facade

Landscape & Architecture

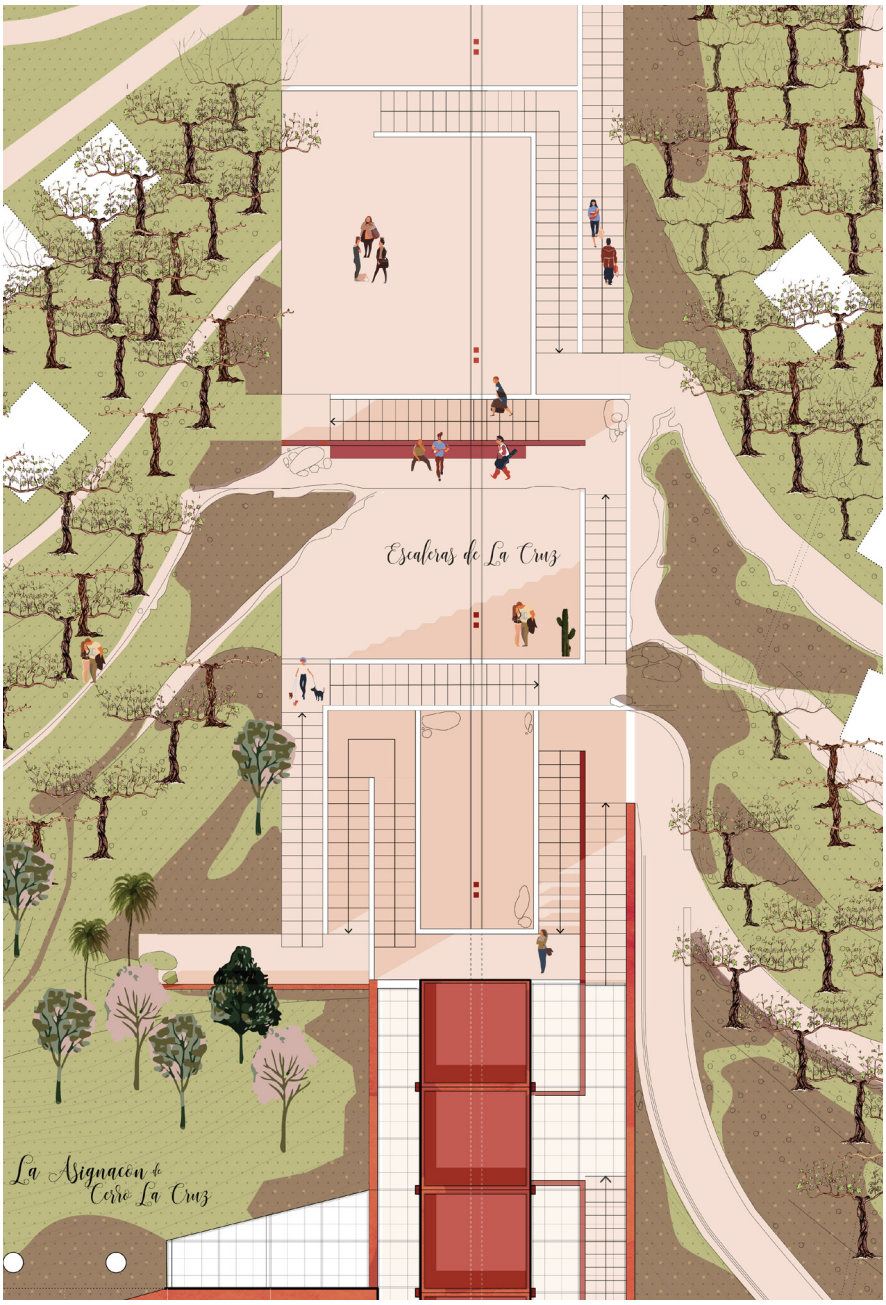




A new garden sits at the centre of this public realm. The garden is an extension of the activities taking place in the atelier beside it. Here a cactus garden is planted, as well as a pasture for a localised farm. Mud bricks that are moulded in the atelier can be dried in the sun outside naturally as opposed to using the kilns. A ramp connects the street to the garden space. This extends the journey time, creating a point of rest and allows users to engage with the landscape, the building and the water threshold.

Garden Serving the Atelier

El Jardin de Quebrada Jaime



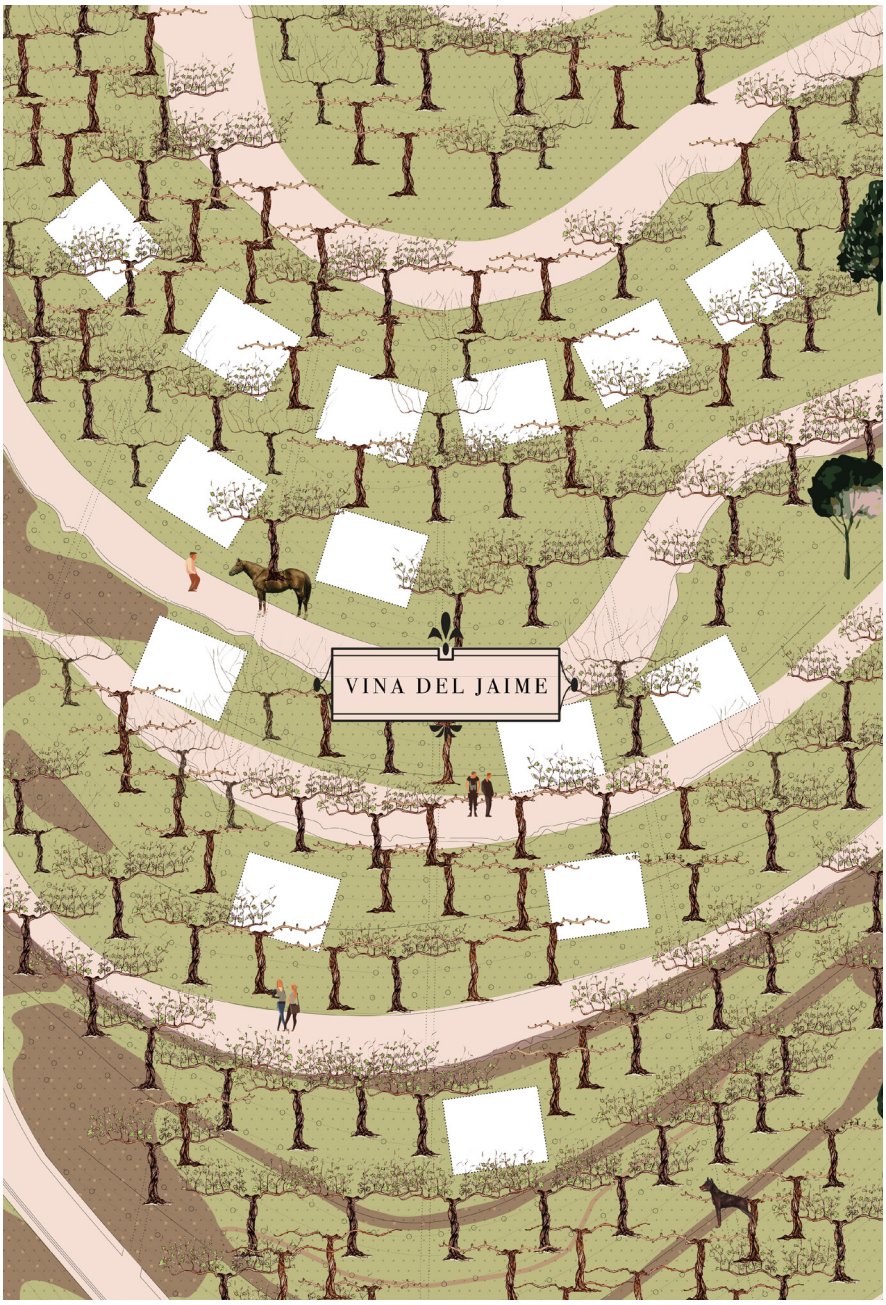
A staircase now connects the urban street with the rural street of Cerro La Cruz. This staircase is a composite of concrete infill and excavated rock. A series of large platforms create miradouras and public parks that overlook the Pacific Ocean. Each of these terraces connect transversely with the vineyard on either side, that supplies the winery below.

Public Staircase & Miradouras

Escaleras de La Cruz

Carved Staircase
Landscape & Architecture

Pt24
Pt4
Pt15
Pt20
Y6
Y5
Y10
A5
Pt13
Pt3
Pt1
Pt17
W1
Pt3 + Pt15
Pt14
Pt12
Pt24
A7
Kora Wells
Talambala



The terraced vineyard defines the cerros of Quebrada Jaime. The curated layered garden acts as the mediator between the urban and rural context. Wine-pickers harvest grapes from the vines in the urban context. This seasonal activity varies between fruit trees which come into harvest at different points of the year. Produce that is harvested is transported into the building for wine to be made. Soil that is excavated from the hillside is also bought into the atelier for Adobe products to be manufactured on site. Materials are loaded onto the pulley system to increase the efficiency of this process.

Terraced Vineyard
Vina del Jaime

Landscape and the Built Environment

1. Residential Landscapes
Ollantaytambo Incan Architectural Ruins, Kancha
Chile | Bolivia | Peru

Hillside settlements on extreme terrains were once common. Agricultural land was within arms length as communities appropriated neglected land.

2. Recreational Public Landscapes
Punta Pite | Teresa Moller
Papudo, Chile

Contemporary methods of creating public pathway connections. Informal spaces of commoning are inadvertently created. This creates spaces for social interactions to take place. The walkway is minimal and carved from one material

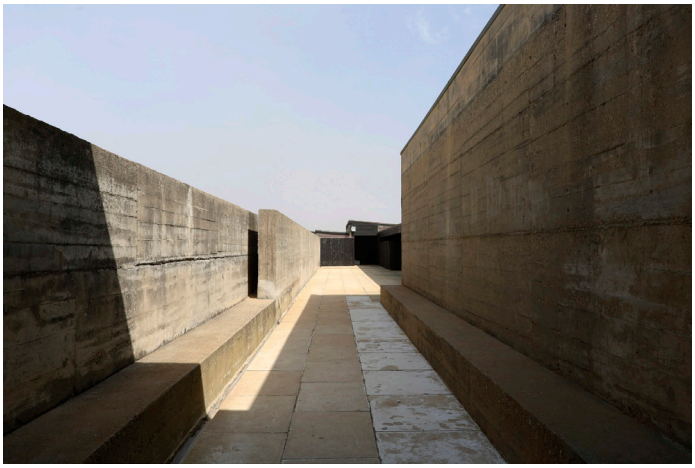
3. Productive Landscapes
3.Salinas de Mara
Mara, Peru

Using the landscape for productivity purposes. Salt can be harvested by families from each of these terraced plots of land.

All these interventions engage with the landscape from a living, social and productive standpoint. The intervention will seek to use landscape as the connector between the urban and rural, a mediator between a current broken dialogue.

The architecture of Bofill and Siza is also influential from a contemporary standpoint. Both architects acknowledge the role landscape plays within their buildings La Fabrica and Tidal Pools. Each of the constructed forms lay sensitive to the power of nature. The architecture however is not completely submissive, it does challenge the dominance of the context, with bold incisions on the landscape. These are examples of architectural design with subtlety and nous.

La Fabrica | Ricardo Bofill
Barcelona, Spain



Tidal Pools of Leça de Palmeira | Alvaro Siza
Matosinhos, Portugal

Excavating the Quebrada

In order for construction to take place. A process of digging must take place. Machinery and tunnelling equipment must be bought onto site and the arduous task of excavating the rock-face of Cerro La Cruz can begin.

Initially the removal of top soil, around 2 metres in depth, will begin proceedings. A lot of this earth can be salvaged and reclaimed. Soil that is attained will be directly involved in the construction process of the Adobe arches. Any additional material will be stored within the building for the production of adobe construction materials. These prefabricated mud-bricks or adobe panels will be used in the construction of new residential dwellings up in the hillside in the time period after.

A substantial amount of rock will be extracted from the hillside. Much of this rock is a metamorphic substrate. This rock will be left exposed in the building, providing the internal facade of the building. The remnants of the construction process clearly evident to the occupants of the building. The porous nature allows the building to maintain a well ventilated space.

Inside the winery and the atelier, individuals can engage with the carved rock horizontally as well as vertically. The rock rises above ones head and is within touching distance as it hits the floor.

Process of Excavation (see overleaf),

1. Natural contour of topography.

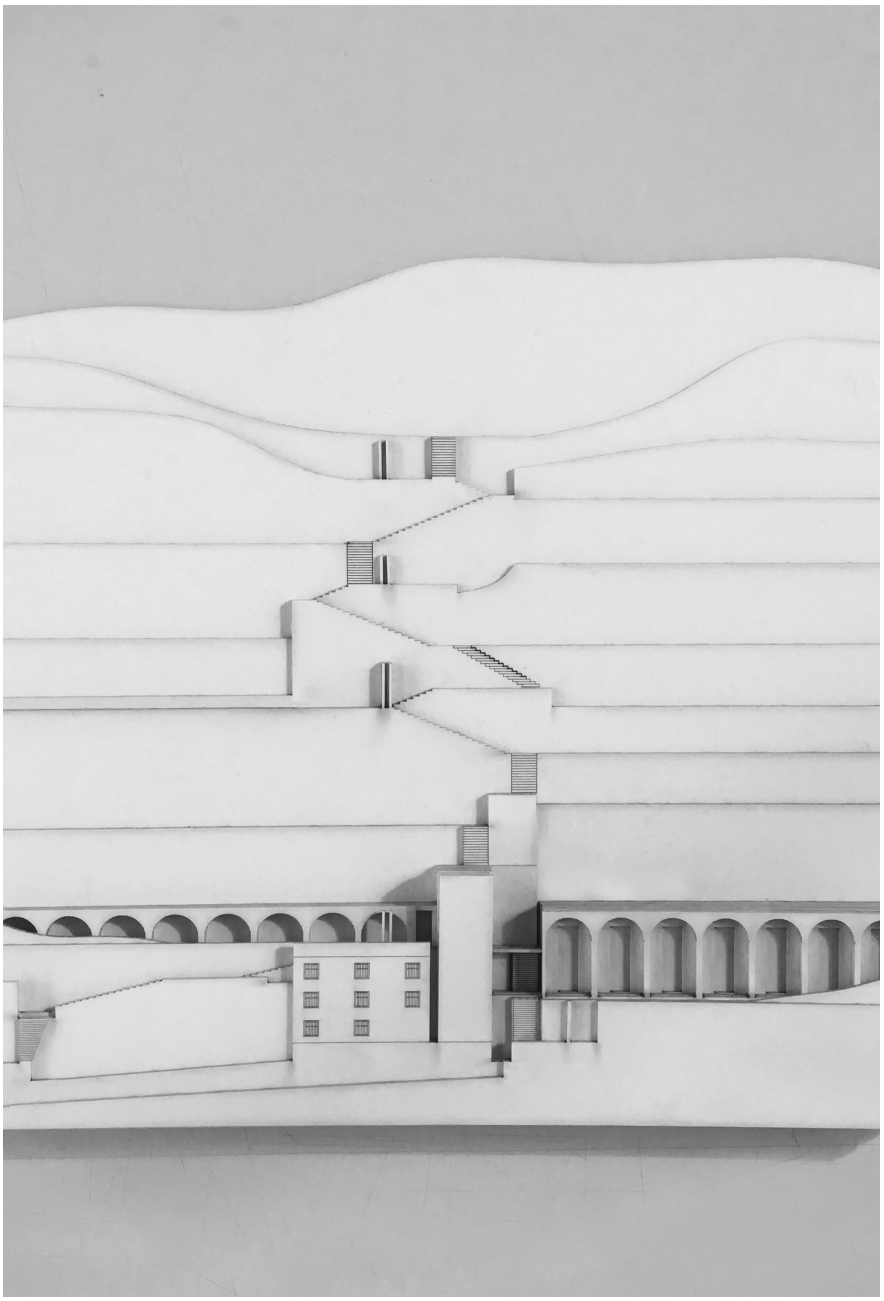
2. Excavation process of tunnelling into the hillside.

3. Transversal excavation. Process of hollowing out the space, creating an internal cave space for the winery and atelier. This space is partly buried into the hillside, and partly exposed to the open air.

4. Rammed Earth construction mediates between the interior cave wall and the street. This is the series of adobe arches that are self supporting.

5. Interstitial space used for circulation is enclosed by a acrylic roof which creates an internal environment.

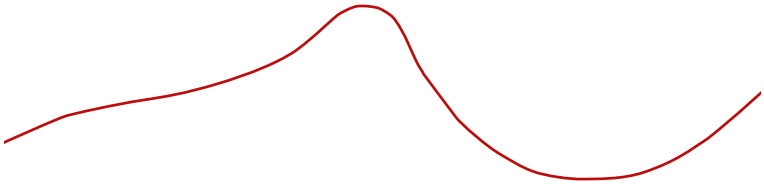
6*. (Front Facade) Process of excavation is directly translatable to the geometric elevation of the building.



Exploratory Analysis of the Elevation

Diorama Model

1



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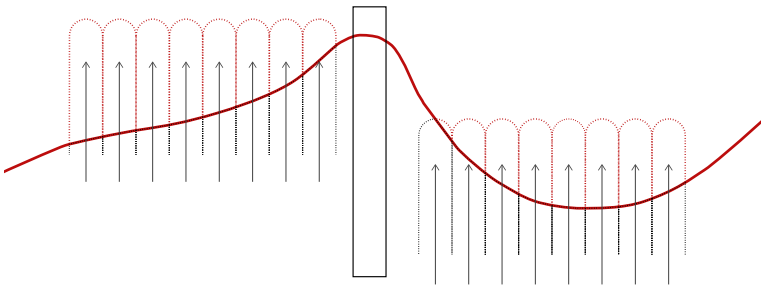

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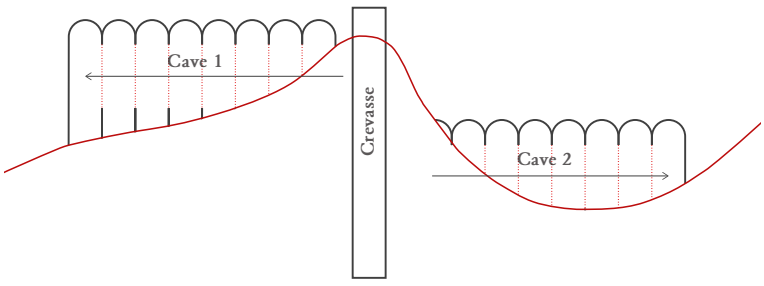

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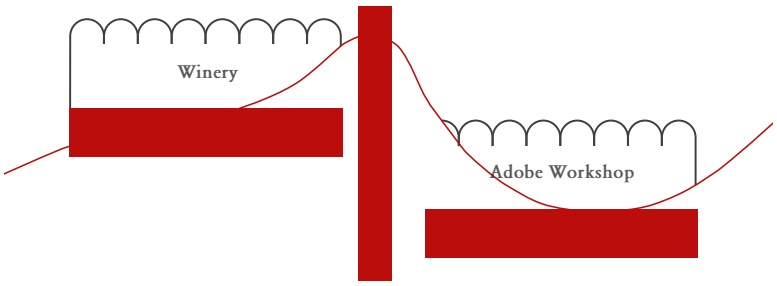

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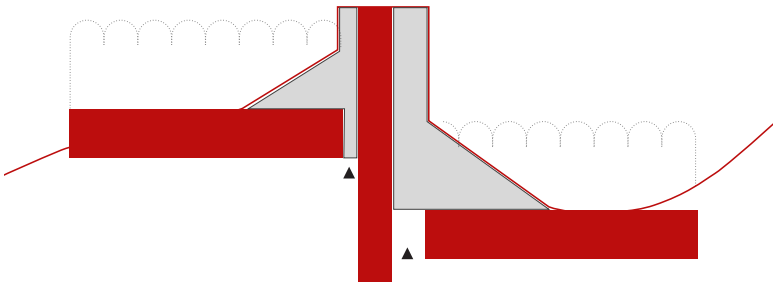


6

A diorama model is fundamental in exploring the relationship of the building in section. The intervention investigates the relationship between the interior and the exterior, the dialogue in existent between the quebrada and the street.

A series of layers, creates several minor thresholds between the experience of being on the street and the internal rock-face that is exposed post excavation.

Street Facade
Diorama Model

This method of design was further explored through drawing. Crossing the boundaries between 2D and 3D design methods, a series of line drawings explore the many internal sections of the building.

Each of the layers can be removed or rearranged to explore the relationship of a series of spaces. In using transparent drawings, the building can be explored from two perspectives; from the front and the rear.

Layered Analysis of the Buildings Elevation

Diorama LightBox Drawing

Orthodox Front Facade

Diorama LightBox Drawing

Reversed Interpretation

Diorama LightBox Drawing

Construction Process

From Natural to Curated Landscape

The construction process will be tackled by both the aid of the municipality as well as the able contribution of local residents. With the commons being integral to the success of the project, a lot of open, unprecedented space has been made available to the local Portenos.

However with such a large institution being envisioned, funding is required at a substantial level to support the future appropriation of Quebrada Jaime.

The building itself is not complicated in terms of method and process. The adobe arches are formed from rammed earth and merely take time to construct through the aid of the local community. The framework of eucalyptus must be built. It is the phase before this that is more time consuming. Manipulating this barren wasteland into a curated layered cake is what takes time, money and the assistance of the municipality.

With the framework in place by local officials, a set of terraces can be marked out for excavation. The quality of these landscaped terraces need not be perfect. They require the basics in order for appropriation. Portenos can stamp there authority and knowledge of building in such terrain from there on.

The built intervention that sits at the base of the quebrada will evolve at a more rapid speed. Machinery will be used to dig the rock-face of the base of the hillside.

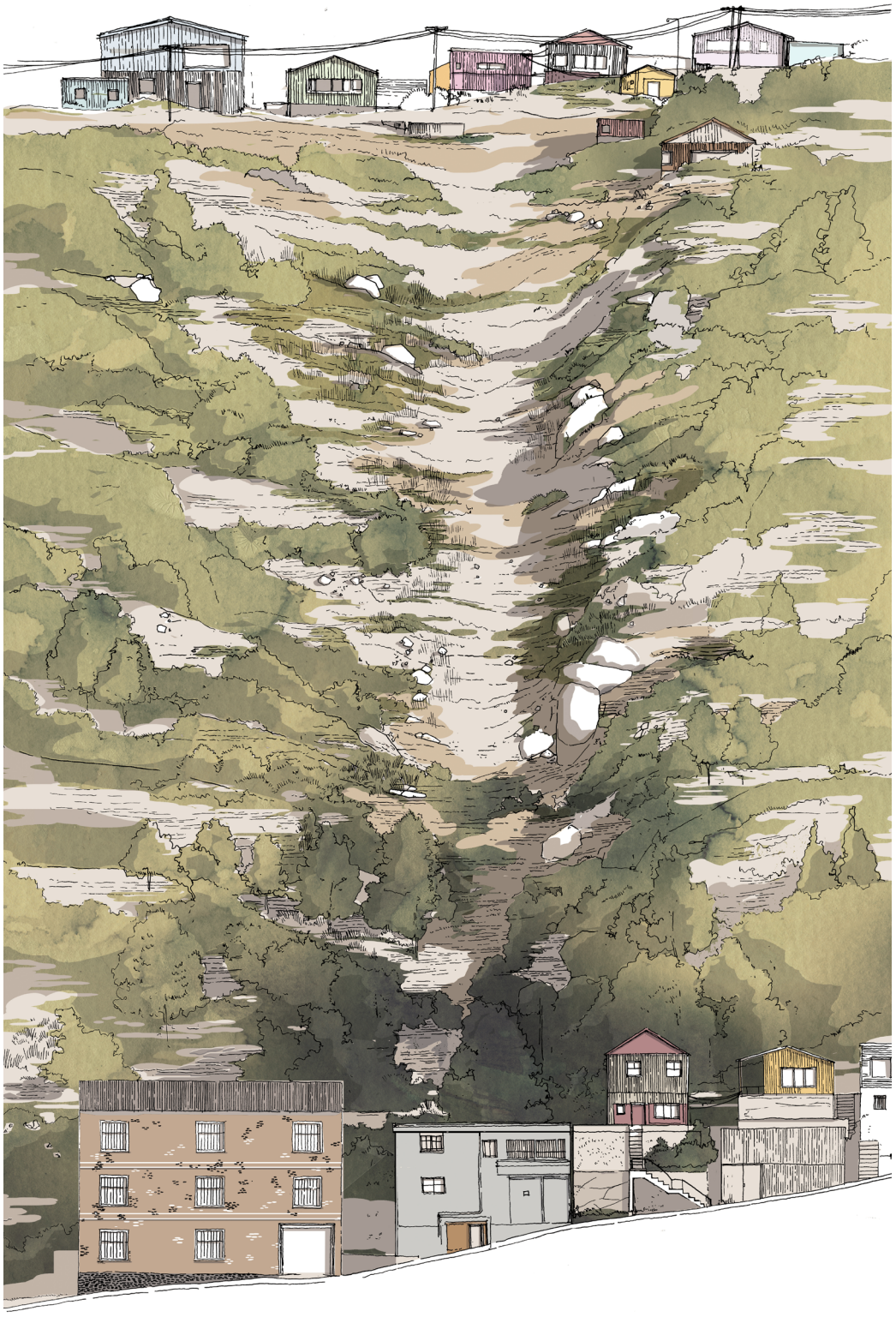
In order to excavate the terraces higher up machinery will have to travel across the contours of the land. Natural terraces have formed in the quebrada already allowing vehicles to pass, however further space will be advisory to allow freedom of movement and greater efficiency.

In order to move material that is extracted from the hillside down into the Atelier, a pulley system is built. Using high tensile dyneema rope, material that is extracted from the terraces high up, rock and soil, will be sent down into the atelier for it to be used the mass production of adobe mud-bricks. Soil can also be used in the rammed earth construction of the arches.

This pulley system will be powered by the flow of water provided by the naturally flowing Estuario Jaime.

The public staircase that connects the urban street below and the rural one above is completed. Deep cuts into the landscape creates a series of publicly accessible terraces.

