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# O-PHOSIS

O-PHOSIS was born from the fusion of the governing concept of the project: metamorphosis, and the fact that it appears as an oasis in the middle of the desert. O-phosis offers transformation through healing and contemplation of nature.

That is why we use naturopathy, contemplation areas, and living materials in the facilities.

In the beginning, there is a Path of the senses, a passage under the desert landscape that emerges from it to discover a new place, and yours

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# LOCATION

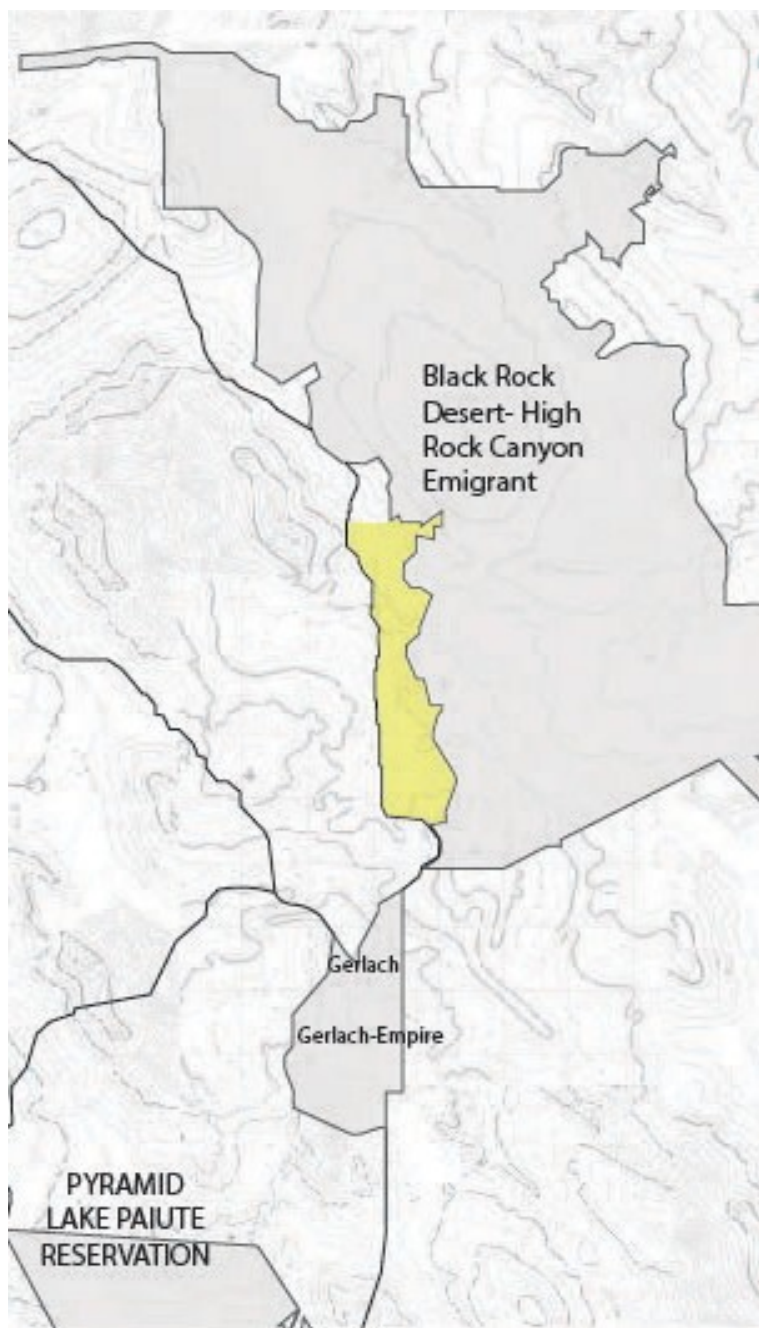


*Map of the USA highlighting the site in northern Nevada.*

# LOCATION



*Map of the USA highlighting the site in northern Nevada.*



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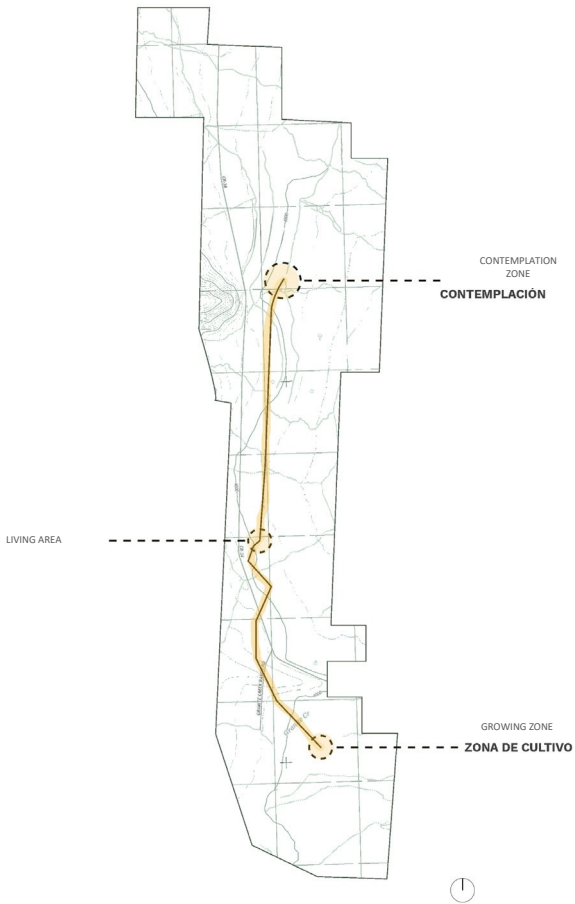
# PART 1: ARCHITECT ONIC PROGRAM

This section presents the definitive architectural program explained from the final architectural proposal, with operating diagrams, relationships, circulations, main flows, and phases, as well as connections with the rest of the existing equipment and service programs at the Fly Ranch.

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# 1.1 GENERAL ZONING