Water that irrigates the fruitful vineyards on either side is collected at various heights. This water is channelled down the staircase as a water feature. The water is stored in-the water tanks which sit high up in the engine block central to the architecture.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Construction Phasing

Phase 1 | 0 - 1 year

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24.50m
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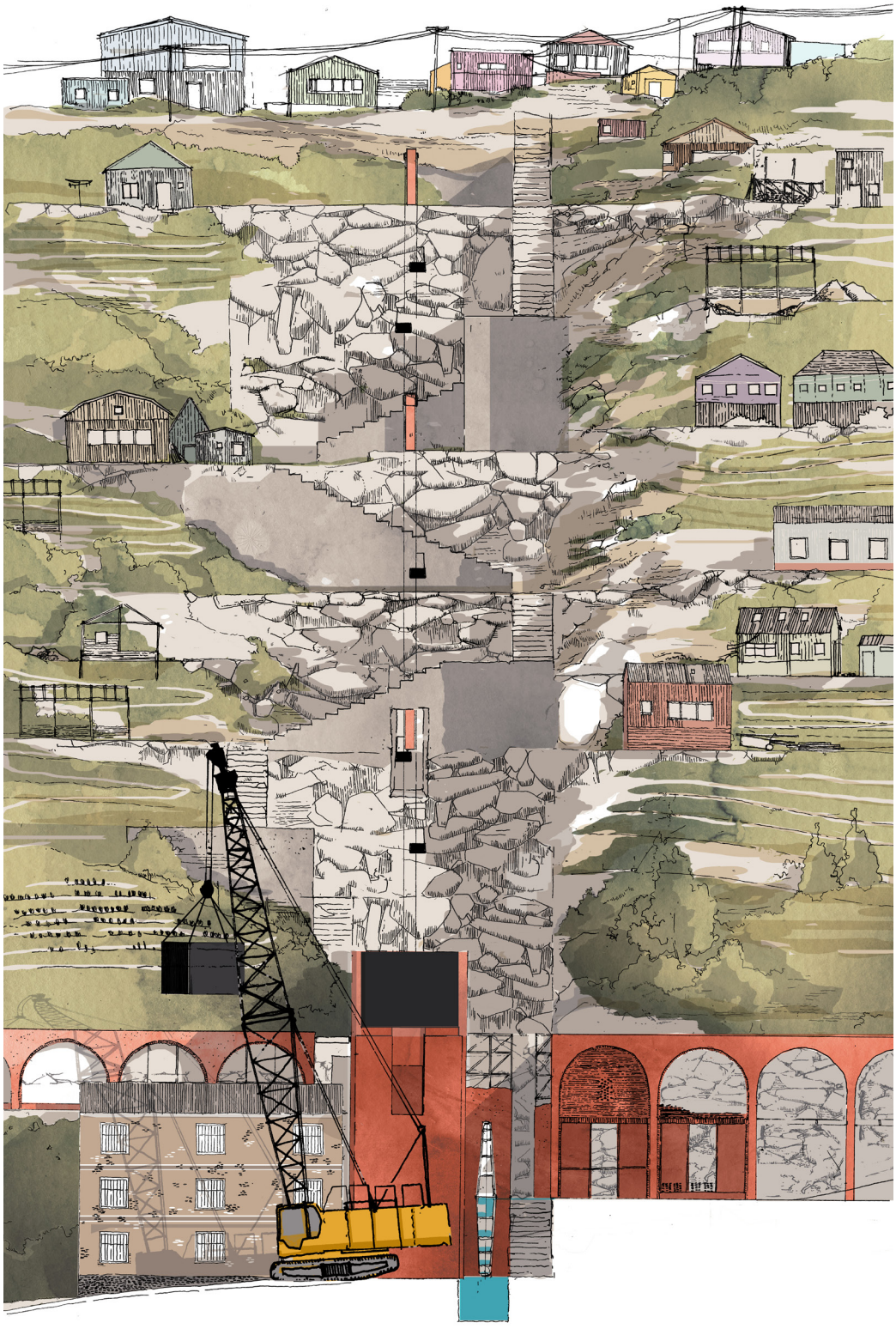
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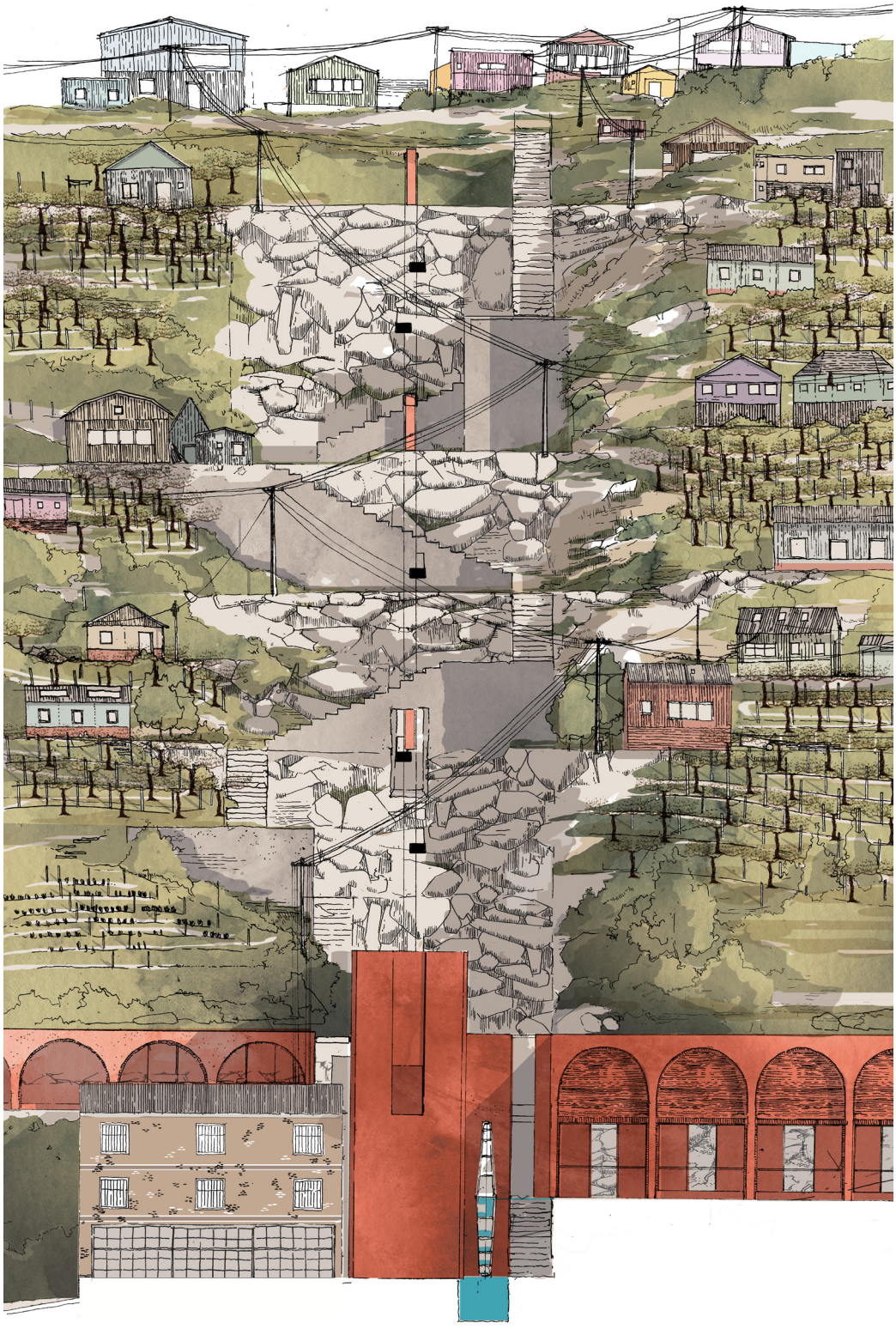
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Composition and Program

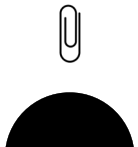
Firing Kilns
Materials Storage
Wood Workshop
Mixing Rooms
Ceramic Workshop
Test-lab

Excavated Living Plots
Agricultural Gardens
Wildlife Pond
Miradouras

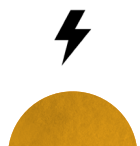
Urban Farms
Livestock Pen
Urban Vineyards
Storage Facility

Music Stage
External Flea Market
Events Space
Library
Community Centre
Meeting Rooms
Café
Restaurant

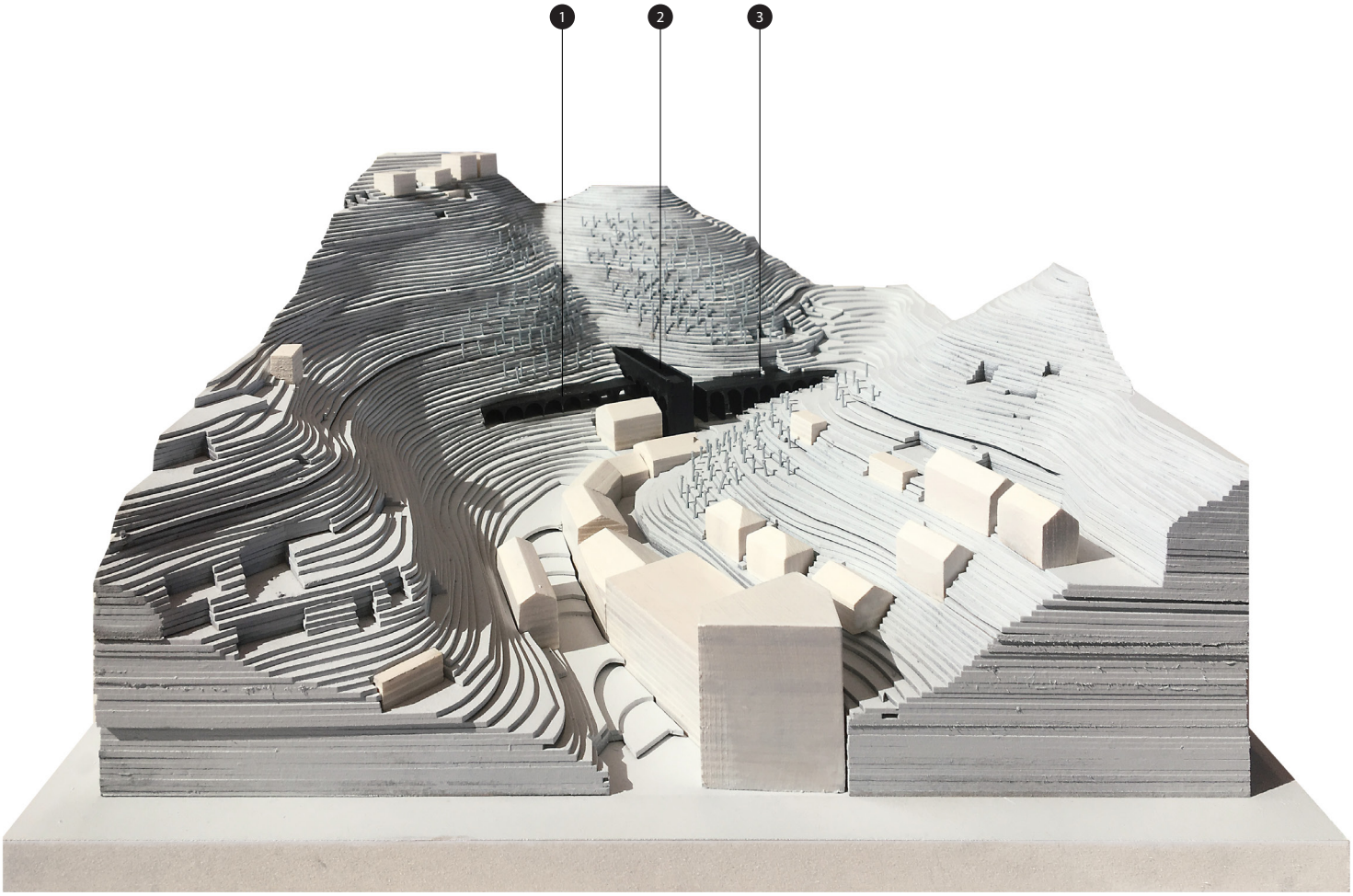
Classroom
Seminar Space
Craft Workshop
Library



Administration Offices
Meeting Room
Logistics Room



Powerhouse
Spillway
Turbine & Generator
Penstock
Transmission Plant
Lower Reservoir



1

Winery | Bodega

Wine Tasting Rooms
Wine Cellar
Wine Making Facilities
Museum

2

Engine

Rainwater Harvesting Tanks
Material Import/Export
Firing Kilns

3

Atelier Adobe Workshop

Material Inventory
Shared Public Workshop
Library
Research Centre
Administration

Lower Level Plan

Centro Cultural Trafon

1. Market Internal
2. Market External
3. Amphitheatre/Outdoor Cinema
4. Temporary Guest house
5. Theatre / Dance Space
6. Art Gallery
7. Café
8. Restaurant
9.PowerHouse Electric Plant
10. Water Turbine

Engine

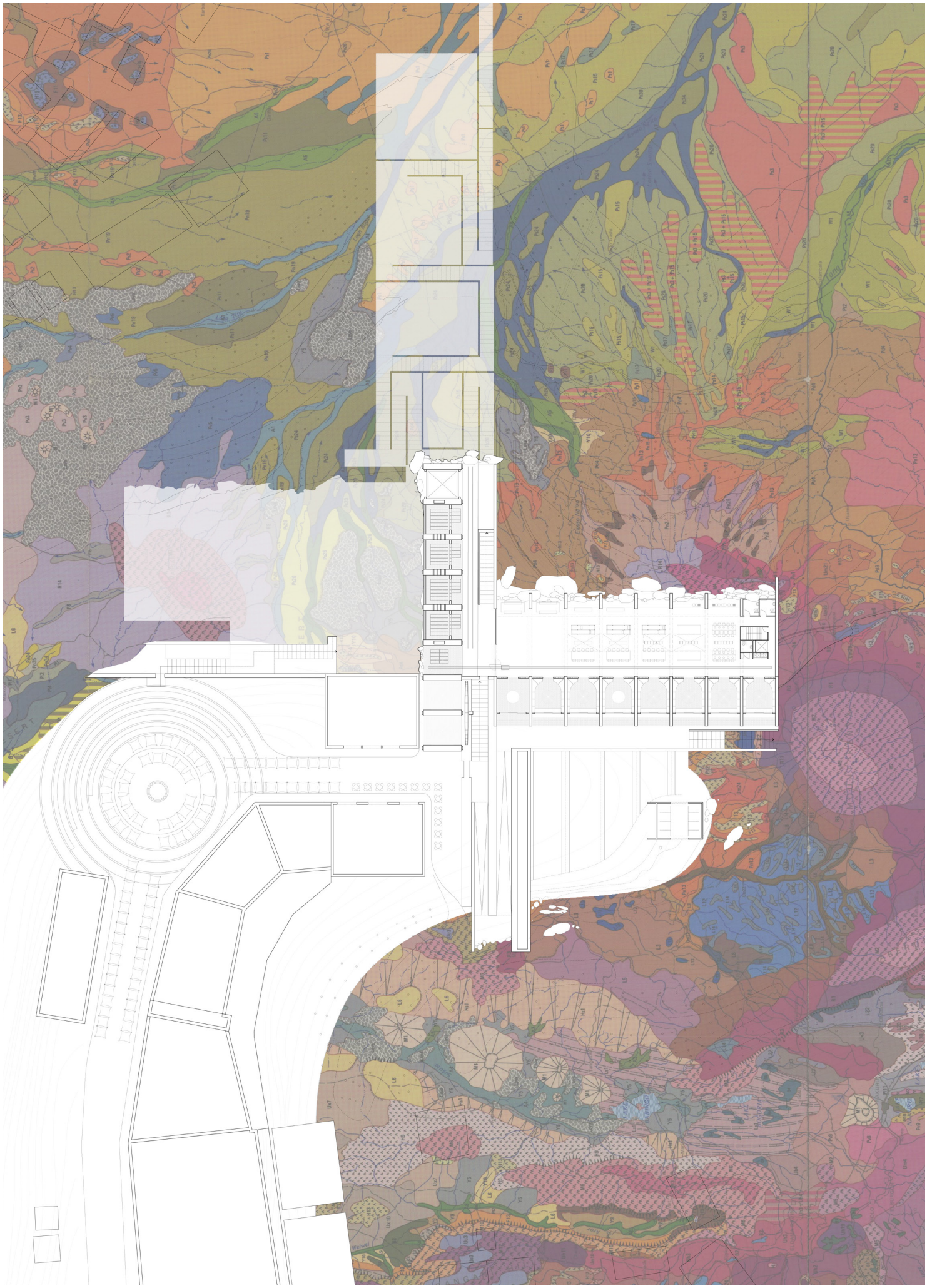
11. Wood Store / Kiln
12. Loading / Unloading Bay
13. Brick Kiln
14. Amphorae Kiln
15. Ceramics Kiln
16. Glass Kiln
17. Service Lift
18. Storage

Adobe Workshop

19. Adobe Mixing Room
20. Localised Earth Store
21. Regional Earth Library
22. Eucalyptus Reinforcement
23. Cactus Farm
24. Amphorae
25. Brick Store
26. Prefabricated Adobe Panels
27. Open Workspace
28. Workshop
29. Ceramics Workspace
30. Recycling
31. Informal Meeting Spaces
32. Heavy Machinery Workspace
33. Cleaning Facilities

El Jardin de Quebrada Jaime

34. Naturally Filtered Wildlife Lily Pond
35. Brick Drying Area
36. Herb Garden
37. Cactus Garden
38. Stables
39. Urban Pasture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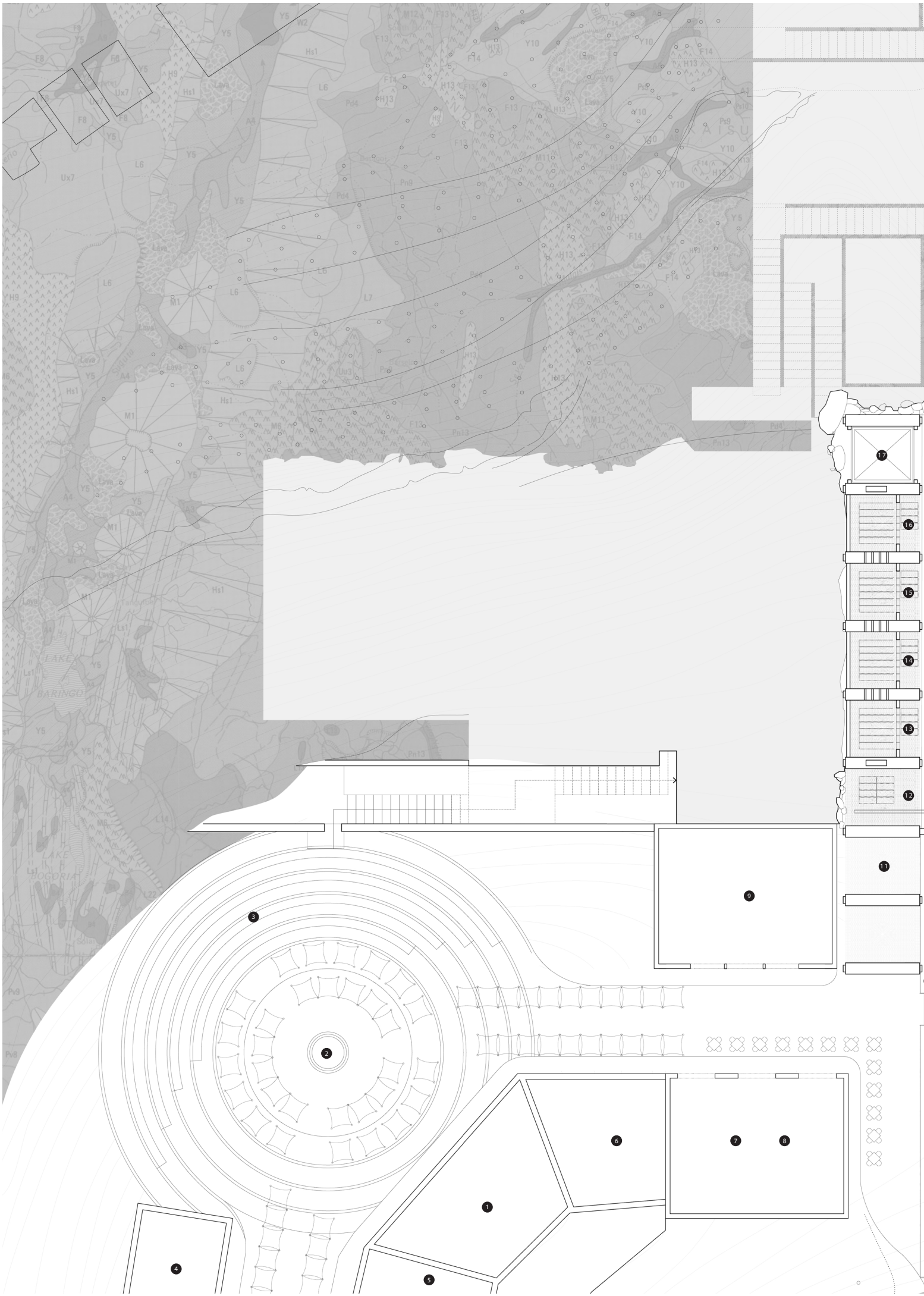
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Lower Level Plan

Upper Level Plan

Winery

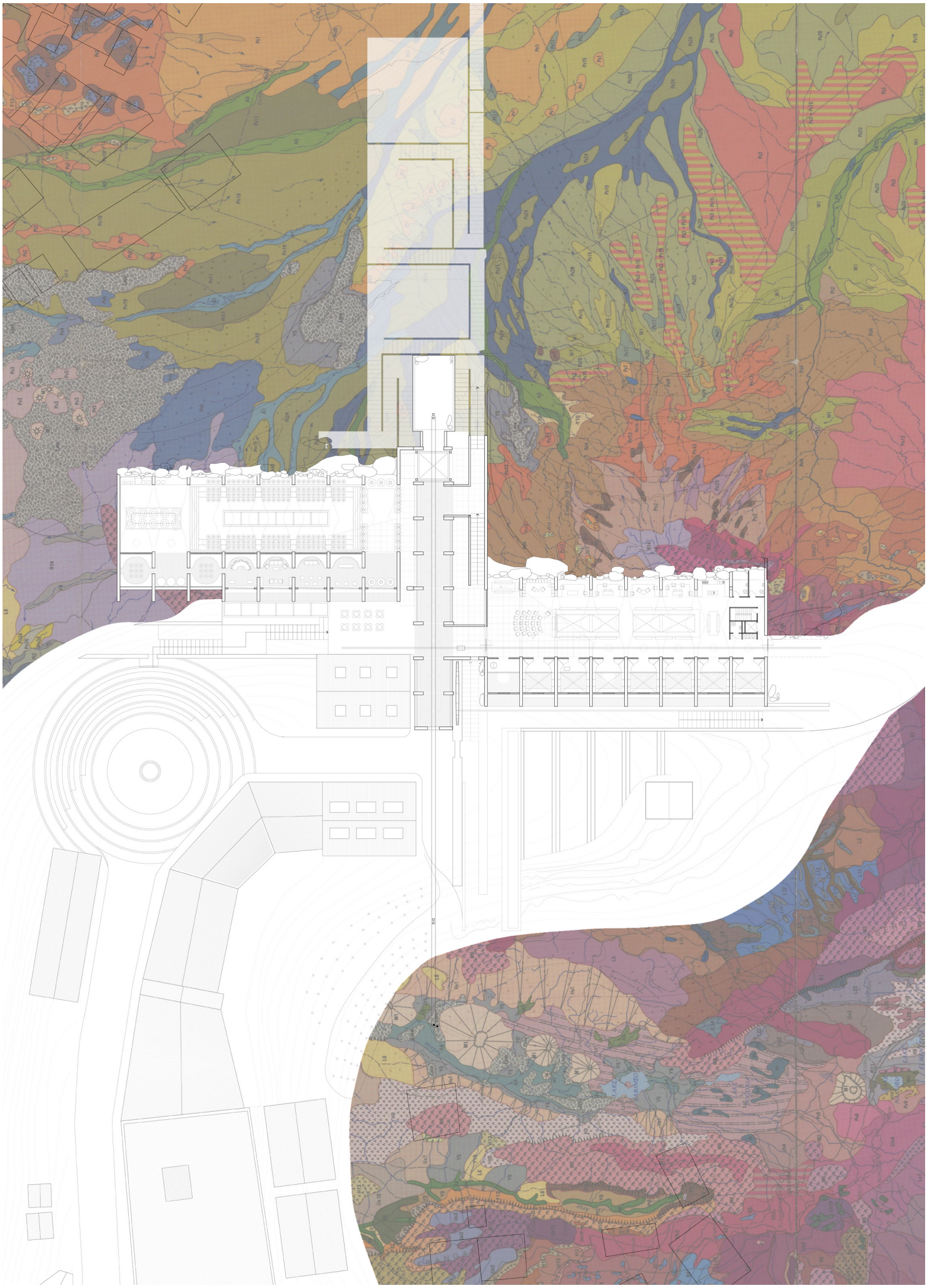
1. Wine Mixing External
2. Wine Extraction
3. Bar
4. Terrace
5. Lobby
6. Wine Mixing Internal
7. Amphorae Store
8. Concrete Fermentation Tanks
9. Cleaning Facilities
10. Wine Preparation Space
11. Storage
12. Wine Cellar Red
13. Wine Cellar White
14. Tasting Room
15. Wine Lounges
16. Harvest Unloading Point

Engine

17. Miradoura Viewpoint
18. Material Loading / Unloading Bay
19. Service Lift

Adobe Workshop

20. Adobe Mixing Room
21. Localised Earth Store
22. Regional Earth Library
23. Eucalyptus Reinforcement
24. Cactus Farm
25. Amphorae
26. Brick Store
27. Prefabricated Adobe Panels
28. Delivery Service Point
29. Shower Facilities
30. Kitchen
31. Dining Room
32. Recycling
33. Informal Meeting Space
34. Library
35. Formal Research Desks
36. Lecture Space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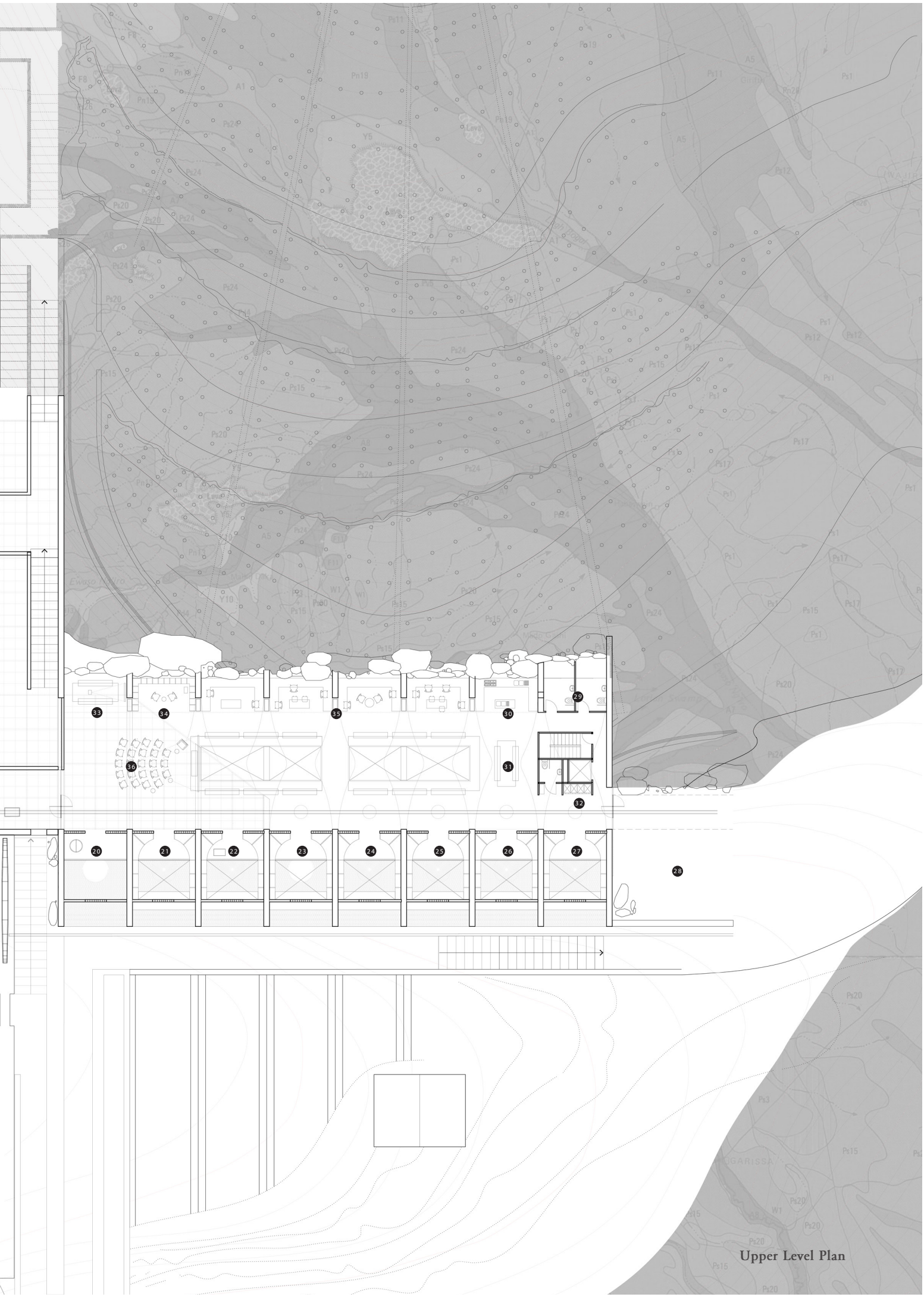


Upper Level Plan

The Commons : A Human Resource

The excursion to the UNESCO world heritage city helped shed some light on the multitude of issues and opportunities for an ever expanding Valparaiso and its cultural hub. How do we as foreign architects, displaced from a European context, react and adapt to an albeit alien culture. How can we reconcile issues discovered in Valparaiso through alternative methods centred around the commons as opposed to implementing autonomous architectural interventions. We have a certain responsibility as architects to uphold.

It is clear that the presence of community life is so important to Valparaisan life. There is a clear ethos when it comes to community development. This is best represented by the initiative called Minga.

Minga looks into community redevelopment of neighbourhoods affected by the great forest fire of 2014. Initiatives look at restoring burnt housing through local modern craft techniques, engaging with the local members of the community, valuing their input.

The workshop we encountered upon gave us a brief insight into the idea of collective development. Everyone was welcome, whether it was local residents, the municipality or tourists. All are working together towards a common goal.

Traditional Crafts : Dual Production

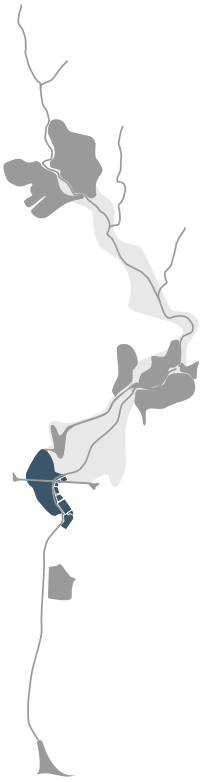
The analogy of the Heart as a metaphor in defining the building program.

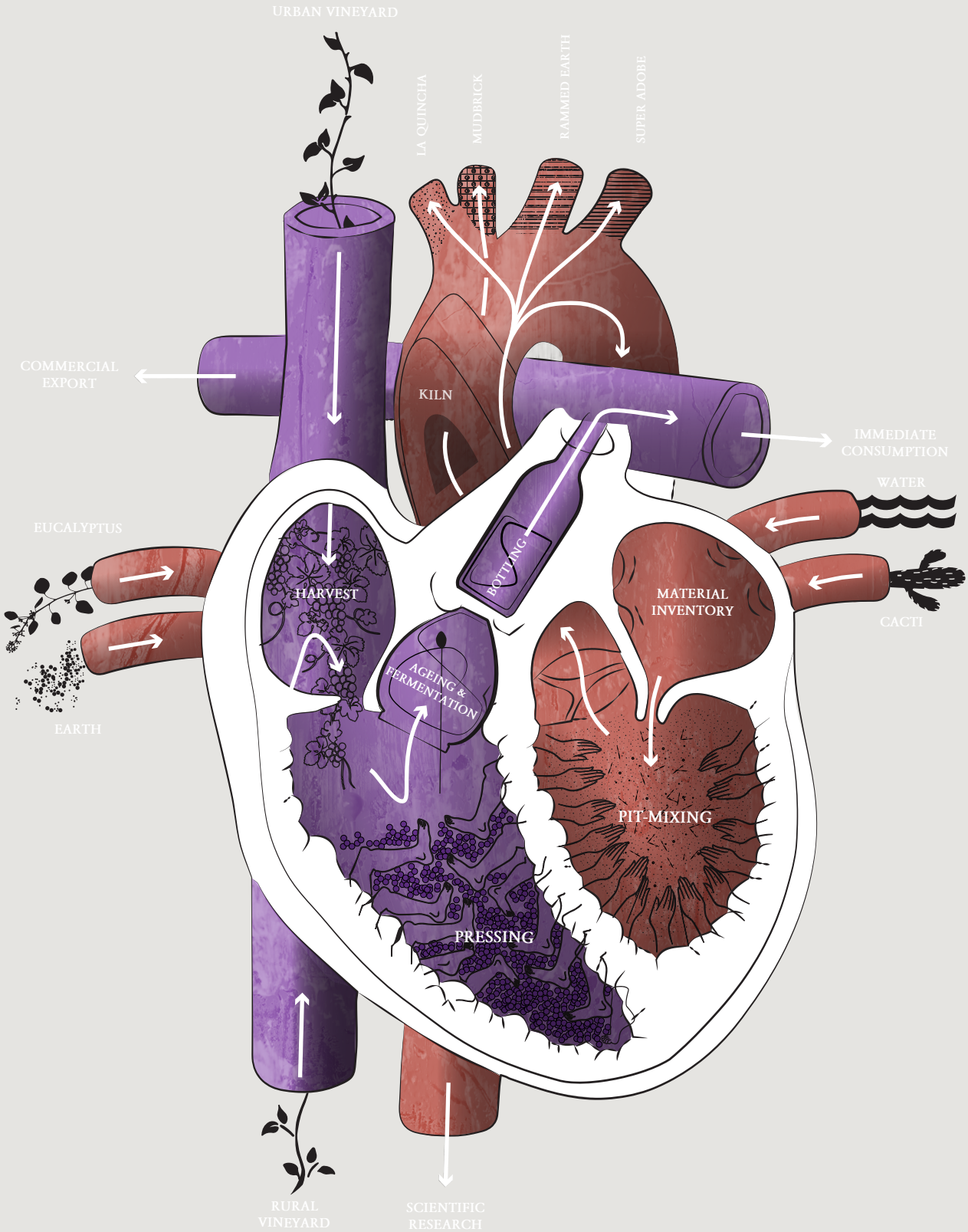
Following on from the initial analysis of Landscape as a living Organism. The Urban Strategy was segments into various nodes of intervention. At the heart of the urban strategy was combining industrial craft with residential living.

When looking closer at the analogy of the heart, it is interesting to see the dual activities that occur when pumping oxygenated blood around the body. In order for a closed cycle to function efficiently, often a supplementary cycle supports the main action. A superfluous exchange takes place.

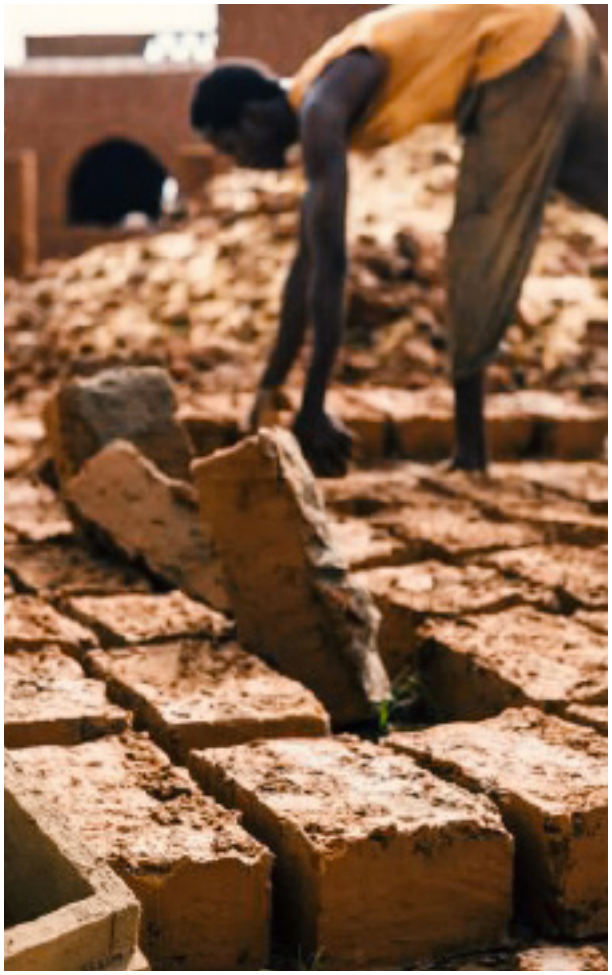
In similar fashion, the building will operate in two channels of productivity. From one perspective, the building seeks to amplify wine production in an urban setting. In respect to Adobe as an industrial building product, the building designates space for researching future innovations in an ancient craft synonymous with the region.

Central to each aspect of production is the commons. From the process of turning grapes into wine, and earth into clay, the human body is central to the overall state change. Whether it is the action of physically stomping on the recently harvested fruit or mixing the ingredients for la quincha. The Commons are key and can not be understated.




URBAN VINEYARD
LA QUINCHA
MUDBRICK
RAMMED EARTH
SUPER ADOBE
COMMERCIAL EXPORT
KILN
IMMEDIATE CONSUMPTION
WATER
EUCALYPTUS
BOTTLING
HARVEST
MATERIAL INVENTORY
CACTI
AGEING & FERMENTATION
EARTH
PIT-MIXING
PRESSING
RURAL VINEYARD
SCIENTIFIC RESEARCH

A simple recipe of earth, water and sand. The mixture can be prepared by all ages. Like kneading dough, the mixture of la quincha can be adjusted to suit the required outcome.
The action takes place on the ground, a pit to be precise. There is no precision to the quantities of material, however. The experimental notion of the act, gives an authenticity to the Valparaisan way of life.



MudBricks

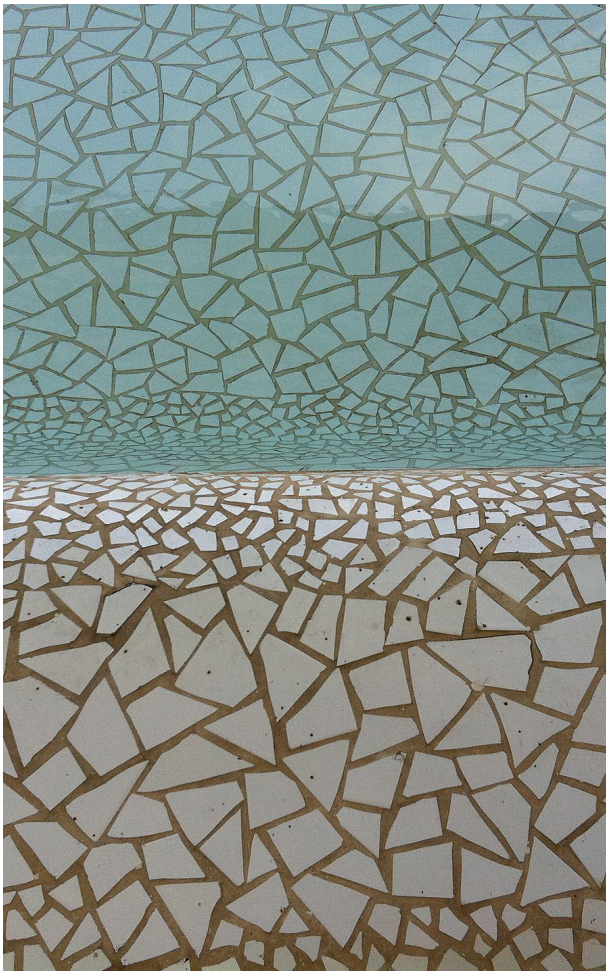
La Quincha
Adobe Mixture

Rammed Earth

SuperAdobe

Shared Workspace
Atelier

Amphorae & Ceramics



Mosaics, Trencadis & Tiling

Glassware

Cactaceae

Portenos embrace arm in arm as they spend hours moving back and forth across the sea of red. The grapes become macerated over time, as local residents share stories and sing songs in this a celebratory moment of the seasons harvest.

Industrial Scale Wine Production

Contemporary Craft

Amphorae Wine Production

Traditional Craft

Variations in wine produced depending on aging and ingredients

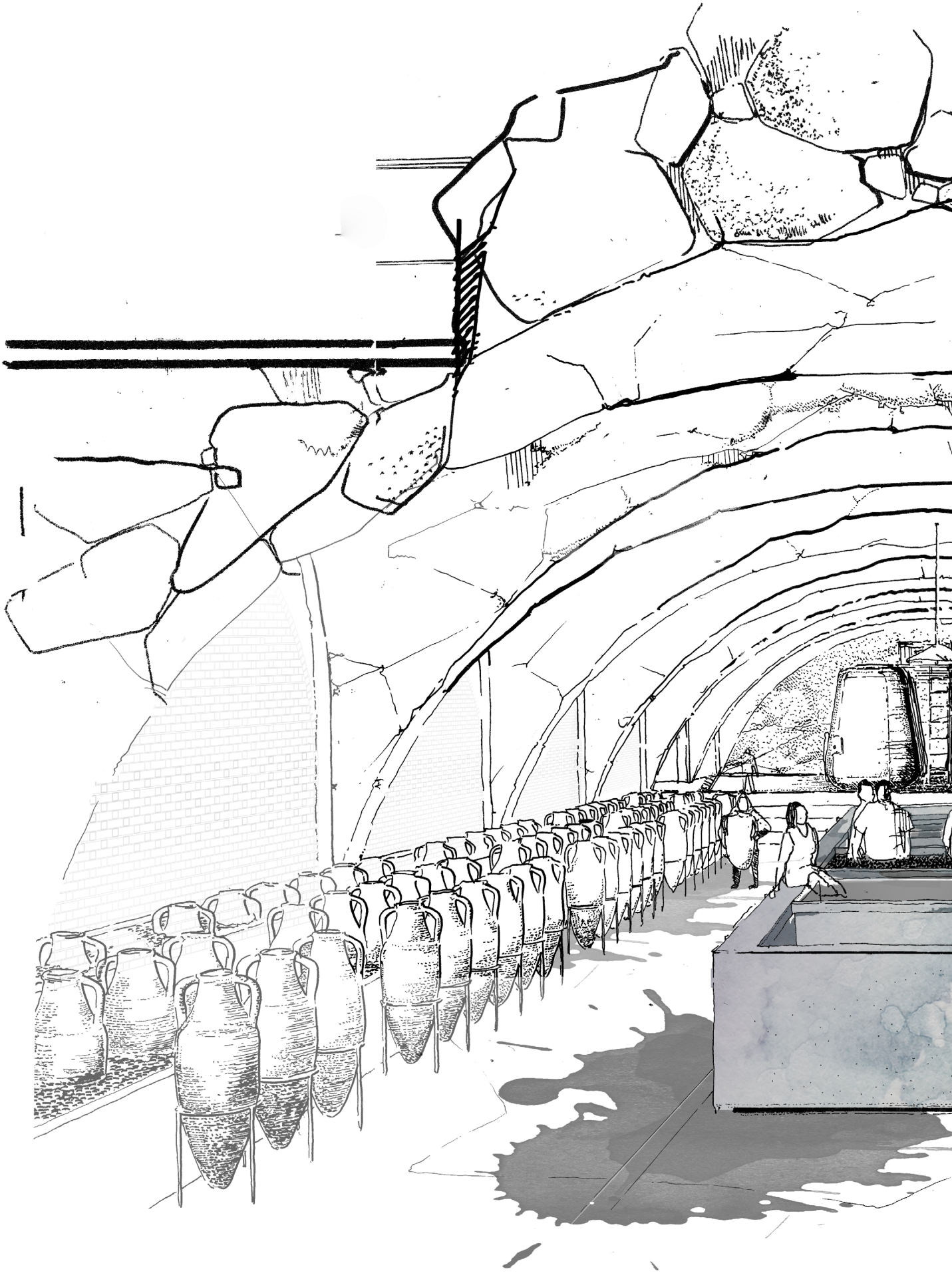
Wine Products

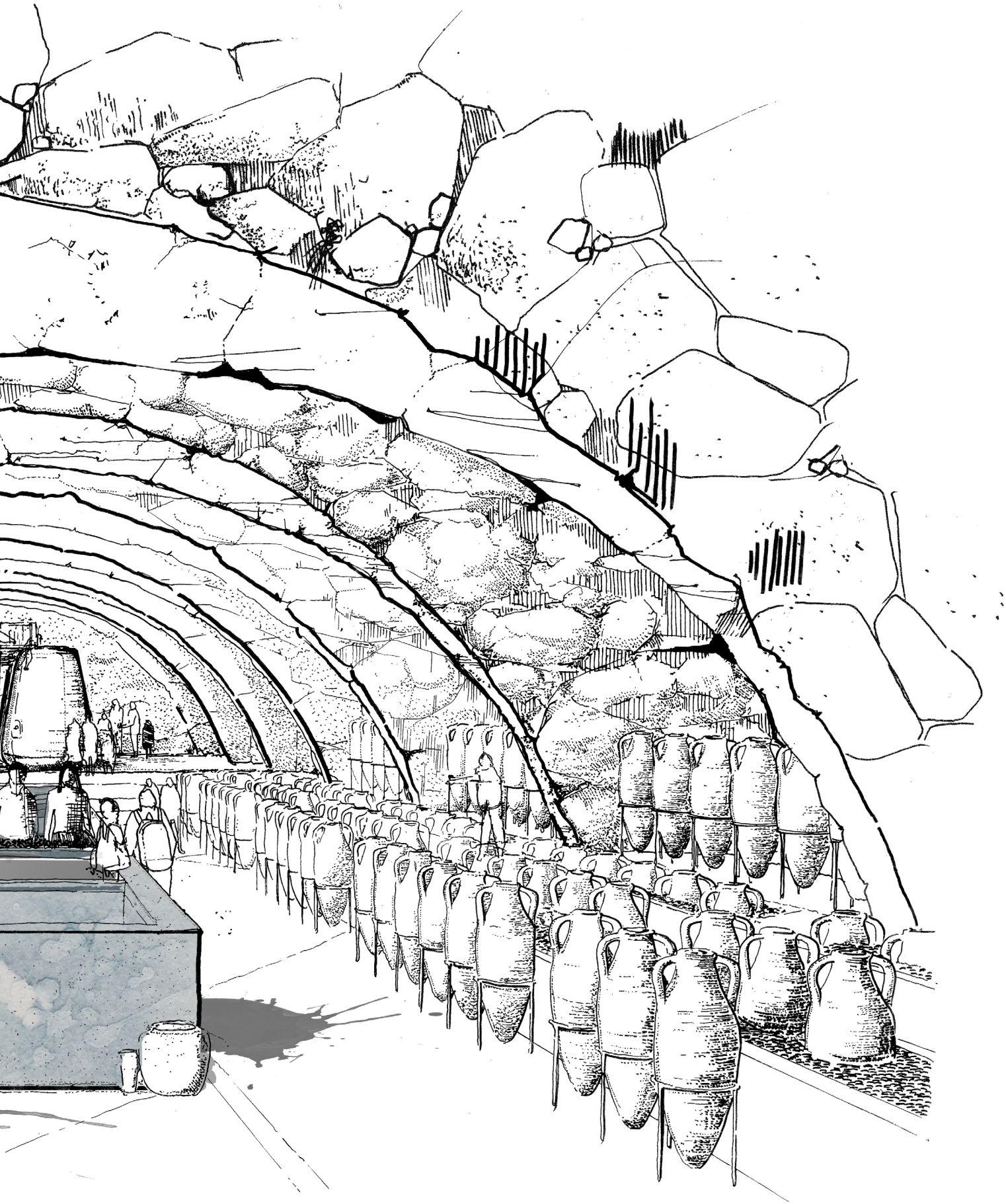
Speciality Wine

Seasonal Fruit Variations

Grappa

Using Wasted Products





Communal Grape Pressing
Winery

Avenida Francia

The cobblestone road is entirely pedestrianised.
The road becomes occupied by a daily market that operates all day until the early evening.

Program from Centro Cultural Trafon occupies the street when the internal capacity has been reached.
Additional cafe and restaurant space, an outdoor beer garden and external performance spaces are envisioned.

Powerhouse

Front façade of the building is restored.
New glazing replaces outdated facade, pivot doors that now open outwards invites people to experience on ground the inner workings of the hydro-electric company.

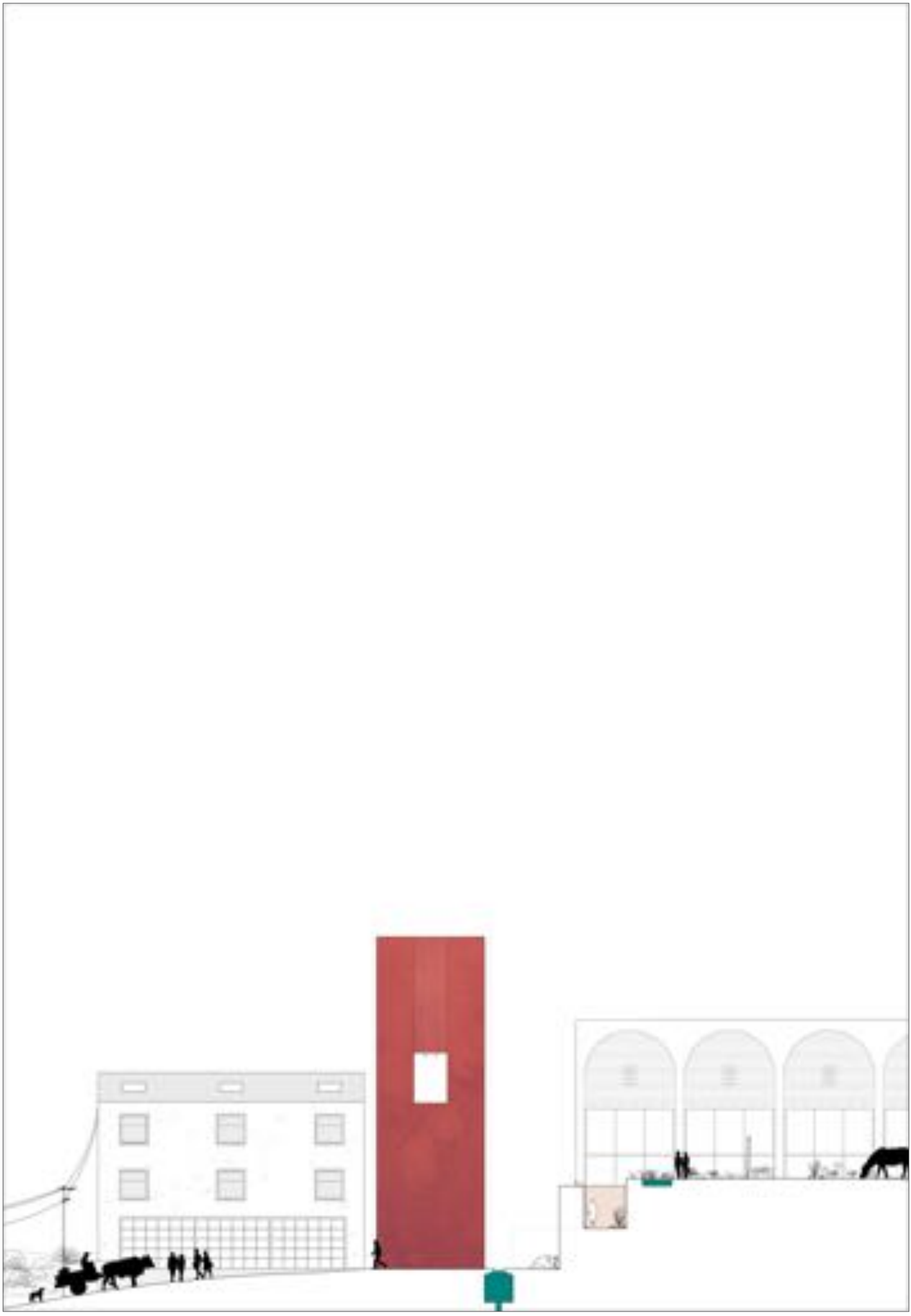
Adobe Viaduct

Rammed Earth facade of Adobe Engine block.
One opening isolated for the pulley system to pass through.

Lower reservoir. Small water feature created within the ground which creates point of centrality.
Water is canalised at this point and runs directly to the Pacific Ocean below grade through an underground tunnel.

Wildlife Garden

Traversable garden space directly relates to the interior of the building.
Spaces designated for drying mud-bricks. Curated outdoor cactus garden, grazing pasture land for localised farm and seasonal flower garden.
Water trough irrigates the local garden and supports local wildlife in the garden.



Powerhouse

Generator producing electricity powered by the water turbine sits central to the gutted former abandoned building.
Mezzanine levels with administration and research facilities overlooks the atrium space. This space is publicly accessible.

Adobe Viaduct

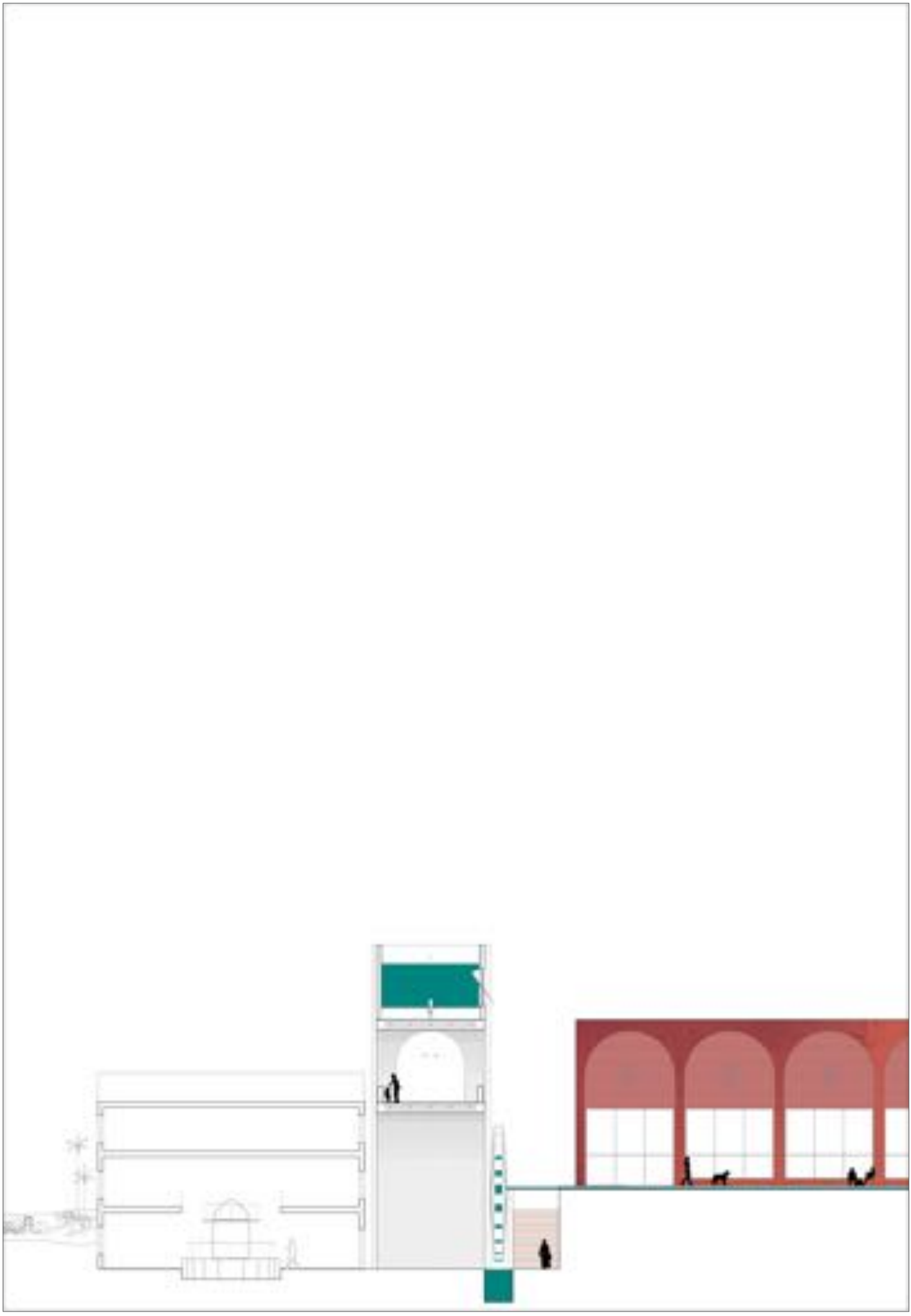
Water tanks sit high above and can be emptied to accelerate the speed of the water turbine. A spout can be controlled mechanically to allow water to flow out of the tank and into the water wheel.
Excess water results in a greater production of electrical energy which can be stored and used in the building. This energy can also support the surrounding hillsides.
A space below allows for the storage of locally sourced pine wood, used for the kilns when firing ceramics and bricks.

Water Turbine

A constant steady stream is sourced from Estuario Jaime to provide water for the water turbine to be in constant operation. Formerly running below grade, the water stream is now elevated above ground.

Atelier Facade

A series of Adobe Arches defines the facade of the building. A brick infill sits within the arches to close the envelope. A set of operable windows allows the exchange of goods from inside to outside.
A windowscape environment allows people passing by to engage with the material inventory that showcases the raw ingredients utilised for adobe based products, the processes involved as well as the finished products also.



Powerhouse

Administration spaces that support the hydroelectricity plant overlook the generator.

Adobe Viaduct

The pulley system that helps materials to be transferred between the hillsides of La Cruz and Monjas runs through the Adobe Viaduct. The archway is self supporting with exposed brick. The pulley system is supported by the ceiling.
Miradouras outwards to the Pacific Ocean and up the quebrada allows vistas towards the rural and urban context from this birds eye perch.

Water Turbine

The Turbine is constructed from a lightweight aluminium. The wheel is supported from the centre by the Viaduct structure from one side and a lower wall on the other.
This turbine is welded together off site and bought into the premises where it is installed.

Atelier Storage

Behind the adobe facade, is a series of rooms, brick chambers, that store the raw materials required for the Adobe construction process. This creates an element of education for the community. Visitors can engage from the street and visually decipher the different components implemented in the traditional craft. Finished products are also exhibited here, showcasing a beginning to end process.
The rooms specified: Adobe Mixing Room, Localised Earth Store, Regional Earth Library, Eucalyptus Reinforcement, Interior Cactus Farm, Amphorae Inventory, Mud Brick Store and Prefabricated Adobe Panel Library.

Wine Terrace

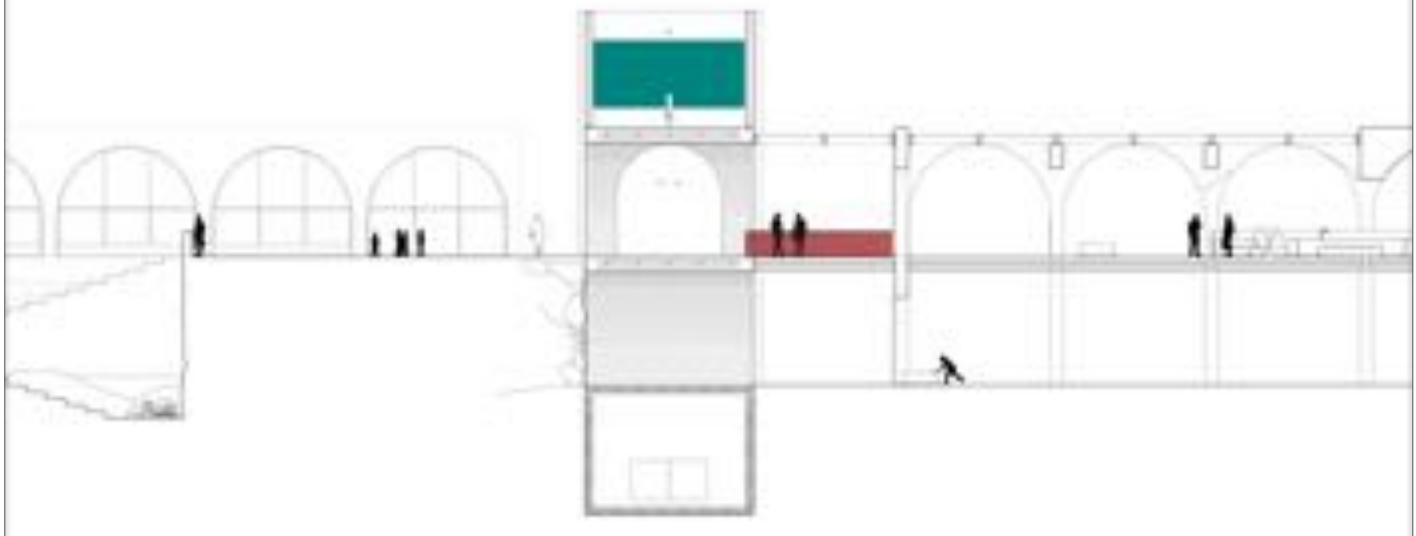
A space is created in front of the winery for wine produced in the winery to be enjoyed by local residents. The veranda looks out to the ocean.