The development will consist of three zones, located within the permitted area and a 10-minute bike ride from one to the other. Each zone plays a different role; however, one of our greatest interest is the Healing Zone.



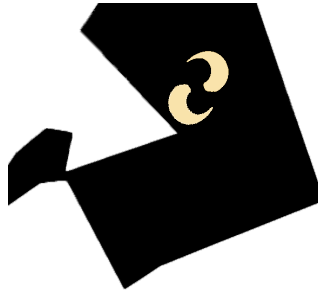


## 1.2 PROGRAM

### PA1 – HEALING AREA

In this area the public will be:

- Esplanade of contemplation
  - Sensory path
  - Salon infusion organic
  - Reception
  - Carbonless transportation station
- While private:
- Healing spa
  - Clay bath
  - Temazcal
  - Thermal water



Map of area PA1

### PA2 – LIVING AREA

In this area, you will find the spaces for collecting water and recycling, a community dining room, and temporary housing.

- Dining room
- Carbonless transport station
- Recycling plant
- Water collection
- Organic garden
- Compost
- Bedrooms

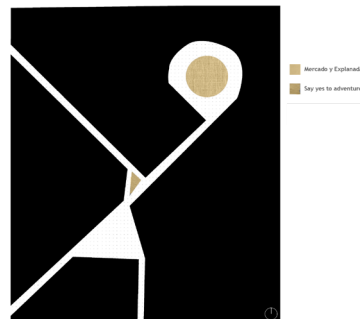


Map of area PA2

### PA3 - TRUQUE MARKET

Public area where you will find:

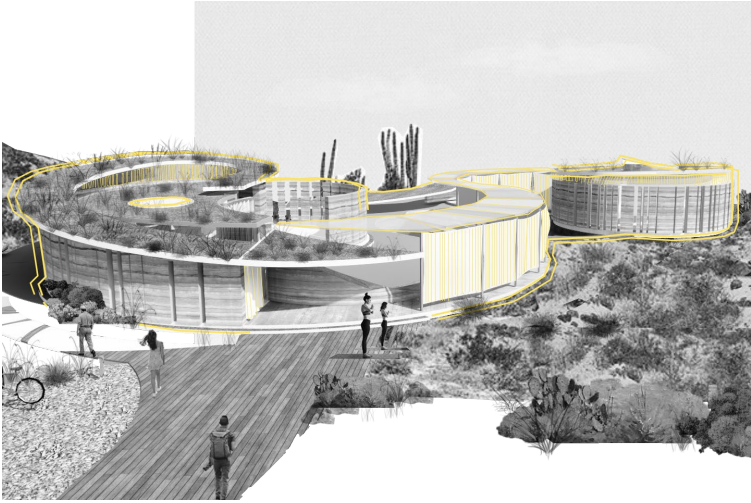
- Barter market
- Say yes to the adventure
- Esplanade for a monthly exhibition
- Intestinal release



Map of area PA3



## 1.3 ARCHITECTURAL PROPOSAL



The architectural proposal of this idea of healing is composed of two modules, the first located on the left, and the one on the right.

This is the main area since here the experience of HEALING is lived, through naturopathy, which consists of contemplation and meditation of the user, through delicately designed spaces.

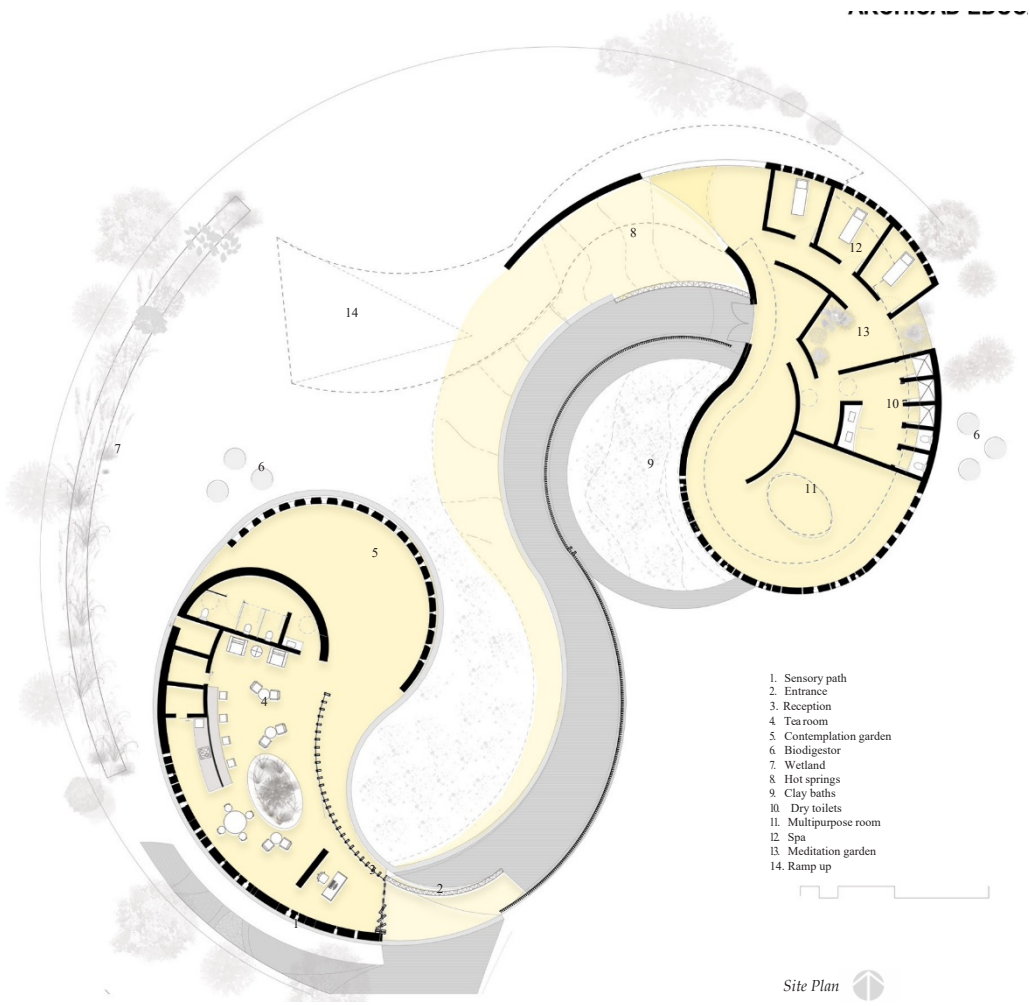
The first module is of a public nature since the first path leads here sensorial that comes from the geyser and is the starting point for the second sensory path that leads to the roof of the second module that can be visited. Here is a garden of contemplation, as well as a room of organic infusions, which are planted on site. It is worth mentioning that on the side. Northwest is the wetland and the bio digester that will treat the grey water.