Adobe Viaduct

The Kiln chamber at the base of the viaduct is completely built from adobe mud-bricks which are produced on site. Pine wood is ignited in the bottom of the viaduct, where heat is retained in the structure and later distributed through a series of kilns to fire bricks, amphorae, ceramics at different temperatures.

Atelier

The workspace in the atelier below is an open expansive room. Materials brought in from the hillsides can be easily moved in and out of the space by a series of carts which extend across the length of the building. Research facilities and desk space have been designated for researchers on the level above. Light fills the space from a series of roof-lights.



Wine Terrace

An external lagar is built into the rock veranda. Here, locally harvested grapes can undergo the process of maceration. This seasonal activity sees members come together to press grapes before wine undergoes fermentation. This space directly engages with the wine bar behind, making it a fun and social activity.
An entrance into the winery is tucked away in between the adobe engine and wine terrace.

Adobe Viaduct

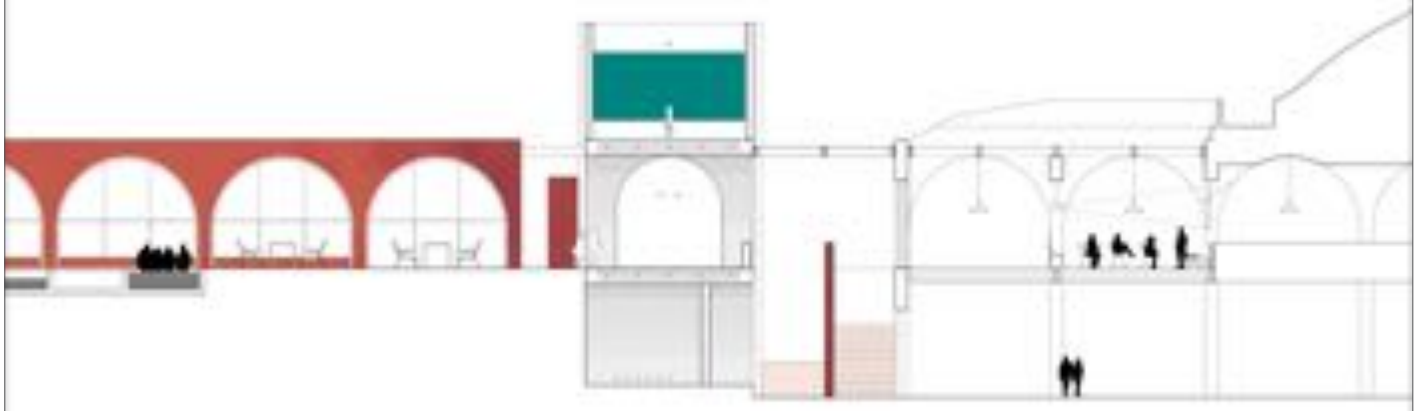
Heat that is created from the burning of locally sourced pine is transferred into the first of the kilns where bricks are fired in mass quantity.
Temperatures of the kilns can be regulated and optimised for certain criteria, based on the products being made.
Heat is transferred between the Adobe arches, by a series of inlets and outlets in the brick archways. This detail eliminates the need for additional tubes.

Pasaje

This interior staircase is well lit. Light enters the void from above via a polycarbonate roof. To avoid overheating, openings lie on either side to allow natural cross ventilation.
The internal space is divided into two. A large adobe rammed earth wall separates the two sides. On the right, a mosaic staircase rises, taking members of the public through the building and up to Cerro La Cruz. The left hand side space allows for the loading of items into several kilns for firing. Here products are transported up a platform that is hand operated.

Atelier

Both levels of the Adobe workshop are connected by a void in the floor plate. Researchers can witness the activities of members of the public downstairs. There is a constant stream of production at ground level. Upstairs, lectures and seminars take place in a more domestic environment.

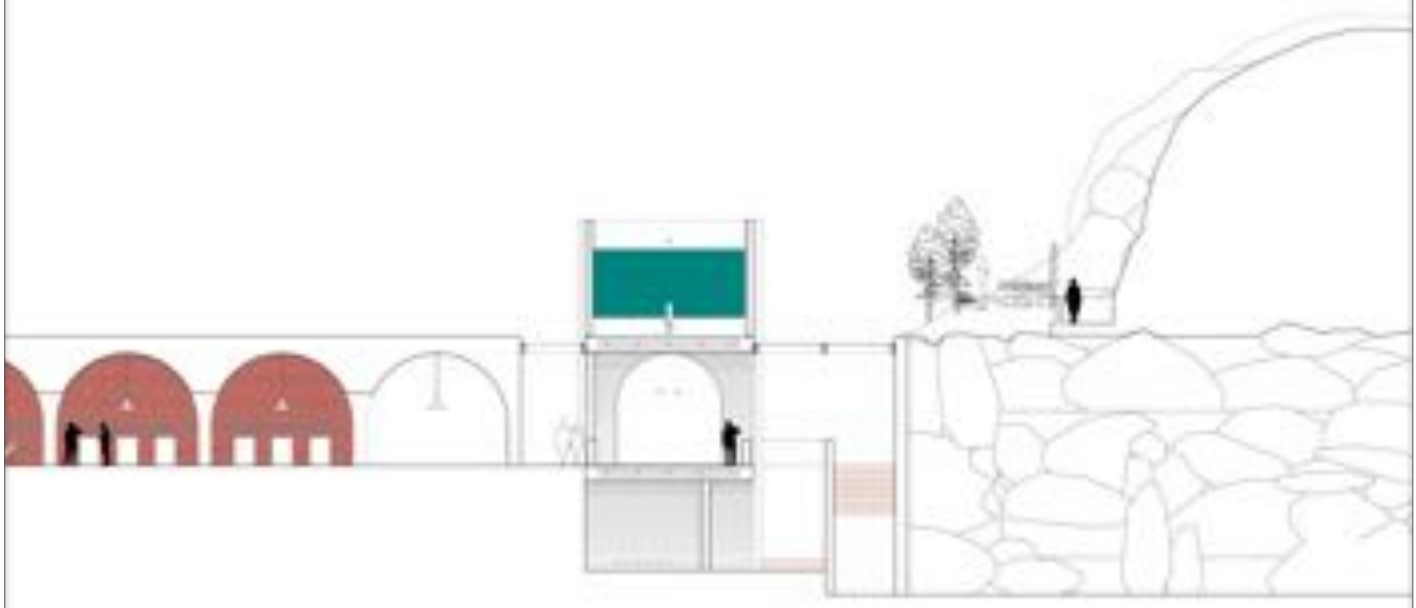


Winery

In the Adobe arched rooms, a series of wine rooms face out towards the city. Each wine tasting room is casual in character, allowing visitors to sample the fruits of the urban winery.
A perforated brick interior allows snippet views of the internal winery that sits behind.

Atelier

The back face of the Atelier workspace is the natural rock-face of the quebrada which is left exposed. This surface is formed from the initial excavation process. The architecture of the building is minimal, allowing visitors to engage with the natural substrate of the hillside. A hybrid concrete wall adds further stability.



Internal Winery

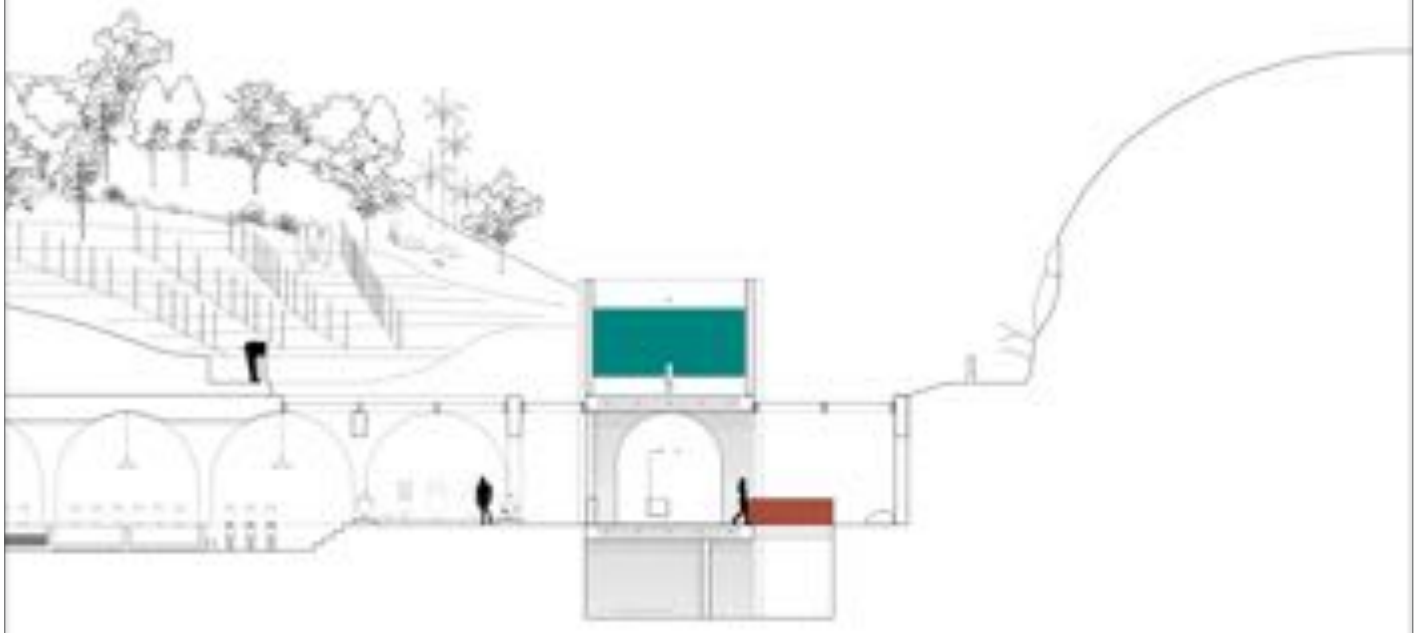
Very much a mirror image of the lagar sitting externally, the space of the winery inside is centred upon a concrete basin for pressing wine.
The acoustics of the space become amplified due to the cave like environment.
Amphorae pots that ferment wine and are used in ageing, flank either side of the lagar. These pots are submerged in aerated rock beds or completely exposed. The clay pots have been formed in the Atelier and fired in the kilns of the engine block. Each amphorae is adorned with a piece of regional art.

Pasaje

A bridge connects between the pasaje staircase and the Adobe engine block. This allows people to navigate between the predominantly public space and the winery offering a flexibility in the movement of people.
The Atrium space is of great quality and is central to the buildings public experience.

Landscape

Land designated for agriculture is covered with fertile soil. Terraces are ample for seasonal production.



Winery

Similar to the Atelier workspace, the rear facade of the space is composed by the natural rock-face which was excavated in the initial construction phase.
Amphorae pots with aged wine are exhibited in ta series of niches; a museum like experience is created in this regard.

Adobe Viaduct

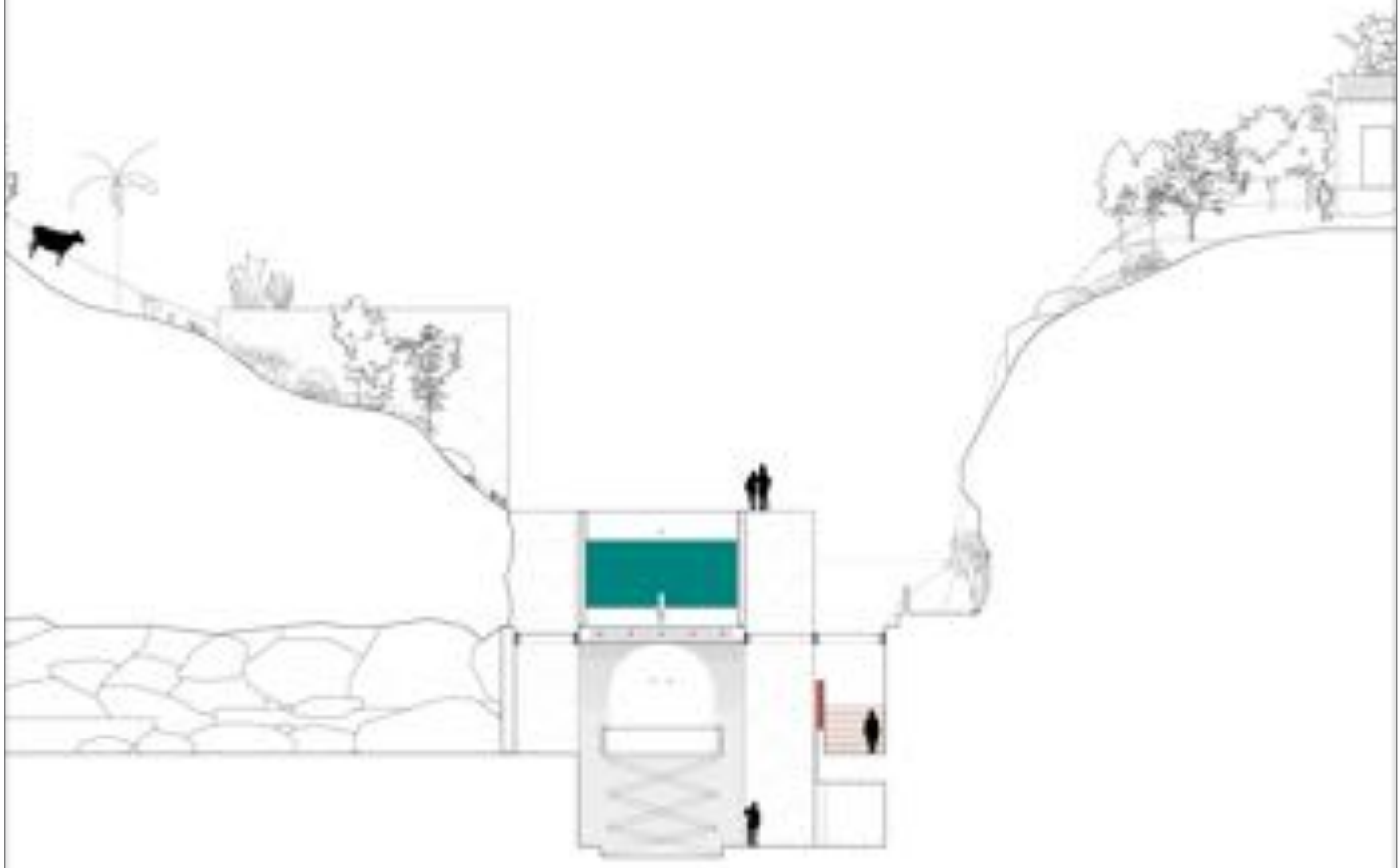
A service lift at the rear of the engine block allows the exchange of goods from the lower level of the atelier and firing kilns up to the upper floor. This service lift is industrial in its design and is operated by mechanical system.

Pasaje

A canopy in the atrium allows a light fabric to provide solar shading. This is applicable in times of excessive glare and solar gain. This minimises the risk of the space overheating and providing discomfort.

Landscape

A staircase connecting the building with Cerro La Cruz is designed from the natural contour of the land. A miradoura on top of the engine block allows Portenos to engage with the water tanks which sit at the top of the Adobe viaduct. The natural crevasse in the hillside creates an intimate environment.



Housing

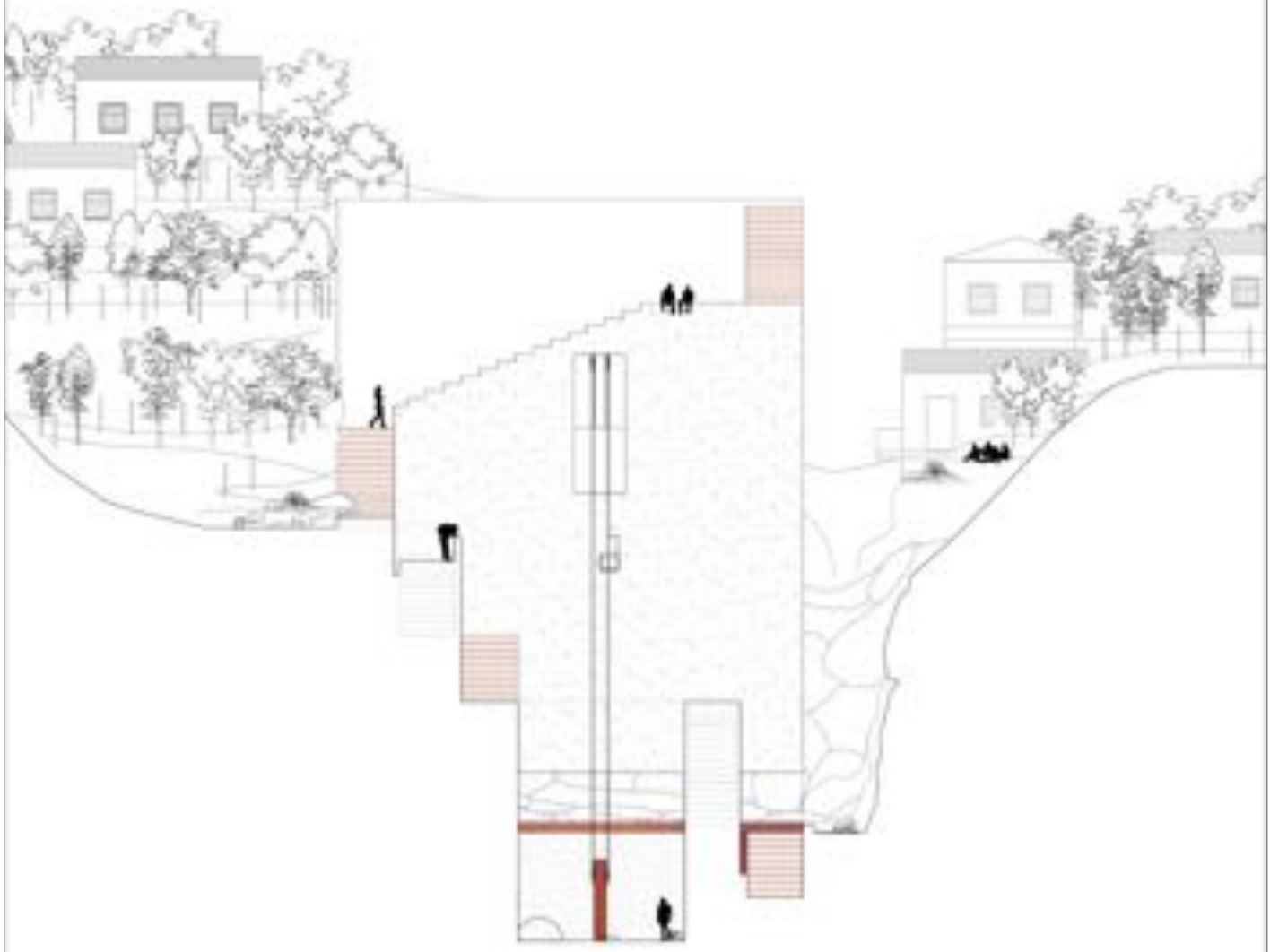
Local Portenos begin to appropriate the hillsides with small dwellings. These houses are primarily built from adobe products created in the atelier below. The houses also used timber construction to support the structures.

Vineyard

The seasonal vineyard is completely traversable by community members and the general public. Grapes harvested are bought to the platforms that meet the public staircase. These grapes are then sent down to the winery by the pulley system.

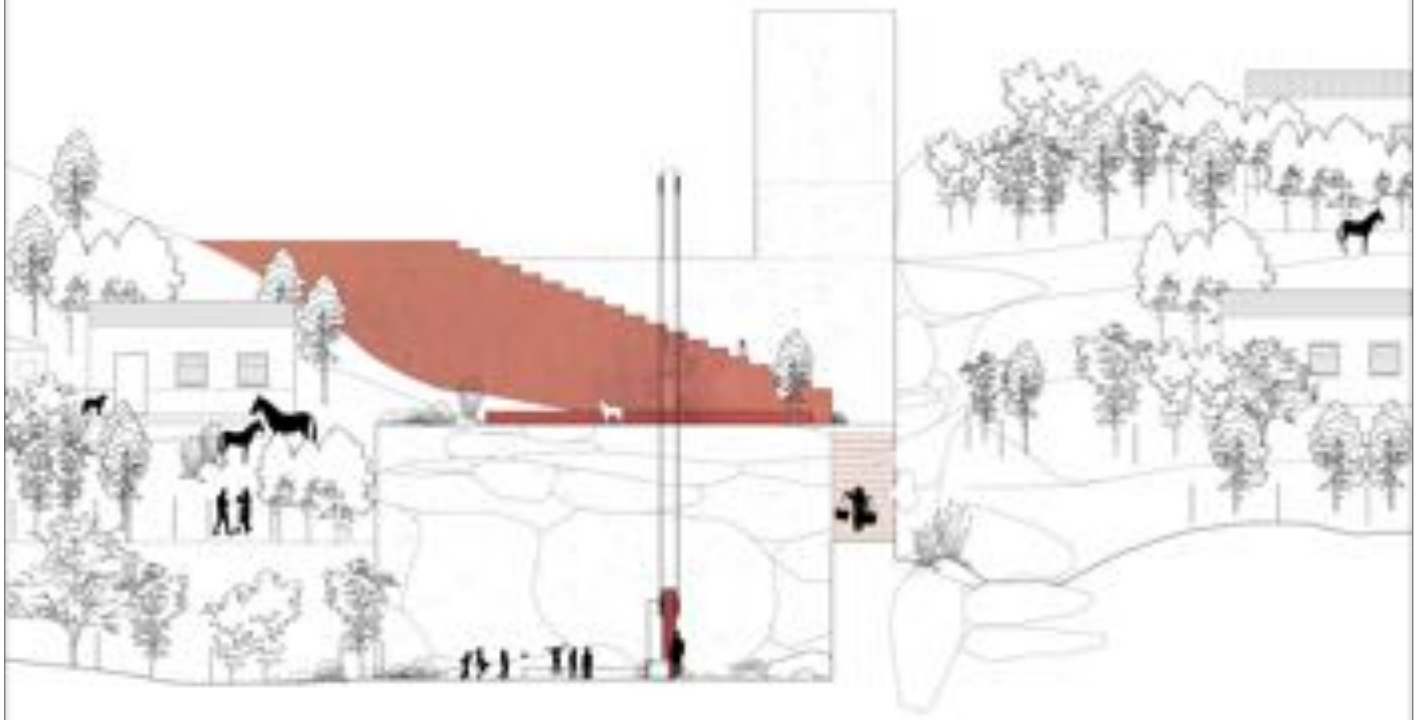
Staircase

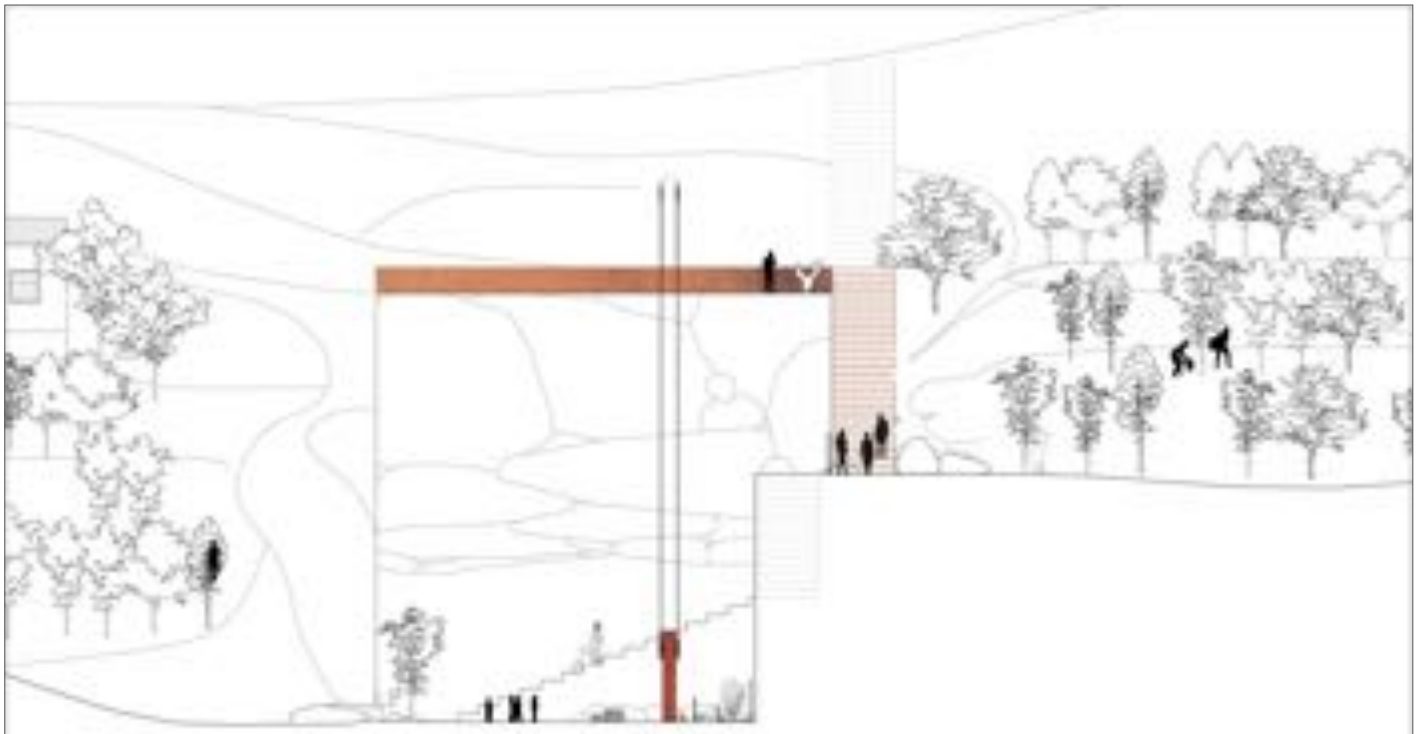
The large staircase is built from the excavated rock. In parts, the staircase is supported by a concrete infill for added strength. A series of large platforms has created resting points for social spaces to take place, i.e. a bbq space , a basketball court, etc... The staircase has a diverse set of uses unique to Valparaiso.



Landscape

The landscape that connects between the urban street and rural street is primarily an urban thread. But recreation, social and agricultural qualities add to the design. The lack of green space in the city has been addressed by facilitating a new vertical landscape, that is interactive and productive.





Materiality defining the Architecture

Raw, Contemporary, Reclaimed and Regional.

The materiality of the building is relatively simple. The building adopts a cradle to cradle approach of up-cycling materials, that were once disregard and reintroducing them into the overall composition of the design. To minimise waste is an important consideration in the buildings values.

1. Raw

Building materials that are locally sourced are key to the construction process. Soil is extracted from Quebrada Jaime, highlighted in the urban masterplan. A quarry also extracts material high up in the quebrada. This soil is transported to the site where it is manipulated through traditional techniques. Water is a key ingredient which is readily available, this is the same for eucalyptus which provides the reinforcement for such construction. All of these raw ingredients are self sufficient and in ample supply, with minimal waste.

2. Contemporary

Given that this is a forward thinking building with architectural quality, contemporary finishes add a level of sophistication to the design and modern edge. This has been limited to blackened steel, polished concrete and copper fixtures. This refined palette does little to complicate the general composition, but compliments the earthy tones of the adobe structure.

3. Reclaimed

Materials used in abandoned or damaged dwellings can be recycled. Houses affected by the fire in 2014 can be scoured for materials. Items can be salvaged and restored in the atelier if need be.
To construct the water tanks, which are large in size, steel is attained from the local Port. Galvanised steel is welded together on site and placed in the Engine block by a crane.

4. Regional.

To complete the material palette, small touches that give the authenticity of Valparaiso will be applied. This will be ornamentation in the form of graffiti, mosaics and tiling. Such decorative artwork will be completed by the local residents, designed in the atelier and provide the final enhancements to a design that is contextually applicable.