The second module is of a more private nature since here is the relaxation area. The program proposed some hot springs, located to the north, as well as a clay bathing area. There will also be rooms where you can give massages or acupuncture, a multipurpose room so that you can practice yoga, and a meditation garden. The roof of this module has the possibility of being visited thanks to its slope, which brings the possibility of being a space for a viewpoint of the geyser, an observatory for appreciating the meteor shower, a rest area, among many other things.

The covers of both modules are green roofs with laminated wood slabs and recycled aluminium.

# METAMORPHOSIS

Transformations happen whether we believe in them or not. Our goal as LAGI and Burning Man is to design an infrastructure that marks the change of our lifestyle as a society for the common good of all.



Site Plan



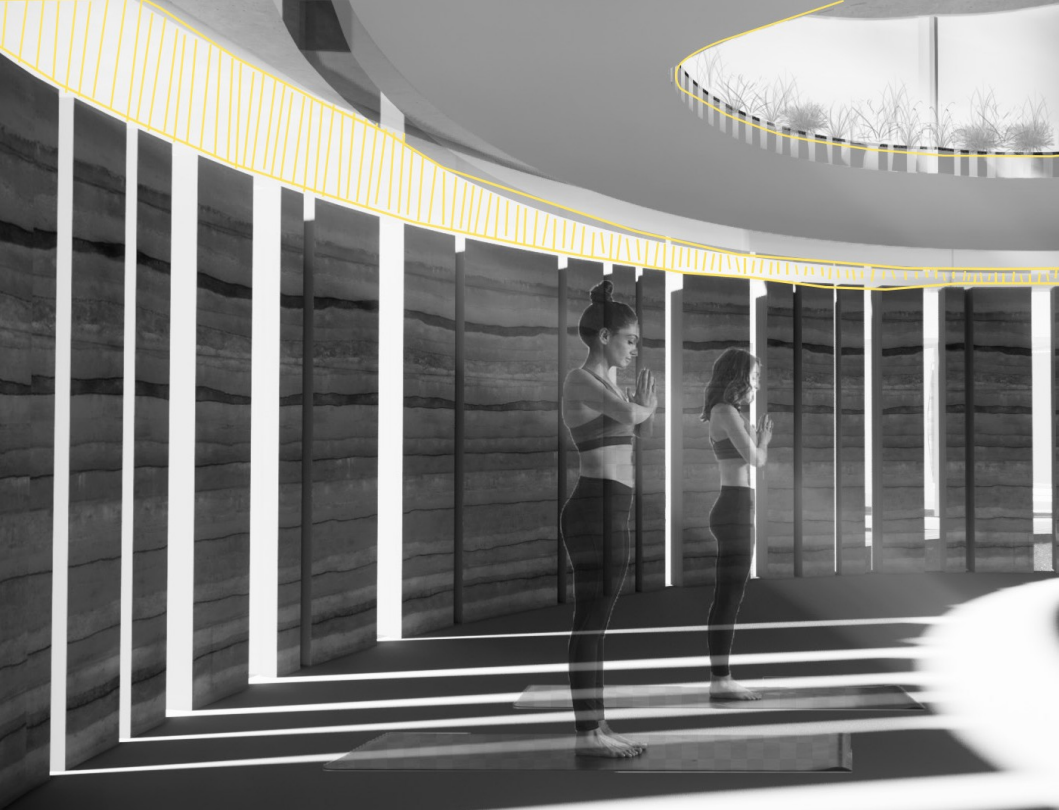




## HEALING

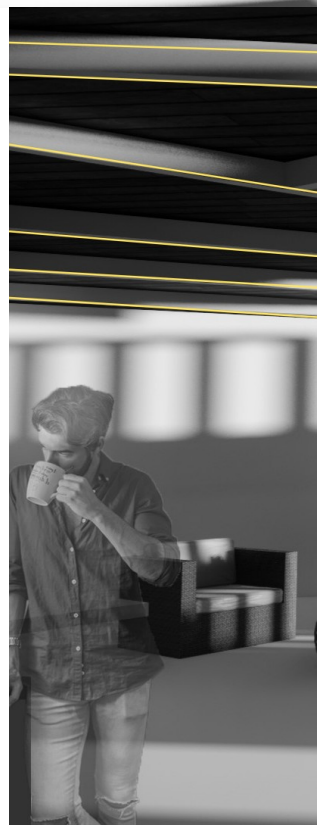
Contact with nature helps us to recover from physical and mental exhaustion and psychosomatic disorders. Biophilia is our sense of connection and the need to interact with the natural environment that surrounds us. This complicity with nature is an inheritance from our ancestors; they were intimately related to their environment and transmitted to us through genes they need to be linked to the natural environment.

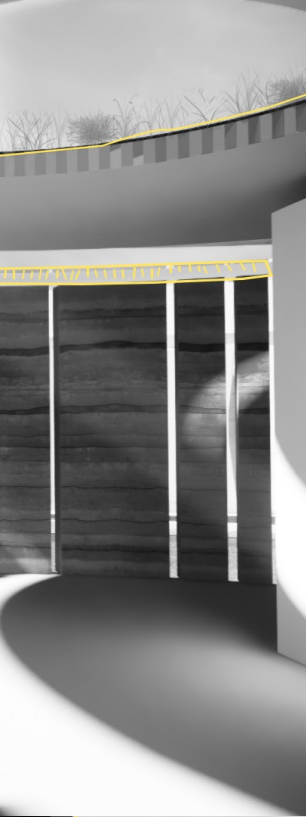
Bathing in hot springs increases the body temperature, killing germs, including germs also increases the hydrostatic pressure of the body, thereby increasing blood circulation and oxygenation. This increase in temperature helps dissolve and eliminate toxins from the body. By increasing oxygenation, bathing in hot springs improves the nutrition of the body's tissues in general, which is why it increases metabolism while stimulating the secretions of the digestive tract and liver, thus helping digestion. There is also an improvement and stimulation of the immune system, mental relaxation, endorphin production, and regulation of glandular functions. Many of these effects are due to the body's consumption of minerals such as carbon dioxide, sulfur, calcium, and magnesium. There are skin diseases that can be markedly improved by bathing in hot springs (especially if they contain sulfur). The diseases that benefit the most are psoriasis, dermatitis, and fungal diseases. Sometimes they also help to heal wounds and other skin lesions.



## ***TEA ROOM***

Relaxing with a good cup of tea or infusion is perfect for your health if you also want to cure a specific problem. The benefits that it can bring to your body by its very nature, the habit of drinking it in a calm environment and simply enjoying the here and now, are part of what will help you to take effect.