Adobe Recipe

Arcilla (Earth)
Arena (Sand variations)
Limo (Silt)
Fibra (Straw)
+

Agua (Water)
Estiércol (Natural Manure)
Cactus Species

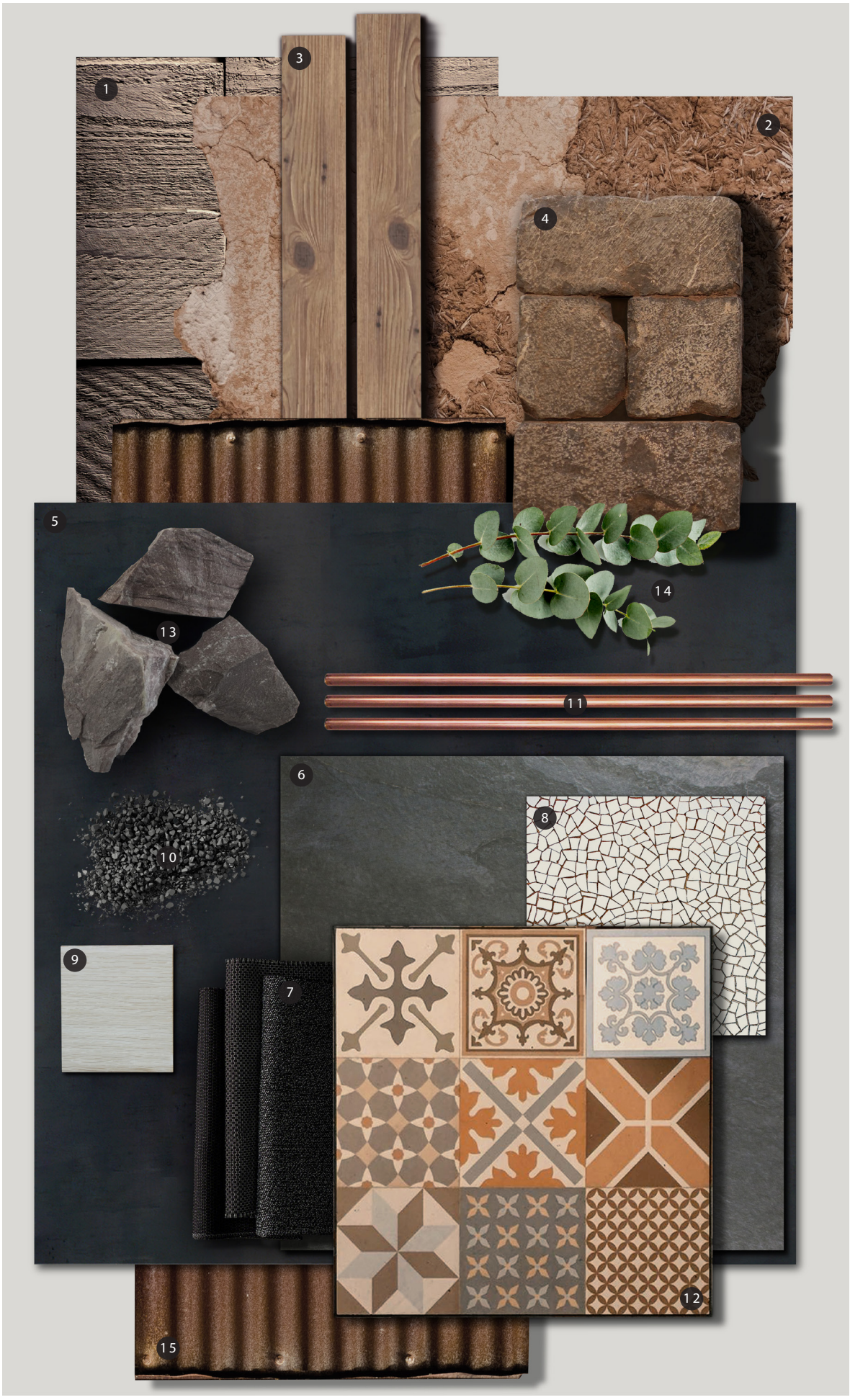
Locally Sourced Dry Manure

Cutting Equipment
Tarp

Ingredients for Adobe Based Building Materials
Raw Materials

Material Palette

1. Shuttered Concrete
2. Adobe Construction
3. Pine Wood Planks
4. MudBricks
5. Blackened Steel Sheet
6. Black Slate Tiling
7. Ventilated Black Fabric
8. Trencadis Mosaic Tiling
9. Bleached Oak Veneer
10. Limestone Gravel
11. Copper Piping
12. Authentic Chilean Incan Tiles
13. Metamorphic Rocks
14. Natural Eucalyptus
15. Reclaimed Corrugated Metal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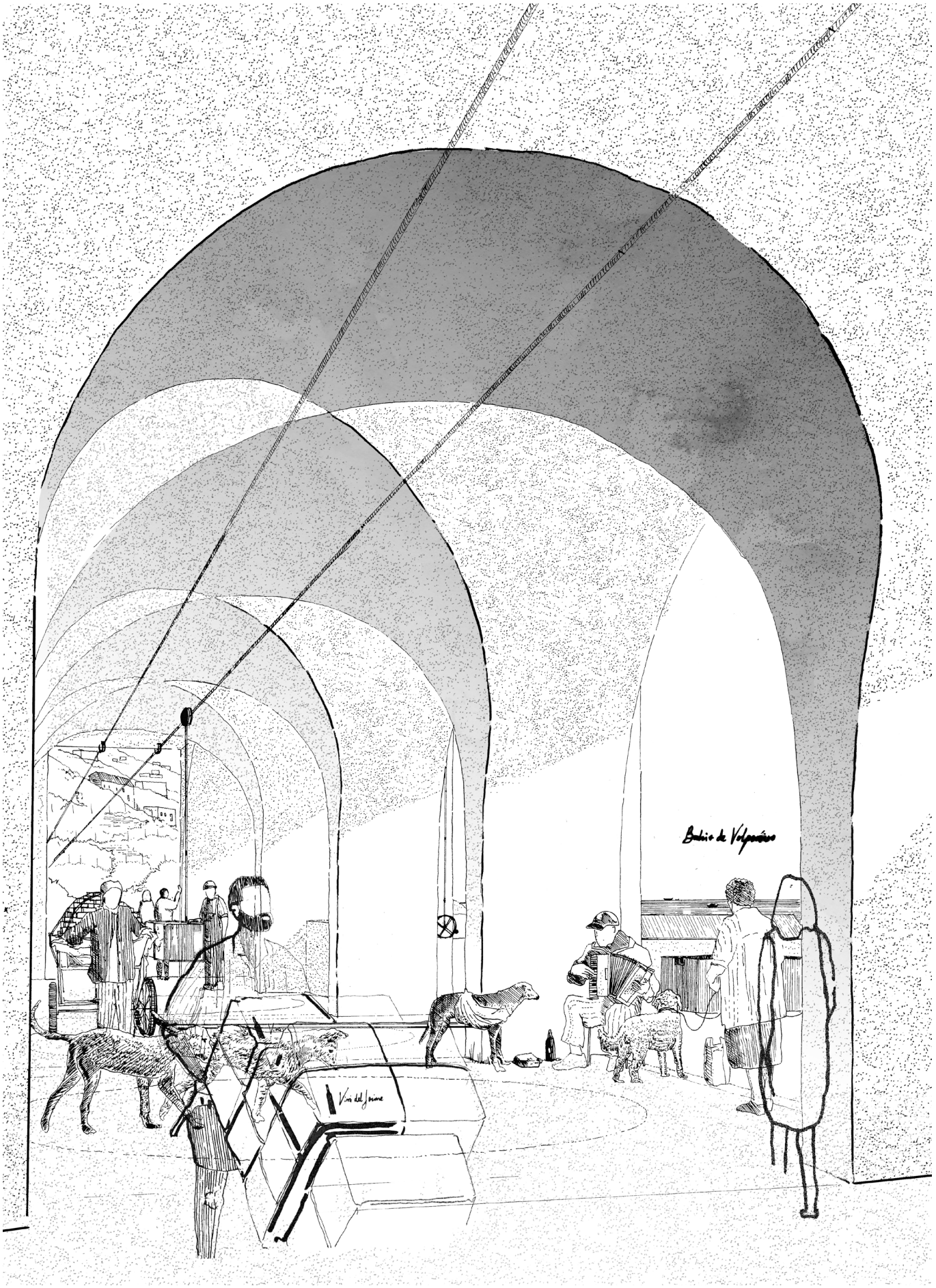
The Engine

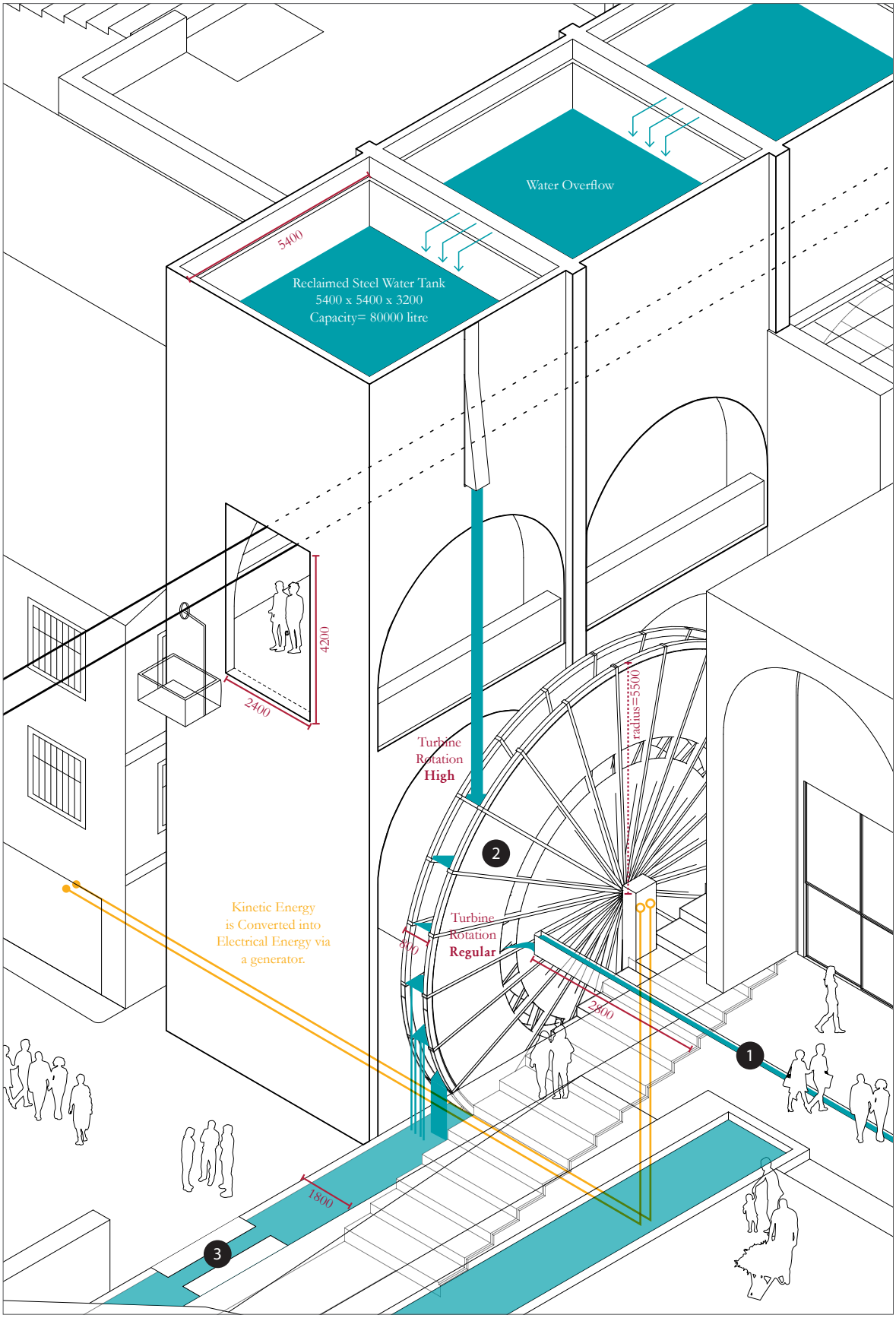

Bahia de Valparaíso
Vino del Jornal

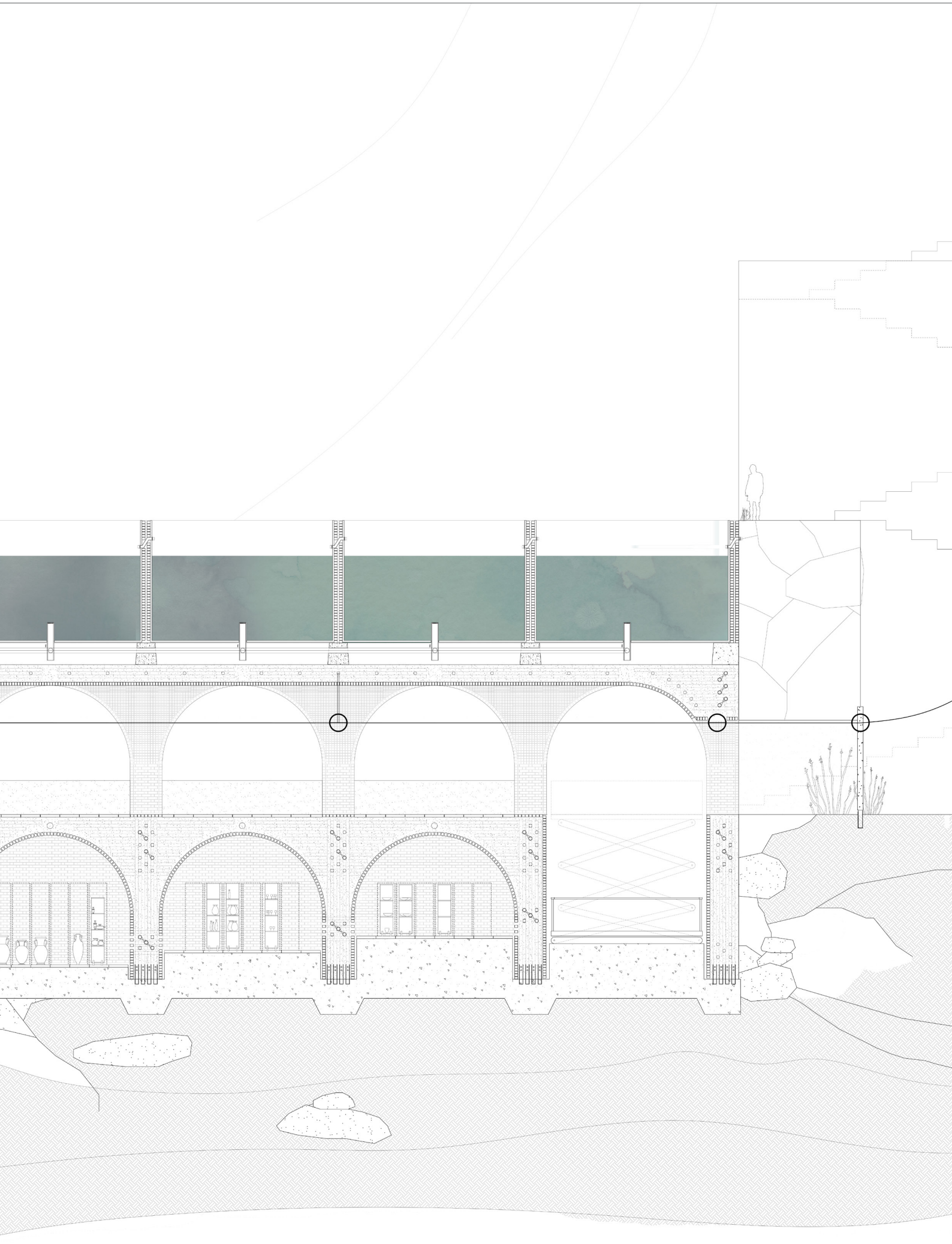
1 The current estuary of Quebrada Jaime runs below ground is canalised with the bricks once produced by the brick and paving factories that existed on Avenida Francia. The stream is now resurrected above ground. It follows an elegant path in a steel channel at surface level. People can follow this route up Quebrada Jaime.

2 A water turbine made from aluminium, rotates at varying speeds. It is powered by the natural flow of Estuario Jaime, but its speed can be improved by water stored in the tanks, sourced from the vineyard terraces of the neighbouring hillside. This allows the pulley system which connects to the neighbouring Cerros, La Cruz and Monjas, to be served. The water turbine is constantly in motion and producing electricity. This is managed by the powerhouse located directly next to the wheel, an existing derelict building.

3 The water that collects at the bottom in the lower reservoir creates a physical threshold between the rural nature of Valparaiso and the urban city. One can simply cross this boundary and access the proposed metropolitan park which runs up to the crown of Valparaiso. Water that had been channelled above ground at this point, is canalised and runs under Centro Cultural Trafon and out to the Pacific Ocean.

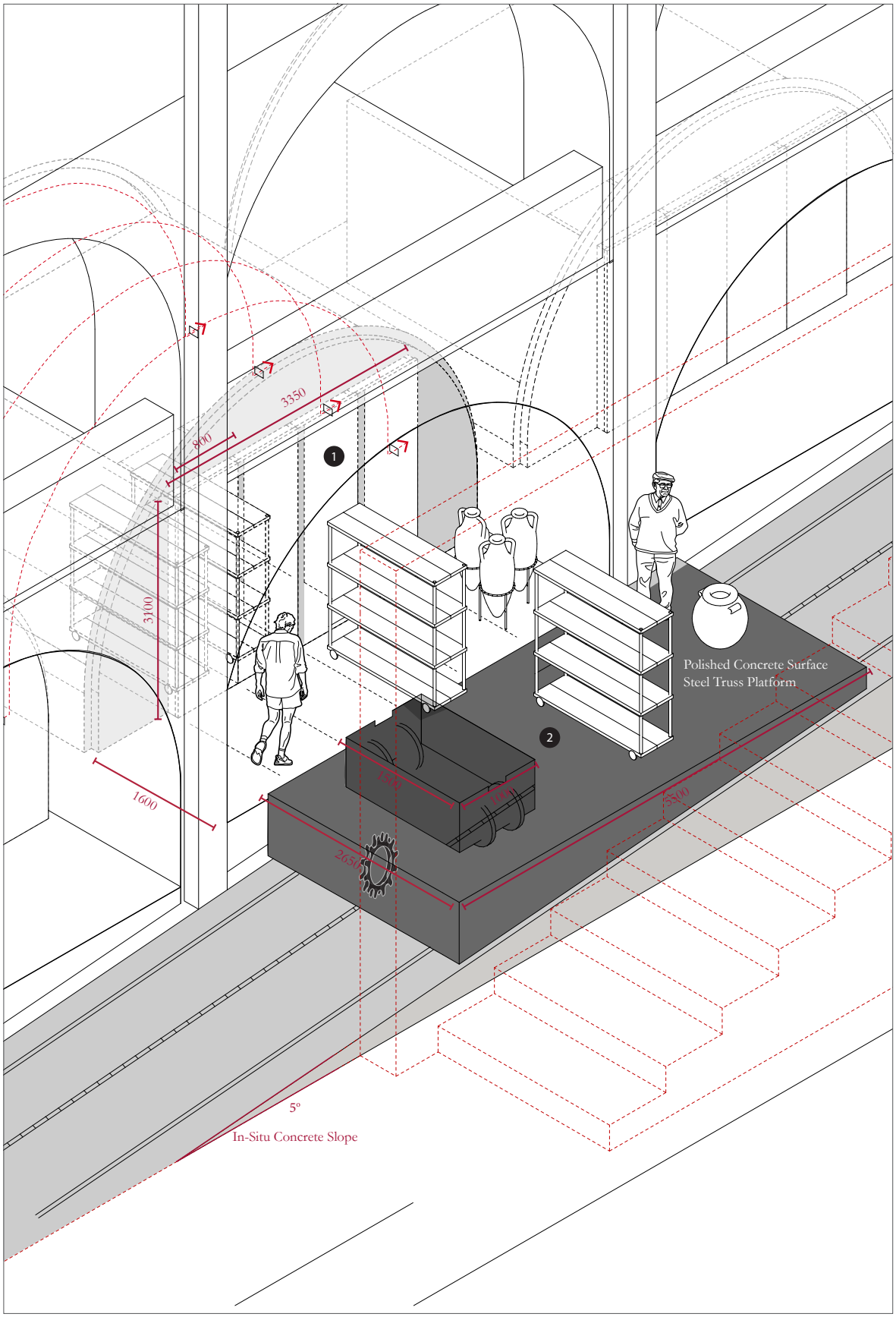
Water Turbine
The Engine


Water Overflow
5400
Reclaimed Steel Water Tank
5400 x 5400 x 3200
Capacity= 80000 litre
4200
2400
Turbine
Rotation
High
radius=3500
2
Kinetic Energy
is Converted into
Electrical Energy via
a generator.
Turbine
Rotation
Regular
400
2800
1
1800
3



1 Dragon Kilns used in east Asia traditionally allowed from heat to be retained in a set of chambers, with temperature levels being monitored and adjusted based on the required level of temperature. An inlet and outlet at differing heights, allows for a stack effect and heat to be moved from one chamber, into another. The kilns vary in size for use, whether it is to fire adobe products, bricks, amphorae, ceramics or glassware depending on need. Heat is eventually exhausted through a cavity in the viaduct structure

2 A ramp that accesses the kilns can move materials up and down the shallow slope when required. This platform moves up and down the slope by a cog system built directly into the ground. A mechanical system that is hand operated allows the cog to move, thus in turn pushing the platform up and down. A set of trolleys are available on site to move goods back and forth. The trolleys are heat resistant and can be slid into the kilns through a set of doors where the firing process can take place. These trolleys can then be removed and reused when desired.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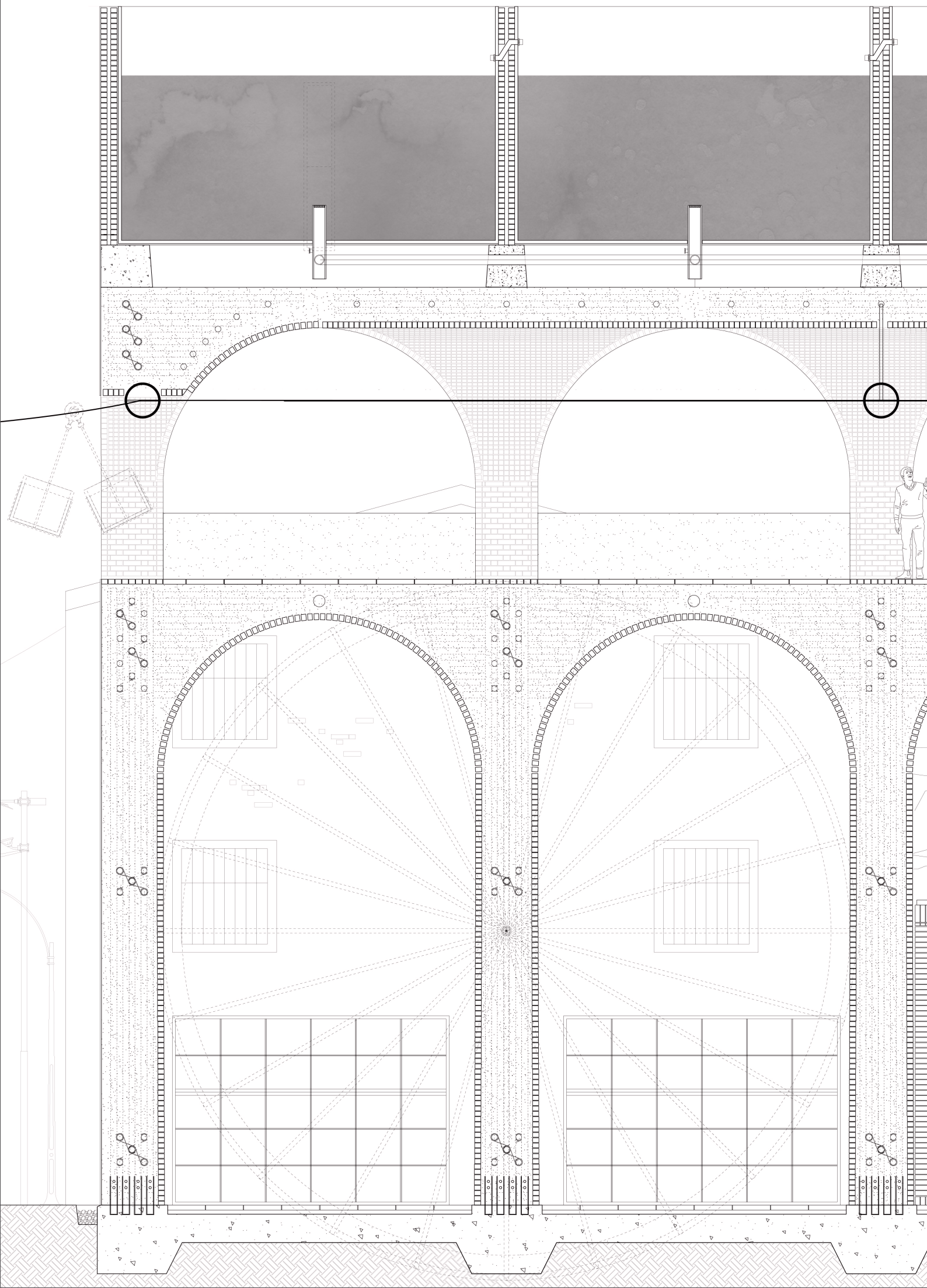
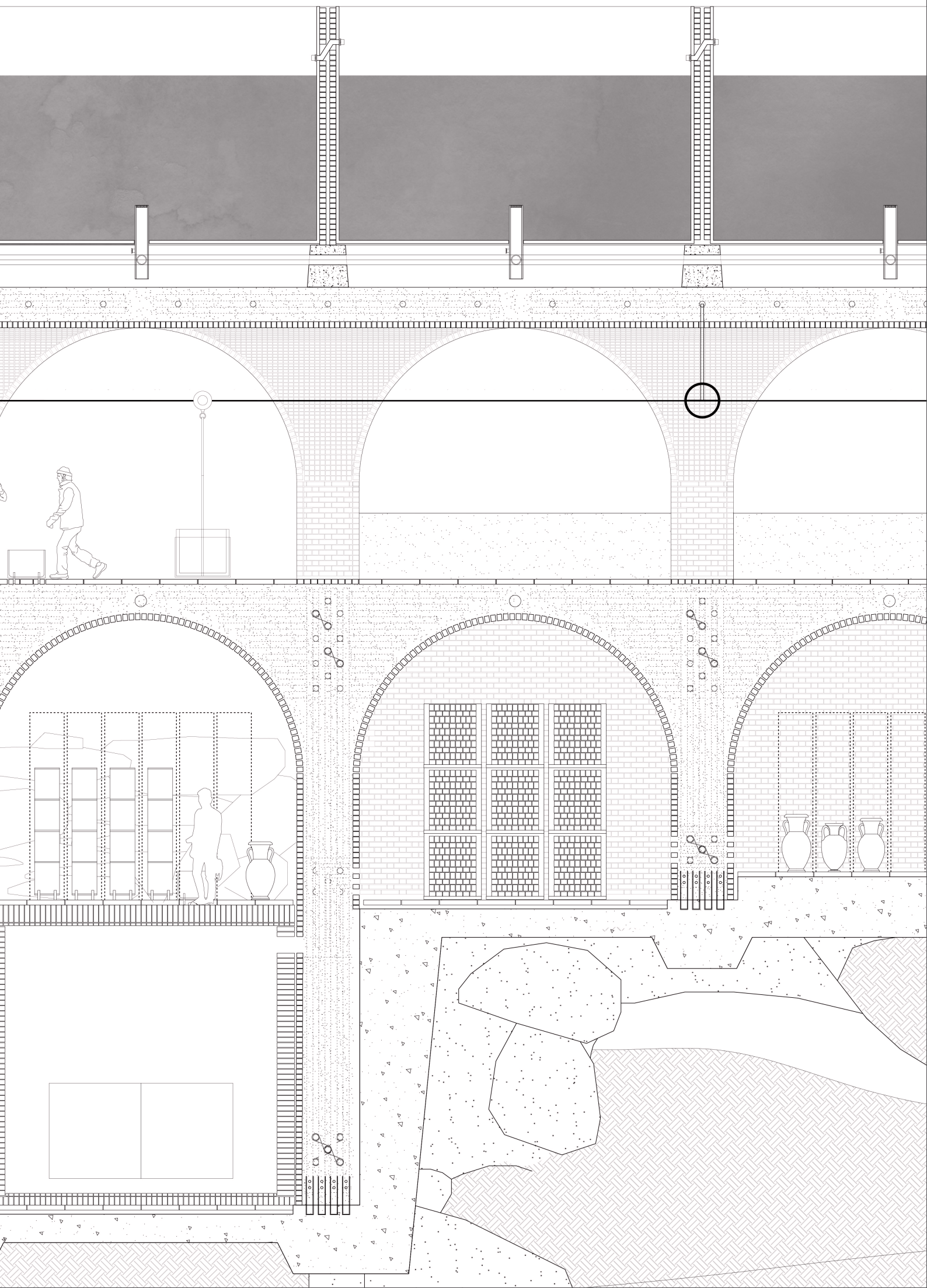
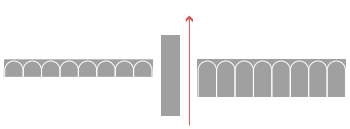
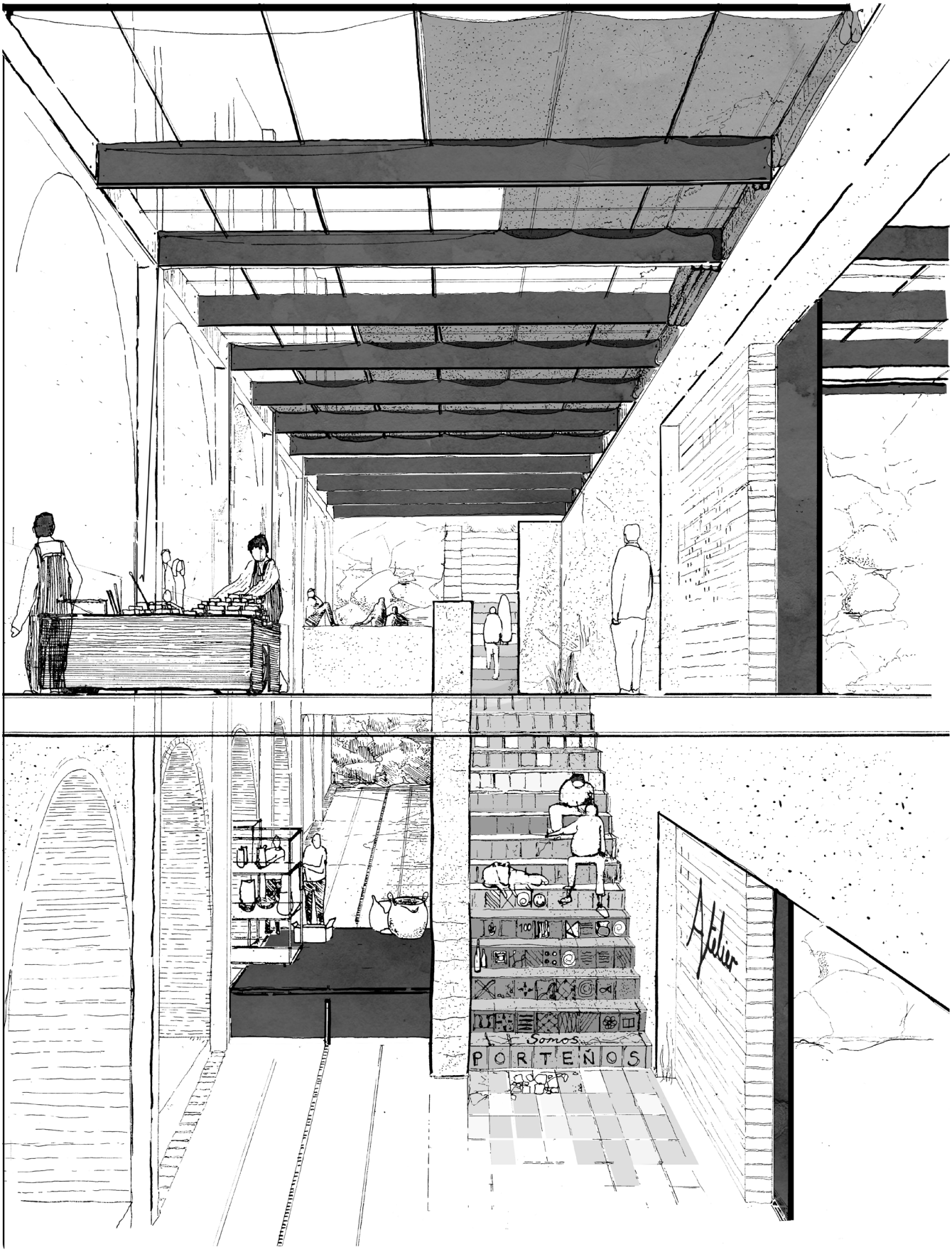
Polished Concrete Surface
Steel Truss Platform
5°
In-Situ Concrete Slope





The Passage





Interior Atrium

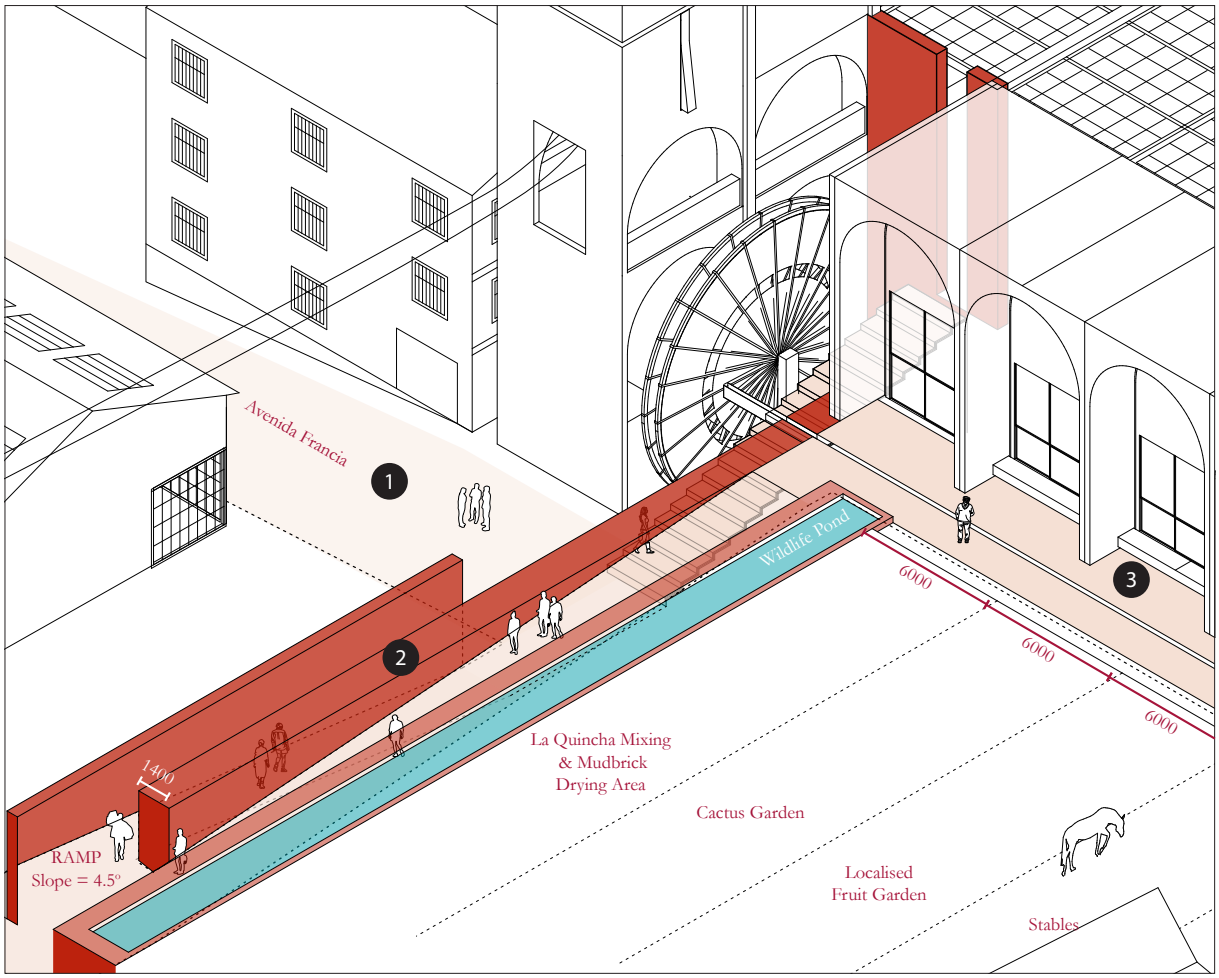
The Passage

1 Avenida Francia is currently in existence and connects the city to Avenida Alemania, a service road connecting across the cerros. In the urban masterplan this has been reconfigured into a pedestrianised market street which marks the urban rural gateway. Products produced on site as well as crafts created by the local residents can be sold here. This micro economy supports the neighbouring hillsides.

2 A ramp which cuts into the landscape provides a physical intervention to mark the urban rural threshold. Constructed from Adobe material, the thickness reaches up to 1metre in some instances de-marking its importance. The ramp leads people up from the market street directly into the building where the mixing of adobe takes place. It also directs individuals to the arched facade. The ramp also slows down people, allowing for greater engagement between the context and the earth.

3 The arched facade is a striking element to the buildings design. A set of sliding doors means the facade can open out onto the street and neighbouring cactus and wildlife garden. Adobe mud-bricks can be bought outside to be naturally dried under the sun. The facade exhibits the different raw materials required of the adobe production as well as the final products themselves. An exhibition on the craft and process is fundamental to the buildings transparency.

Ramp & Staircase
The Passage


Avenida Francia
1
2
3
Wildlife Pond
6000
6000
6000
1400
RAMP
Slope = 4.5°
La Quincha Mixing
& Mudbrick
Drying Area
Cactus Garden
Localised
Fruit Garden
Stables

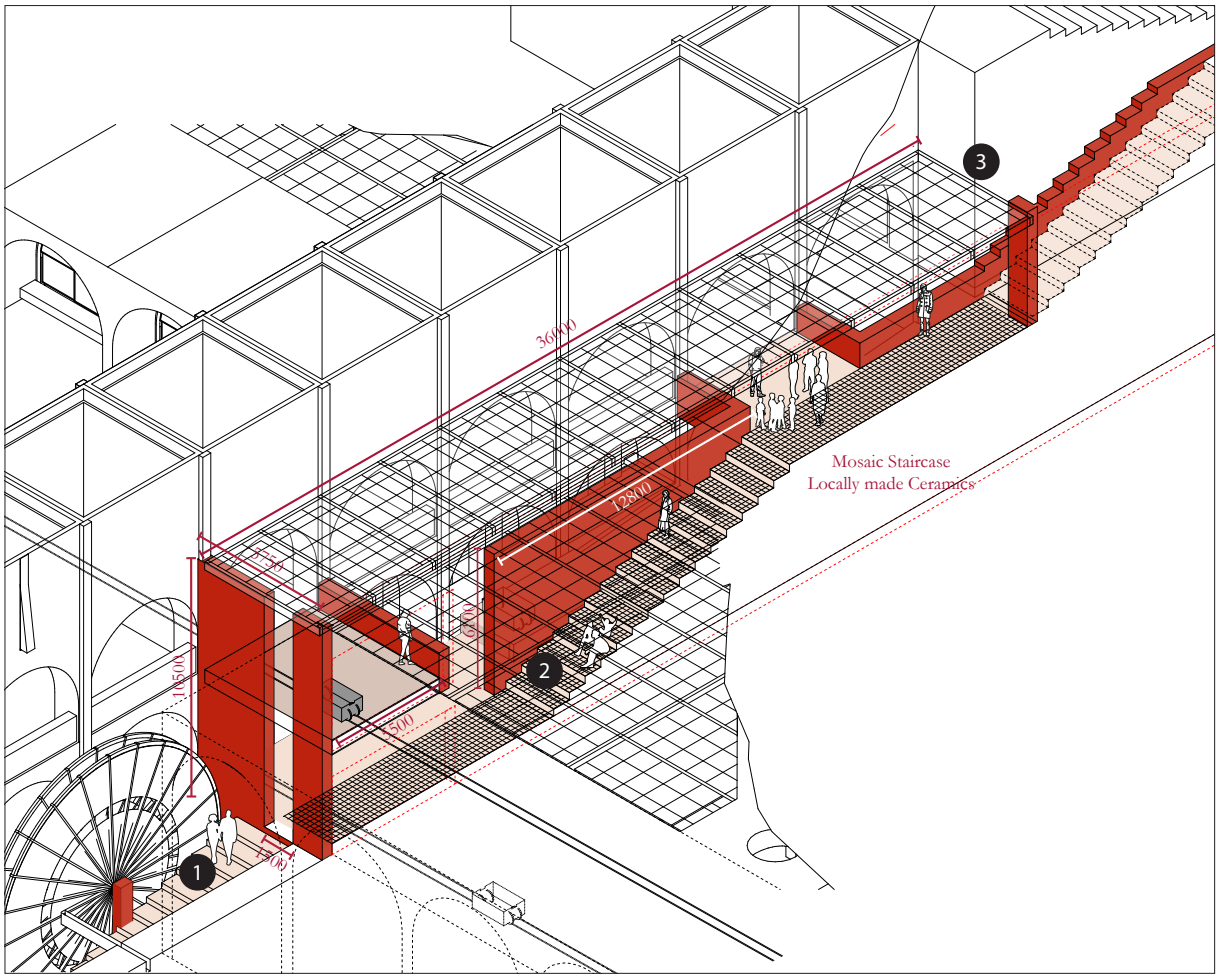
1. Upon entry into the building, the building is presented with a strong facade. A narrow slice marks the gateway into the space. This architectural move is also employed with entry from the other side. The space is entirely permeable. The envelope does not close. A set of doors to the right allow people into the workshop if required and can be closed after hours to the public.

2. A large staircase takes people up into the mezzanine level of the building or up to Cerro La Cruz. The staircase is simplistic, made from stone and is bookended by thick adobe walls. An intimate space, echoes the Quebrada.

3. An acrylic polymer roof allows light to enter the building. A shading device on the underside, allows fabric to slide into place during summer months to avoid overheating and excessive glare. The roof structure negates for rainfall and created an interior environment in what actually is and outdoor space. It also mediates the interstitial space between the Engine block at the centre of the design and the Adobe Workshop.

Interior Staircase

The Passage

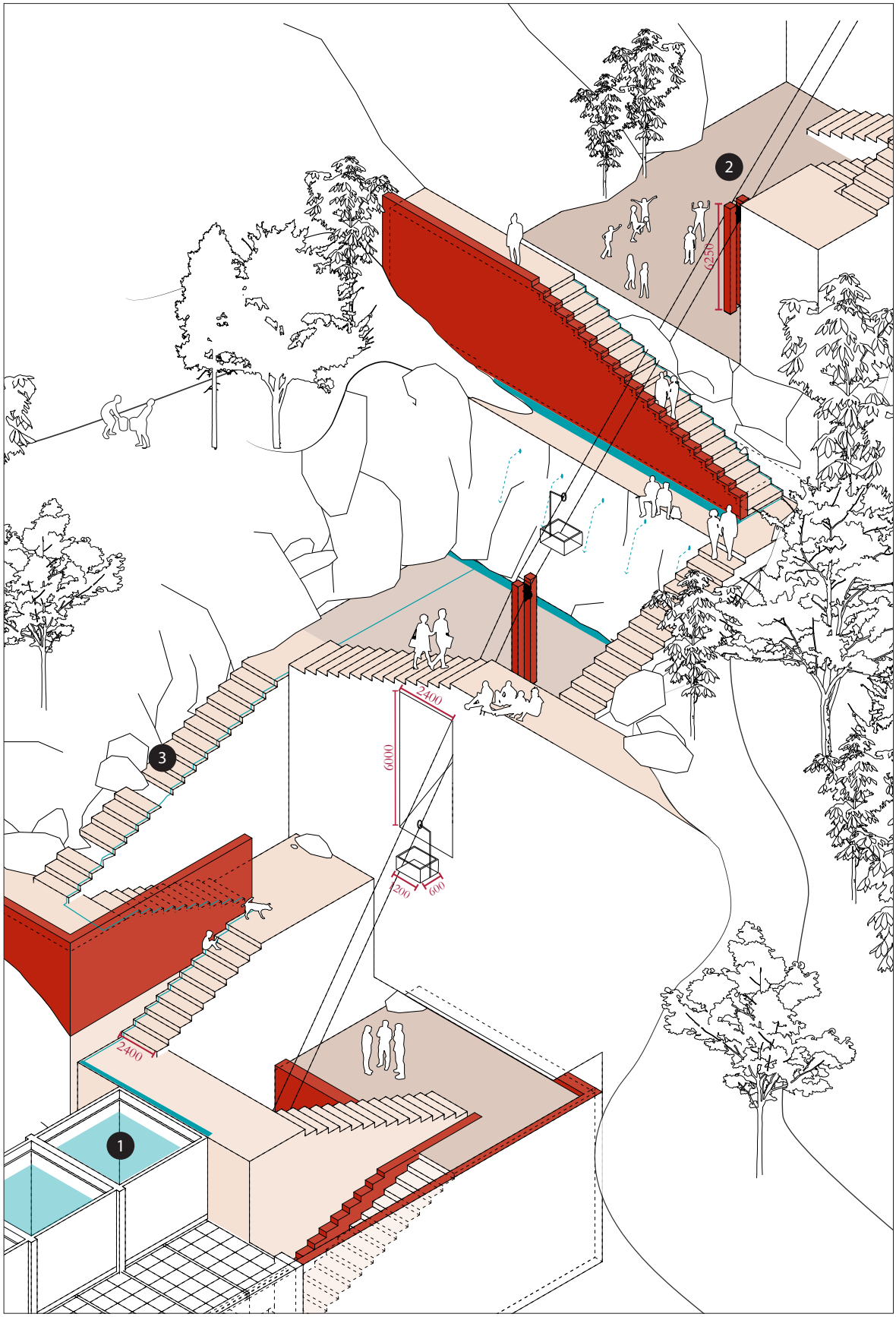

3
2
1
3600
12800
1450
600
1500
Mosaic Staircase
Locally made Ceramics

1 Excess water from the terraced landscapes, vineyards and hillside settlements is channelled into the ravine and into the series of water tanks for future use. Water pathways cascade and intertwine with the winding staircase as a form of landscaping.

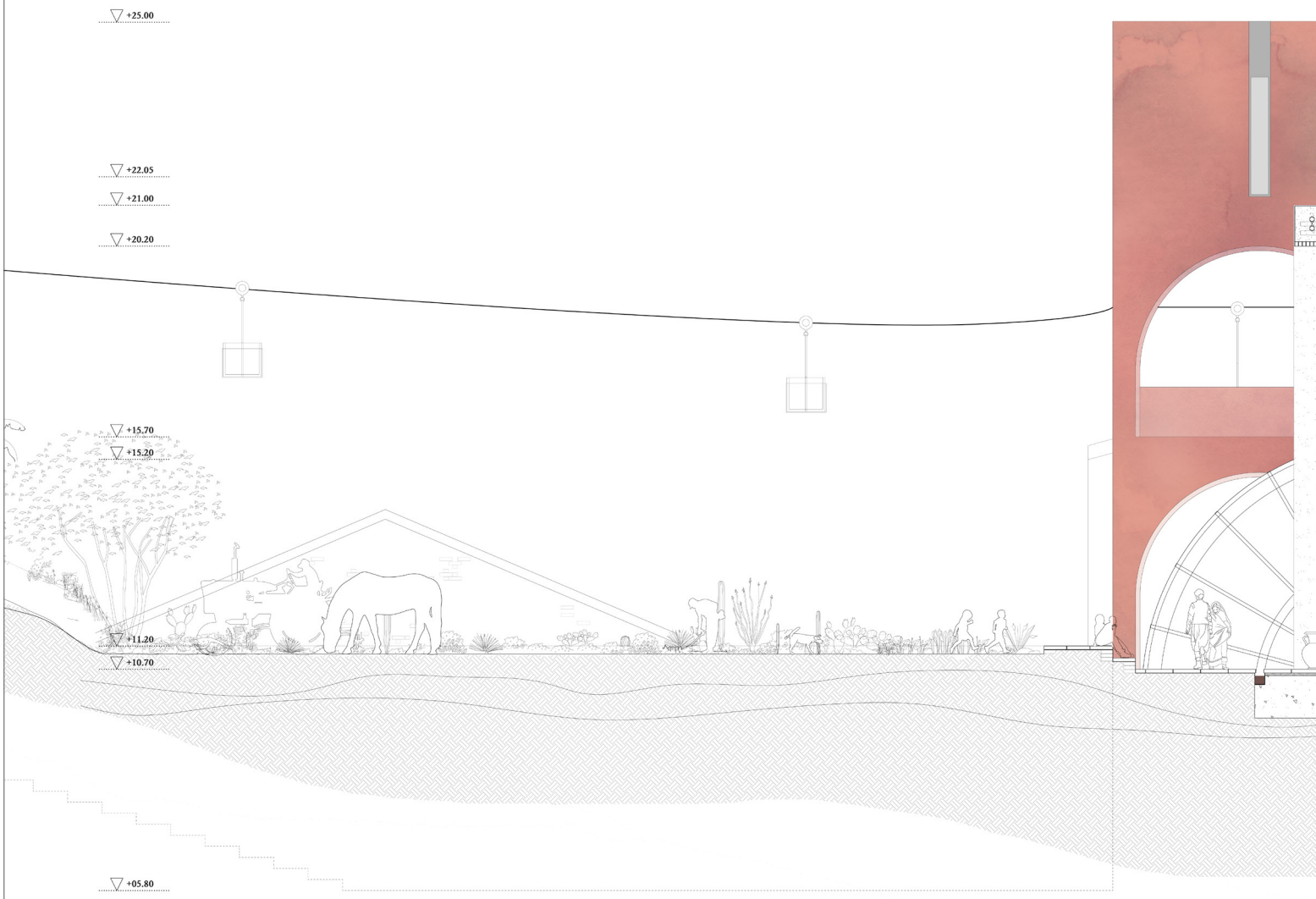
2 Large plazas are carved into the hillside to create informal miradouras which overlook Quebrada Jaime and engage with the Pacific Ocean. These larger terraces allow for earth excavated from the hillside at great heights, to be bought across horizontally, where it can be transported down into the workshop by a series of carts operated by a pulley system, controlled by the water turbine.

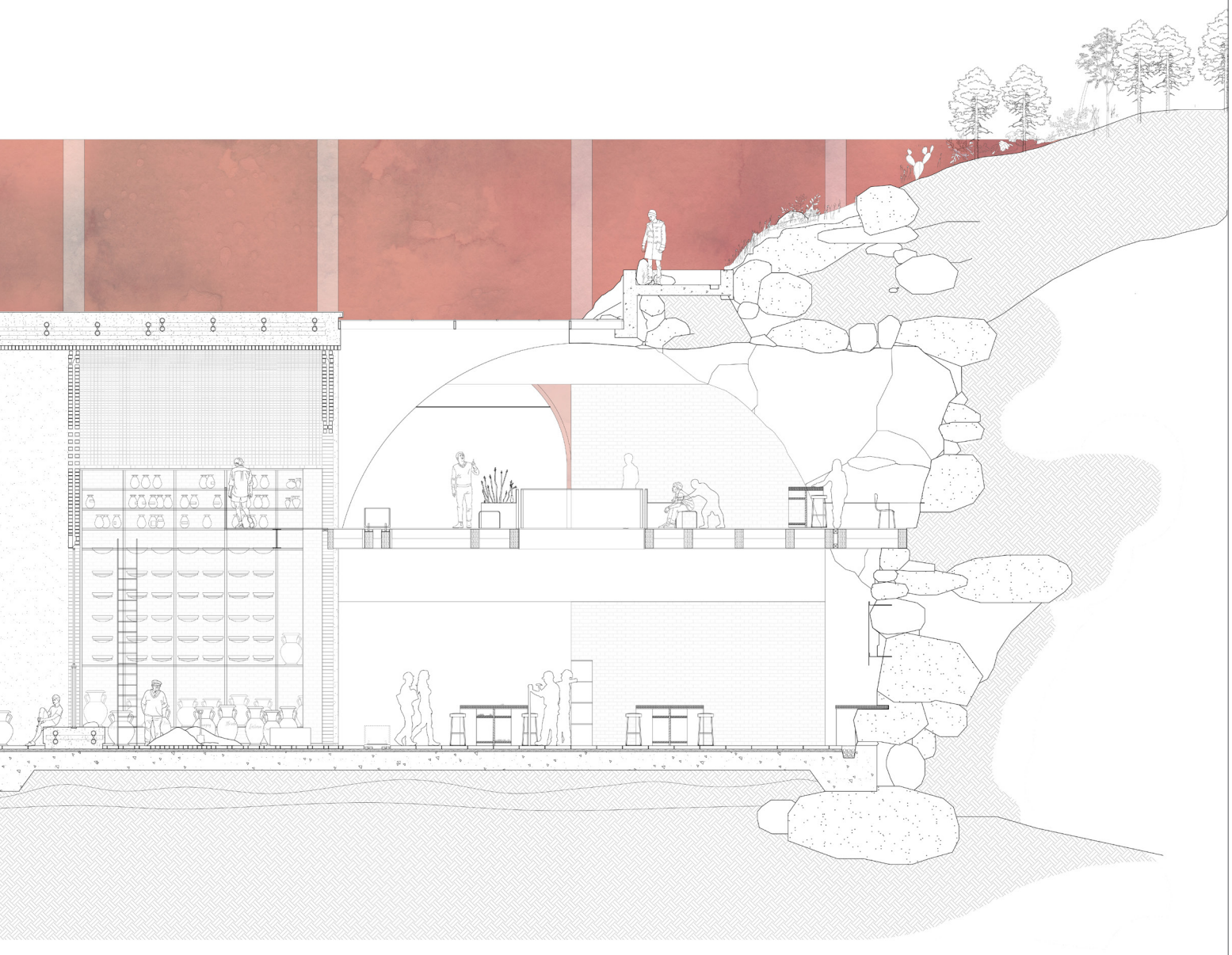
3 The staircase itself combines the natural rock of Quebrada Jaime. The steps are carved into the landscape and do not have balustrades at some instances. Adobe formed walls also help orientate the pathway and guide individuals up and down the hill. Smaller niches are created along the pathway to create spaces of interest and meeting points between the local residents who have helped to build the residence..

Landscaped Terraced Staircase
The Passage


2
2350
3
2400
6000
1200
600
2400
1

Atelier


+25.00
+22.05
+21.00
+20.20
+15.70
+15.20
+11.20
+10.70
+05.80



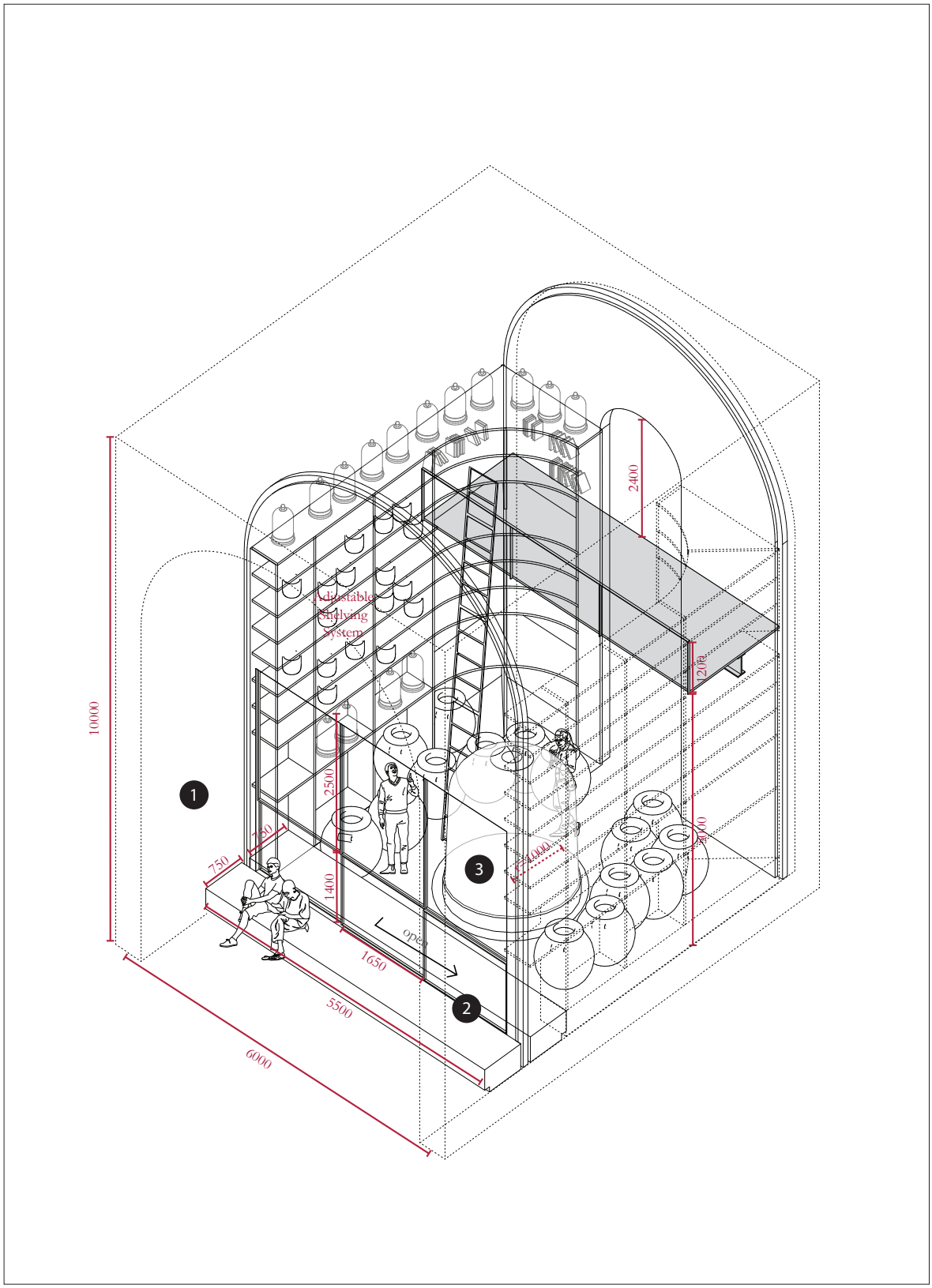
Material Inventory Exploratory Design
Diorama Model

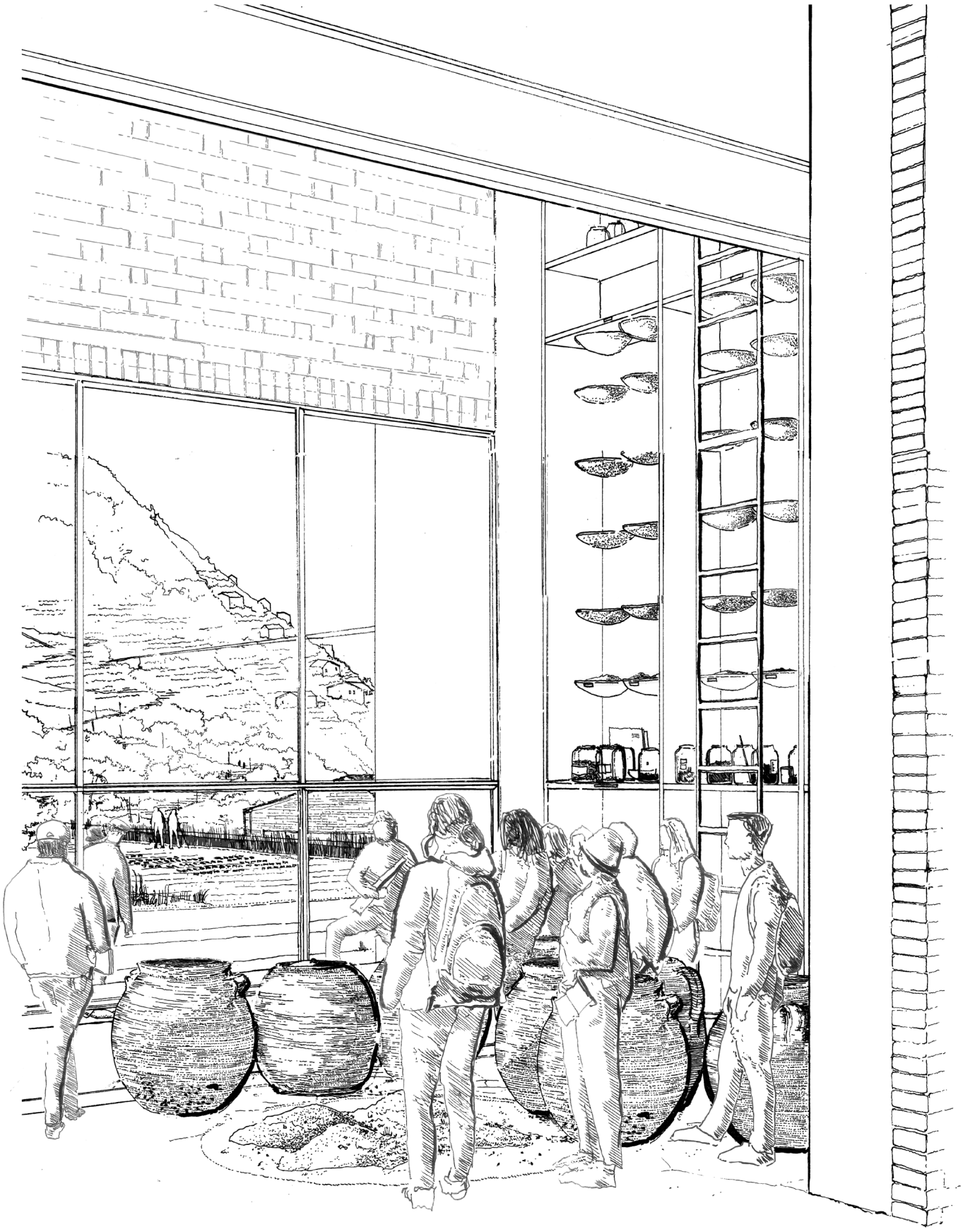
1. The facade of the building is formed from rammed earth adobe construction. A brick vault supports the underside of the arch in a catenary effect. A brick cavity infill faces the building on either side with perforations to allow airflow and the natural ventilation.

2. The facade of the building is mediated by glazing. The glazing at a lower level can be opened and closed, making the windowscape interactive. Passing traffic can interact with activities taking place within the building.

3. Each archway will exhibit a raw material or finish product of eh adobe craft. At the centre of the space, the volume will exhibit an action or material in a state of rest in a museum like experience. For this instance, an interior cactus garden for scientific purposes is controlled at the centre of the space. Different species line the walls and lay dormant on the shelves.

Facade Storage Room
Atelier

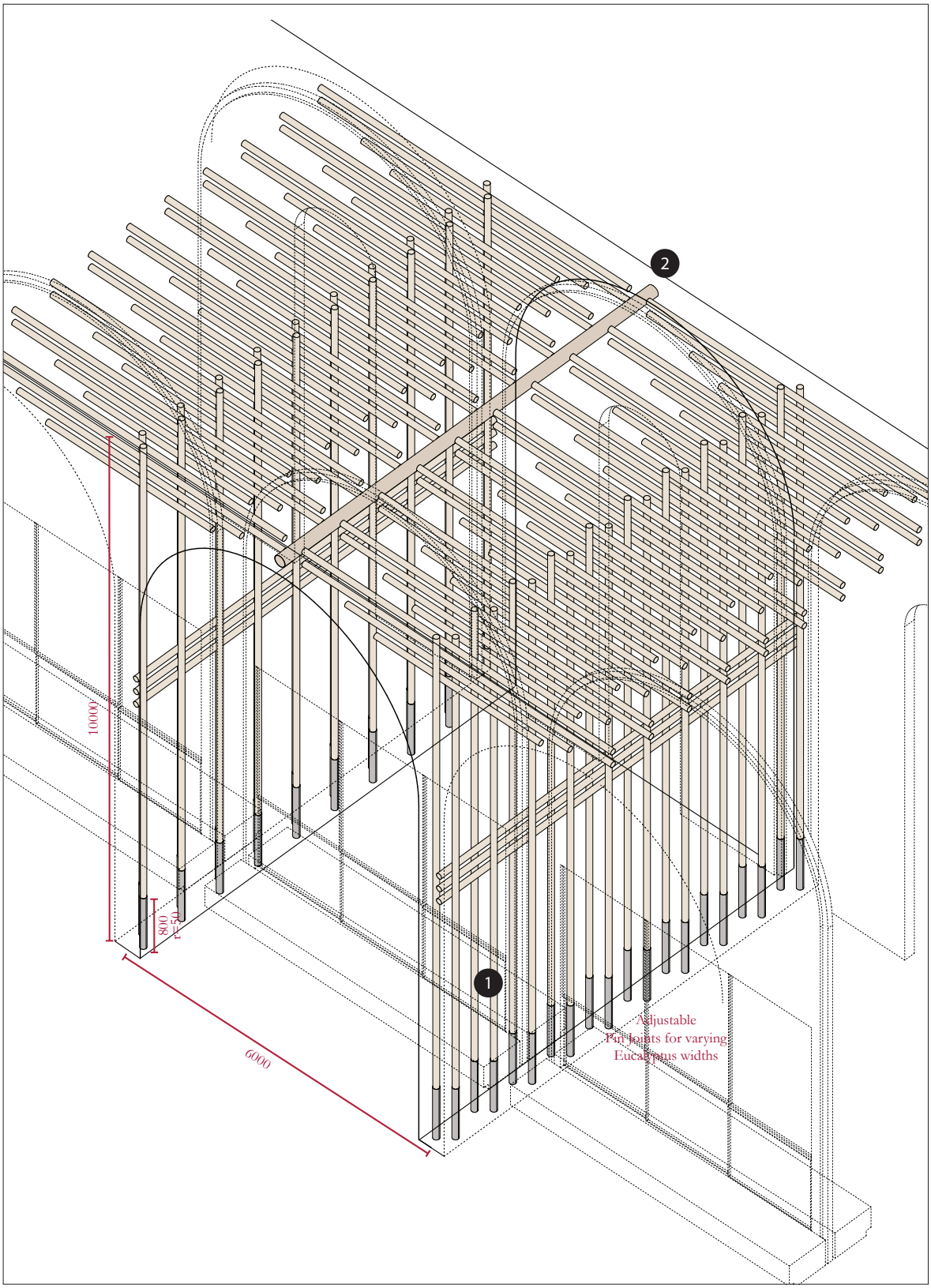

10000
2400
2000
3000
2500
1400
750
750
1650
5500
6000
open
1
2
3
Adjustable
Shelving
System

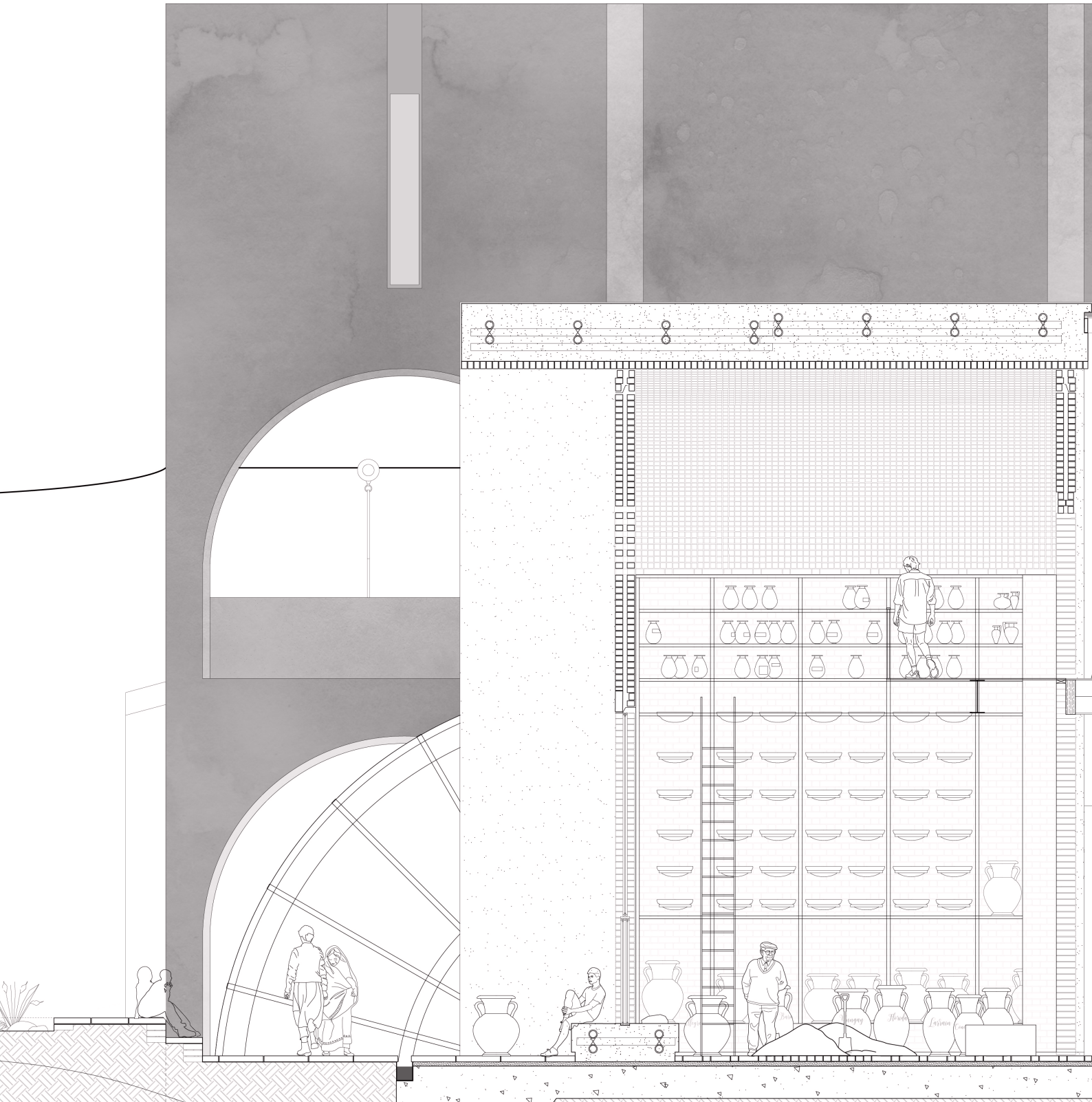


1. A set of eucalyptus logs are claimed on site or from the eucalyptus reserve in the Quebrada higher up. These are treated within the building for water and fire resistant purposes and used as reinforcement in the rammed earth construction. Steel pins which can be altered in dimension to accommodate varying widths of wood are pinned into the concrete foundations for extra stability.

2. Eucalyptus lashings formed from branches of the tree species can be used to tie the connections between interweaving logs together. These are fastened for extra support when the earth is compacted above. At the ridge of the arch a thicker eucalyptus log is used for greater stability at the structures weakest point.

Facade Arches Construction
Atelier


2
10000
800
150
1
6000
Adjustable
Pin joints for varying
Eucalyptus widths



Front Facade

Top Soil. Natural substrate formed over decades.
Approx 2m in depth.
Natural Metamorphic Rock. Quebrada Jaime
Concrete Foundation. 500mm depth.
Steel Reinforced Gutter.
Stone Paving Slab. 75mm depth, 600mm x 600mm.
Sand. 65mm
Rammed Earth
Treated Eucalyptus Logs. Typically 100mm in diameter.
Eucalyptus Lashing
Sundried Adobe Mudbrick. 75mm x 100mm x 280mm.
Adjustable dimensions when required.
Timber Window Frame. 40mm
Brick Cavity 60mm
Steel Wall Ties
Waterproof Membrane
Linseed Oil Treated Adobe Finish 20mm

Mezzanine Detail

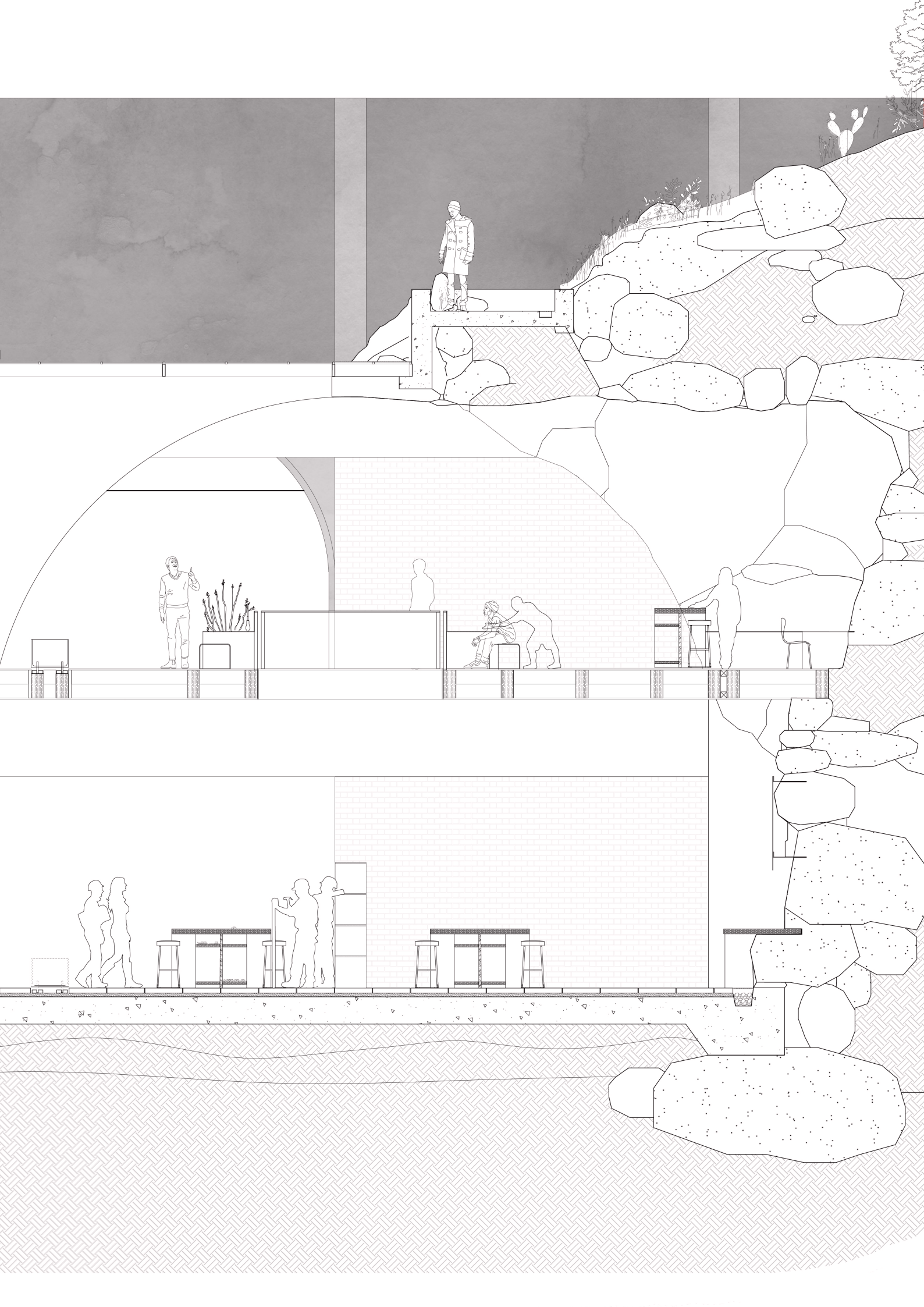
Welded Blackened Steel Sheet 40mm
40mm Steel Channel Balustrade
Steel I-Beam 406mm x 178mm x 85mm
40mm Adjustable Plywood Shelving Unit
Welded Blackened Steel Cart

Workshop Space

Welded Blackened Steel Cart with Wheels
Glulam Timber Beams. 450mm x 200mm
Glulam Timber Beams. 250mm x 100mm
Steel Joist Hangars.
Plywood Floor Finish. 18mm
Plywood Ceiling Finish. 18mm
In situ Concrete Vaulted Arch.
Welded Folded Blackened Steel Sheet 40mm
Welded Folded Blackened Steel Bench 40mm

Ceiling Detail

Steel Rectangular Hollow Section. 200mm x 50mm
Steel Frame Square Hollow Section 40mm x 40mm
Removable Steel Grating Floor for maintenance. 40mm
Fixed Translucent Acrylic Plastic. 1000mm x 1000mm.
In Situ Concrete Terrace. 200mm in depth, with built in gutter system.
Excavated Soil. Natural substrate formed over decades.
Approx 1.5m in depth.
Exposed Natural Metamorphic Rock.
Internal Guttering System.
Gravel Pit.

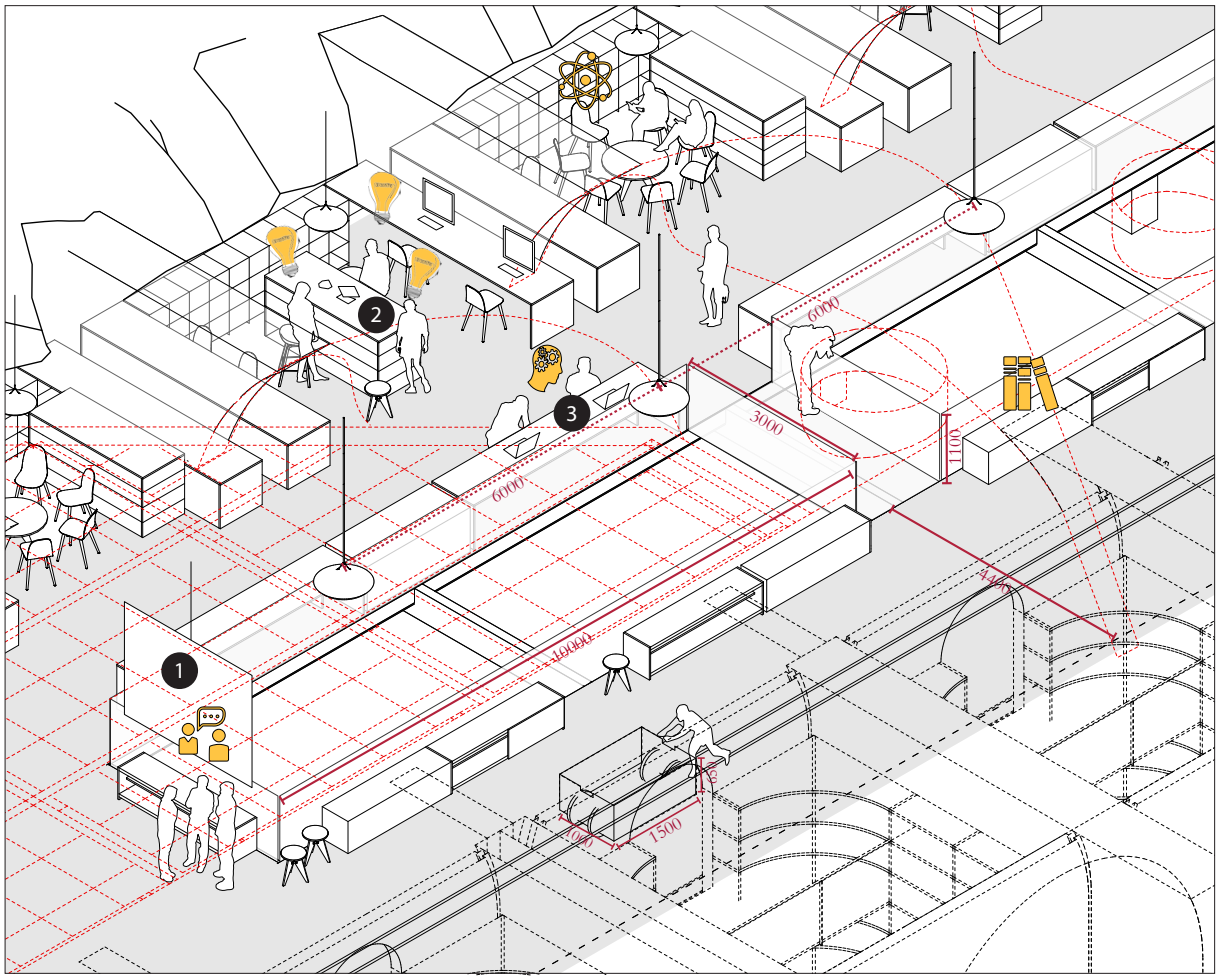


1. For researching the craft and science of adobe techniques a set of spaces, undefined by walls are created within the large floor plate. A place for discussion is created. A large open seminar room greets visitors to the research level. Lectures can take place frequently while observing and overlooking the construction taking place at a lower level.

2. Smaller niches are tucked away to the bedrock of the floor plate. These are defined by the ceiling structure and furniture layout. These more prescribed spaces become research hubs that focus on future tech, fire proofing adobe, water proofing and improving seismic resistance.

3. Informal work spaces are dotted around the void space of the floor plate. These offer storage and work benches for visitors to the building, as well as a more relaxed place for discussion to take place. Storage is also combined with the furniture of the building.

Research Department
Atelier

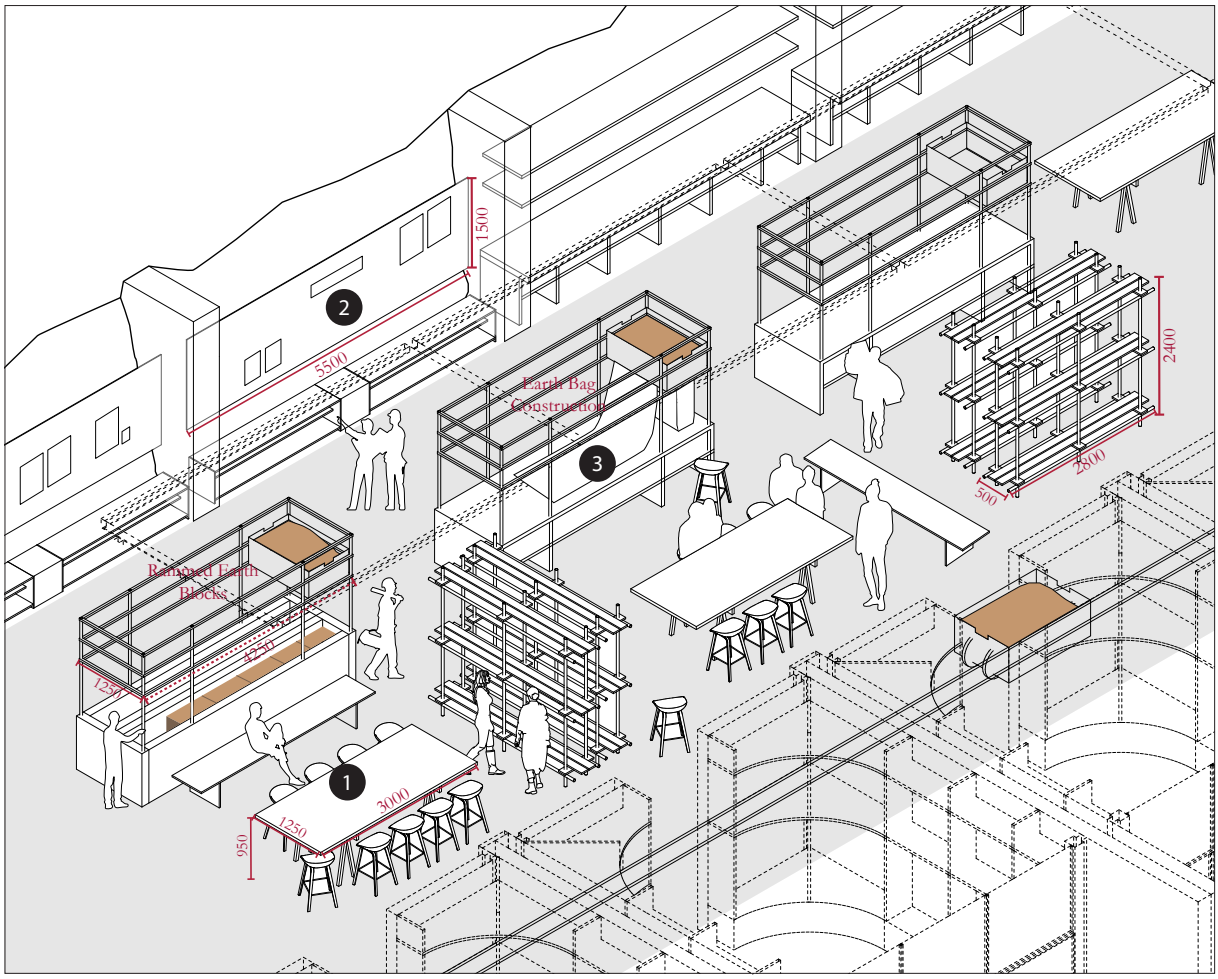

1
2
3
6000
3000
1100
6000
10000
1500
1000

1 Large workbenches are placed in the Adobe Workshop. They offer space for discussion and craft to take place. These are built from locally sourced pine. Here mud-brick moulds can be formed as well as prefabricated panels for the la quincha methods to be applied.
They line the entire length of the Adobe Workshop and face the street behind the arches. All visitors are welcome to use on site machinery.

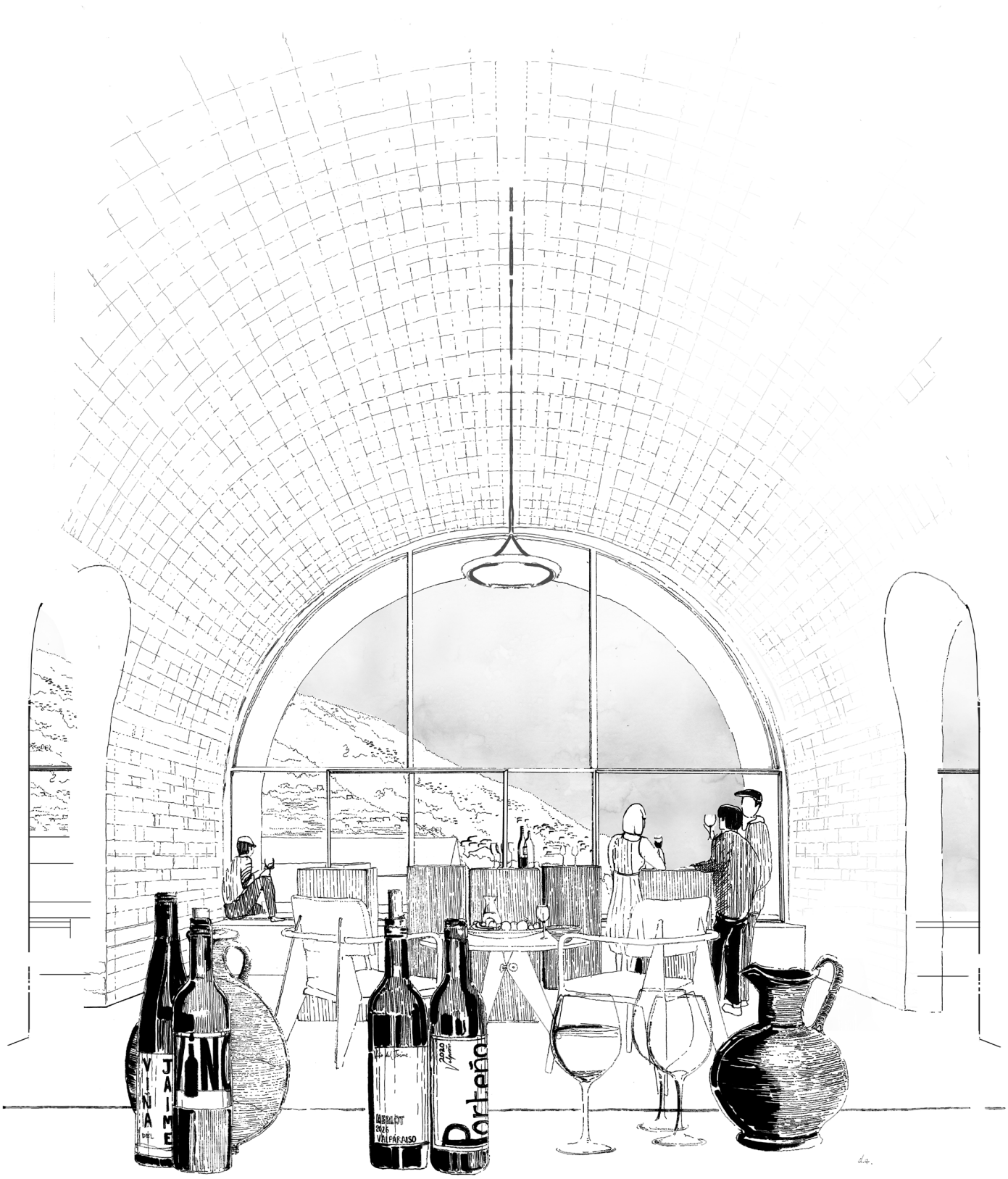
2 The back of the workshop is where storage of materials, large blackboards for discussion are placed as well as heavy machinery is located. These are pinned into the rock structure and have an archaic architectural quality, promoting craft and hand made goods.

3 Custom built furniture for producing earth bags as well as rammed earth blocks, help facilitate the quicker production of these units for construction methods. The stream of production is quickened if so desired.

Workshop Environment
Atelier

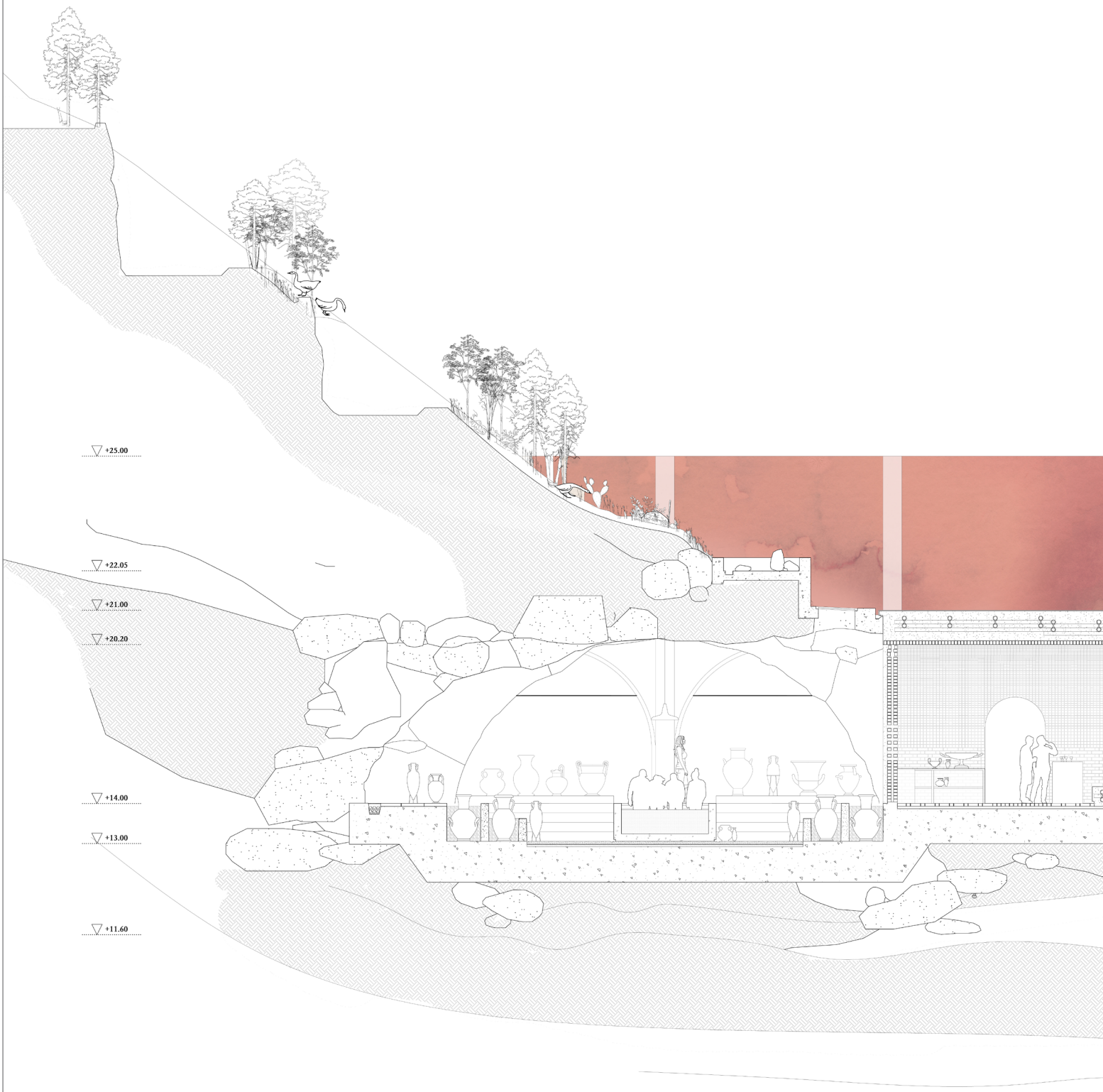

1500
2
5500
Earth Bag
Construction
3
2400
2800
500
Rammed Earth
Blocks
1250
1250
1
3000
1250
950

Winery



Wine Tasting Room

Winery


+25.00
+22.05
+21.00
+20.20
+14.00
+13.00
+11.60
+06.60
+00.00

Winery

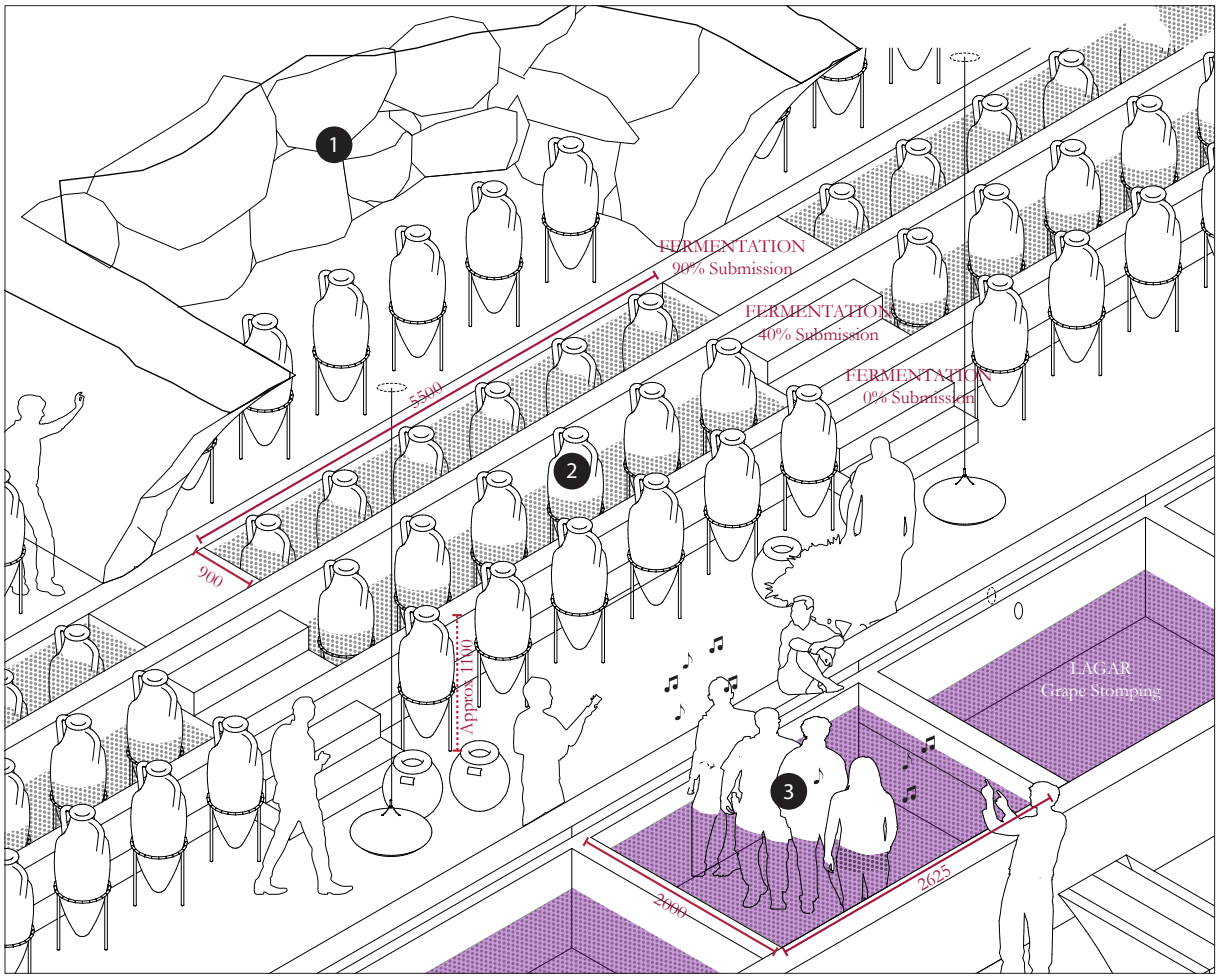
Tectonic Detail in Context

1 The bodega is placed within Quebrada Jaime. To such an extent, it is buried entirely under the Cerro La Cruz. It is enveloped by adobe which allows a level of natural oxygenation to occur in the fermentation of wine. This porosity of the natural building material creates an irregularity in the taste of the wine, not to mention its fermentation taking place within amphorae pots. This creates a wine of the region and of the place. An artesenal quality making this wine so particular and unique.

2 Amphorae pots are formed in the Adobe Atelier on site and are transported to the Bodega where wine ferments in these custom made vessels. The amphorae can be stored in the space at different levels of submersion based on desired levels of exposure to oxygenation. The designed terrace facilitates the showcasing of the pots as well as ease of access. The amphorae can be completely buried, semi buried or not buried at all. Reclaimed rock and stone from site is crushed to bury the pots.

3 A lagar is used for the pressing of wine. This designed concrete embellishment is simplistic. It poured on site and becomes the meeting place for the action and process of making wine to take place. They form a public form of furniture which can be used when the harvest is out of season. Wine can be extracted from either side from a set of bespoke taps. A polished concrete floor allows for the easy cleaning of spilt wine.

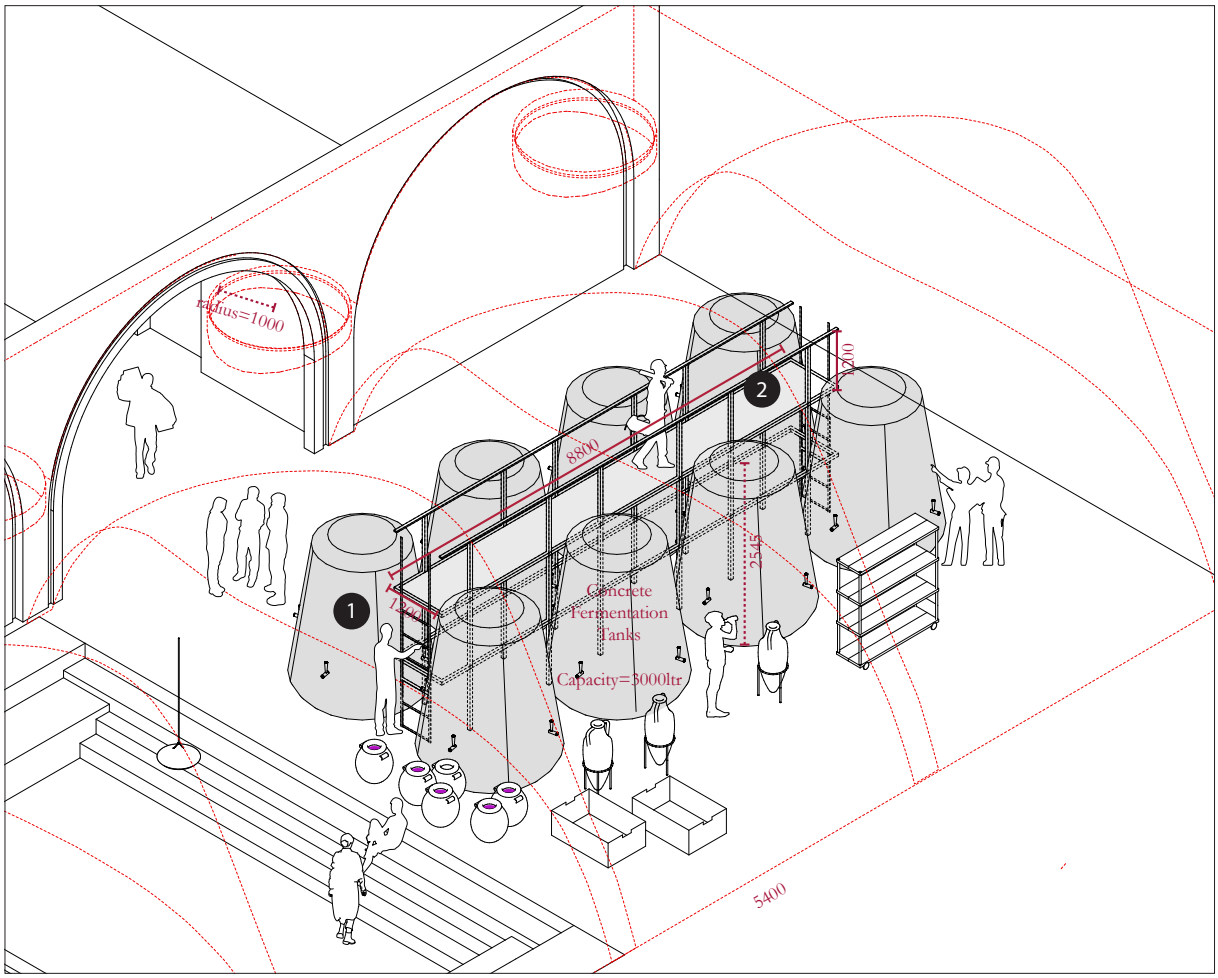
Terraced Amphorae Wine Production
Atelier


1
FERMENTATION
90% Submission
FERMENTATION
40% Submission
FERMENTATION
0% Submission
5500
900
2
Approx.1100
LAGAR
Grape Stomping
3
2000
2625

1 Concrete fermentation tanks are custom built off site and bought into the bodega. These are used for the industrial production of wine on a large scale above the more traditional methods of amphorae. The tanks are made from cast concrete, facilitating the oxygenation of wine with more control. Wine is aged and extracted and there after bottled. The bottles are taken immediately to the wine cellar or sold on site.

2 A scaffolding system which is lightweight allows for staff to enter the tanks from above and access the hatch to the eight fermentation tanks above. Wine can be stirred from this level and extracted from below. The scaffolding can be removed if tanks need to be cleaned for maintenance. Grapes can be bought directly from the lagar where it is freshly pressed and placed within the tanks.

Concrete Fermentation Tanks
Atelier


radius=1000
8800
2200
2545
1
2
Concrete
Fermentation
Tanks
3 Capacity=3000ltr
5400

Internal Winery

In Situ Cast Lagar Wine Pressing Pit. 6 Chambers.
200mm
Polished Concrete Floor w. Embossed Wine Overspill Channels
Reinforced Steel Bars 120 mm
Sand 65mm
Concrete Foundation. 500mm depth
Top Soil. Natural substrate formed over decades.
Approx 1.5m in depth.
Natural Metamorphic Rock. Quebrada Jaime
Internal Guttering System.
Gravel Pit.

Amphorae Clay Wine Pots
In Situ Concrete Burial Pits. 200mm thickness.
Aerated Excavated Fine Rock Particles. Varying sizes.
Approx 30mm diameter.

Front Facade

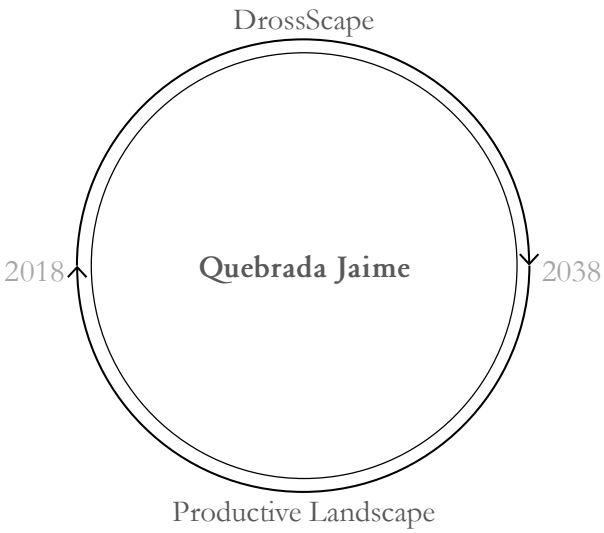
Top Soil. Natural substrate formed over decades.
Approx 2m in depth.
Natural Metamorphic Rock. Quebrada Jaime
Concrete Foundation. 500mm depth.
Steel Reinforced Gutter.
Stone Paving Slab. 75mm depth, 600mm x 600mm.
Sand. 65mm
Rammed Earth. Localised Earth Mixture.
Treated Eucalyptus Logs. Typically 100mm in diameter.
Eucalyptus Lashing
Sundried Adobe Mudbrick. 75mm x 100mm x 280mm.
Adjustable dimensions when required.
Timber Window Frame. 40mm
Brick Cavity 60mm
Steel Wall Ties
Waterproof Membrane
Linseed Oil Treated Adobe Finish 20mm

Wine Tasting Rooms

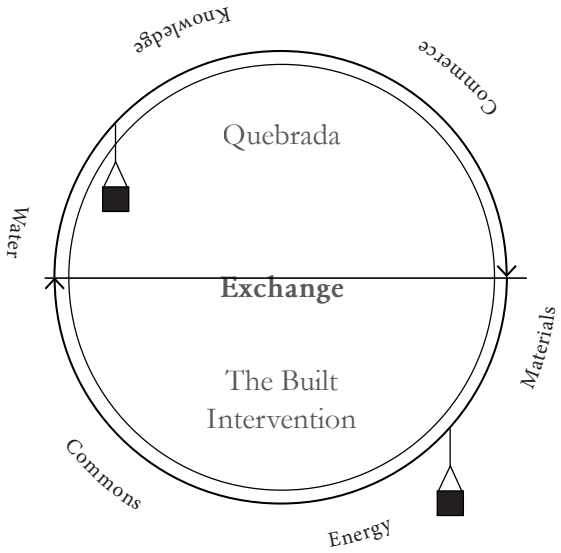
40mm Adjustable Plywood Shelving Unit
Treated Solid Oak Table 12050mm x 650mm x 650mm

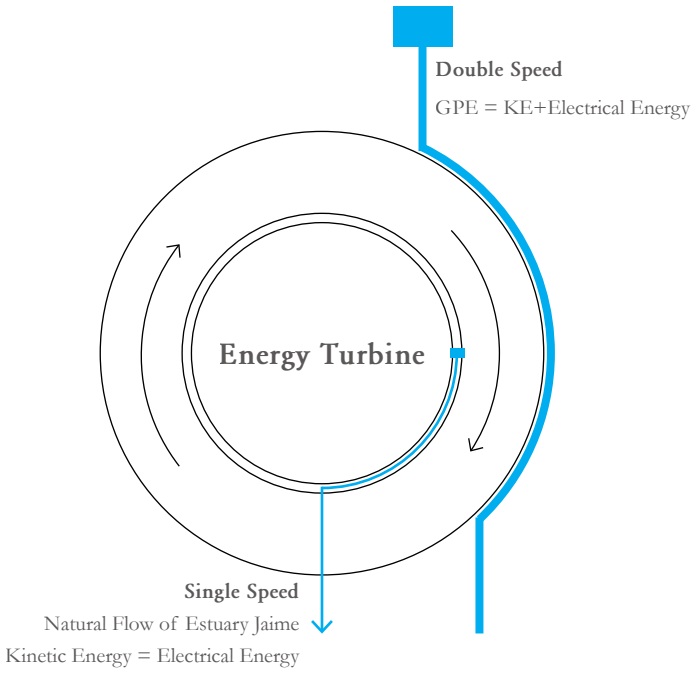
Ceiling Detail

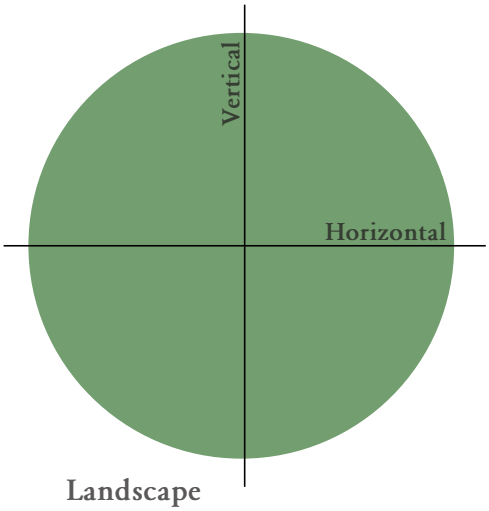
Steel Rectangular Hollow Section. 200mm x 50mm
Steel Frame Square Hollow Section 40mm x 40mm
Removable Steel Grating Floor for maintenance. 40mm
Fixed Translucent Acrylic Plastic. 1000mm x 1000mm.
In Situ Concrete Terrace. 200mm in depth, with built in gutter system.
Excavated Soil. Natural substrate formed over decades.
Approx 1.5m in depth.
Exposed Natural Metamorphic Rock.
Internal Guttering System.
Gravel Pit.


DrossScape
2018
Quebrada Jaime
2038
Productive Landscape

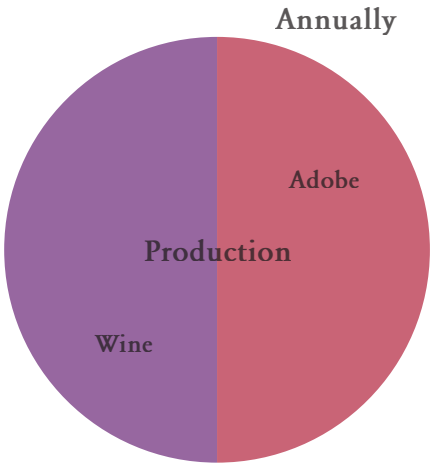
Conservation of Craft
2018
Traditional Local Crafts
2038
Innovation of Craft


Knowledge
Commerce
Quebrada
Water
Exchange
Materials
The Built
Intervention
Commons
Energy

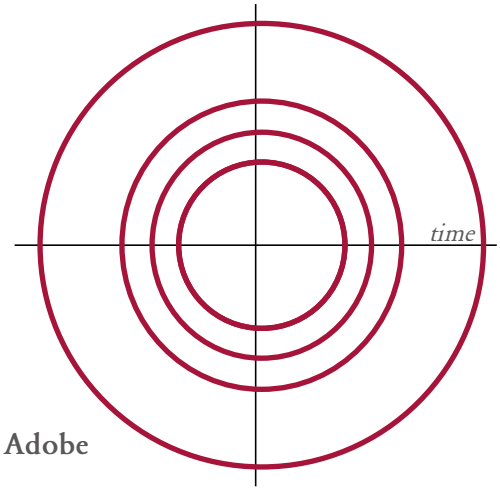

Double Speed
GPE = KE+Electrical Energy
Energy Turbine
Single Speed
Natural Flow of Estuary Jaime
Kinetic Energy = Electrical Energy



Landscape

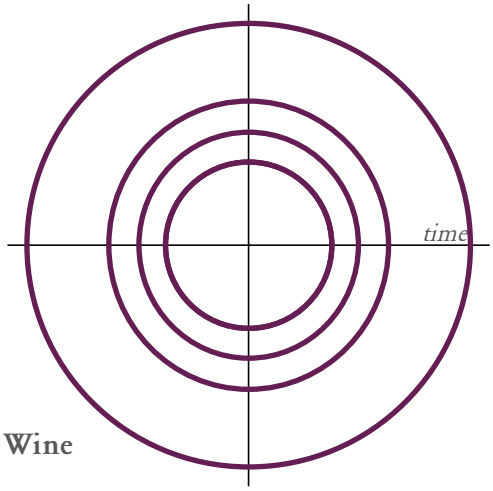


Seasonal



Adobe

Fired Mud Bricks
Sun Dried Mud Bricks
La Quincha Prefabricated Panels
Rammed Earth
SuperAdobe



Wine

Grappa
6 months
1 year
2 year
10 year

From a personal point of the view, the projects rhythm has flowed quite steadily. The advocacy in being versatile when trying alternative methods of approach to design has helped provide a certain richness to the project and experimental nature. Often when the design stagnates, I have previously been reluctant to try new ways of doing, often persevering with the same methods. I often found that being precise and clean with the output of work always helped to communicate the legibility of the design intentions early, with a level of clarity, to help push the design along quicker.

A series of models, of differing scales, have been made throughout, some orthodox, others less so. The boundary between the 2dimensional format of representation and 3 dimensional has opened new design solutions. A continuous theme of layering has informed the model making process and in turn the design of the building. Exploring the relationship between street-front, back of house and rock substrate of the quebrada.

To negotiate such a complex landscape, traditional 2d drawings limit the understanding the site. However, traditional plans and sections have aided the diagrammatic analysis of environmental and tectonic aspects of the design.

Dioramas, isometric drawings and collages have frequently been employed to help compose the atmosphere of the interior and exterior of the building. A series of illustrative sketches help depict the quality of space trying to be created, supplemented with narrative text. These illustrations continuously divulge into the tectonic building of the structure at an early phase, making the detailing and materialisation of the building later on an easier task. Little nuances have been introduced in the drawings that give suggestions of the surrounding landscape and really root the building in Valparaiso, in particular Quebrada Jaime; rather than promoting an almost autonomous architecture sitting in white space. Hopefully these ideas can come together with greater continuity when looking forward to the p5.

An equal emphasis on architectural, tectonic and environmental space has been long envisaged. There is little hierarchy. Each aspect compliments the other well in the design thus far. A series of diagrams that cross between architectural space, environmental strategy and tectonic build up have been ever-present through the year. Managing this spectrum of information has proved challenging. As a consequence the plan, section and elevation drawings become dictated by the movement of materials, people and processes, adopting an engineering quality. This hybridism of architecture, structure and environmental design is reflective of the design in general and the thesis question, which challenges the hybrid nature of Valparaiso's fragmented city.

This is also echoed in the methods used, which have a mixed media nature using old craft methods of drawing and modelling, combined with computer aided modernised techniques.

The choice to enrol in Methods and Analysis was a relatively simple decision to make. I was ready to face the challenge of exploring an alien context from an architectural standpoint. Was I capable as an architect to adapt my preconceived ideas on architecture to my new surroundings and becoming one with local context. I found that Latin America compliments my personality well, and it has therefore been a pleasure to design accordingly for a place that I am particularly passionate about. I felt it was so important to grasp what it meant to be Chilean and understand the values of the local peoples, by interacting with as many people there and simply engaging with the daily rituals of the common individual.

The project that has spawned from the initial research did not seem comprehensible at first, but has slowly taken shape. At points I did waver from my understanding of the urban/rural divide. But especially in recent weeks I have seen a layering to the design which has seen the importance of context becoming heavily embedded into the design and supporting its overall cause. This was one of my key intentions from the beginning.

I have not shied away from experimentation. In fact the studio has given me great motivation to just try new things and explore different tools and methods. Before I certainly was apprehensive, limiting myself to traditional plan drawings. In doing so, I have become aware of the true antithesis of the project that supports the overarching argument. It has become a focused line of study, constantly changing over scales to avoid impeding the progression of design.

With the possibilities in the studio for personal exploration endless. I have taken my own prerogative to explore and interrogate a personal understanding of man and nature. An understanding of man's place amongst nature and living off the land has pushed the design throughout. It is something I am keen to explore in the coming years.