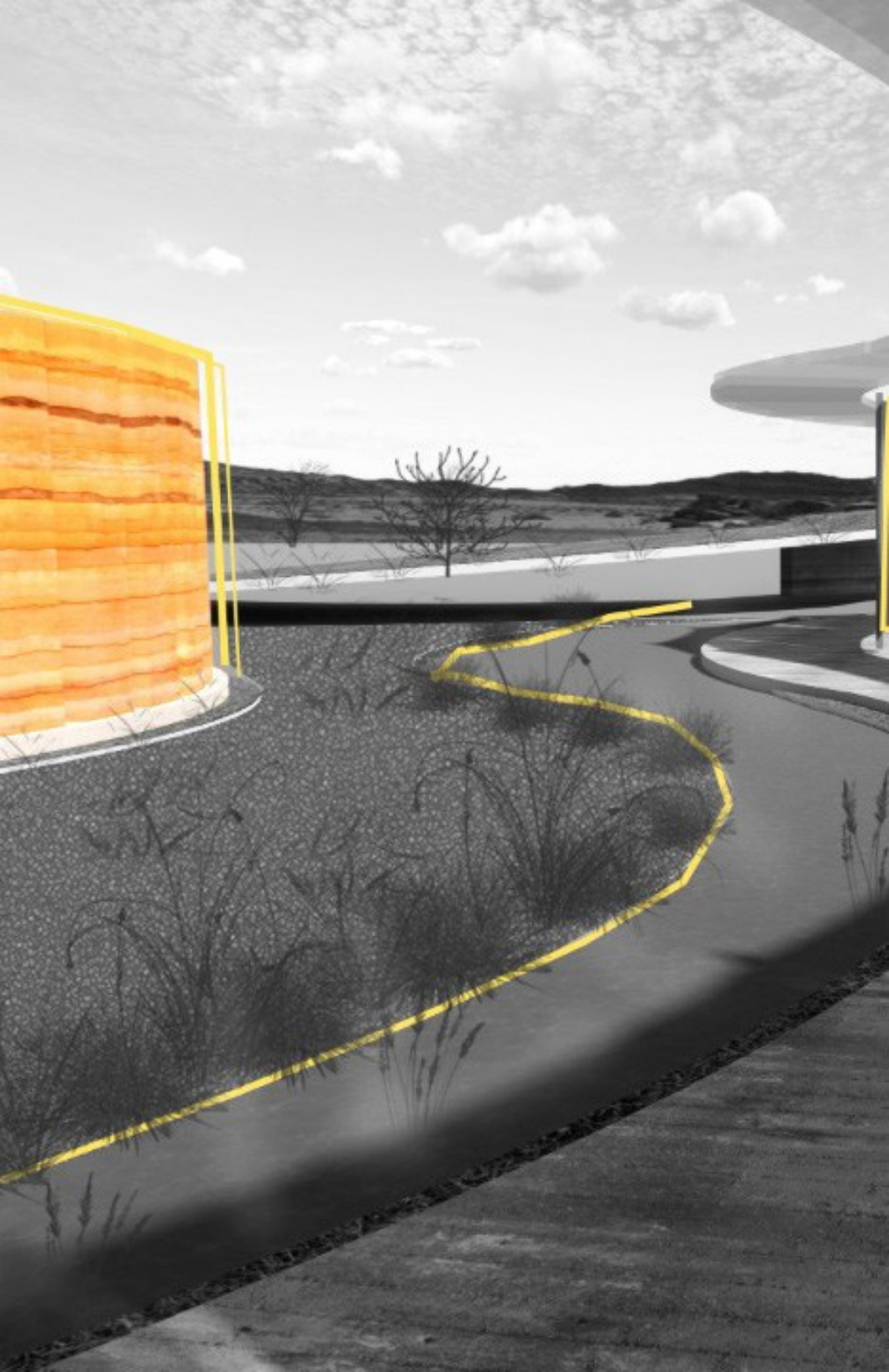




### **MULTIPURPOSE ROOM**

Both meditation and yoga practice bring wellness into the lives of people. Diseases are not only physical, but also have parts, symptoms, and signs that begin in the psychological and spiritual aspects of the person. With meditation, you can heal appropriately to the psychological part of each illness and automatically.





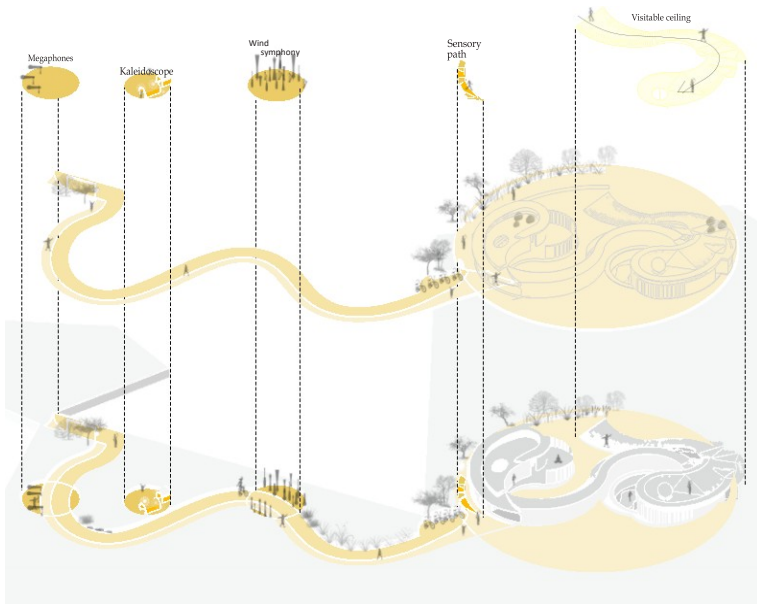




## 1.2 SENSORIAL PATH

### LANDSCAPE INTEGRATION

Sensory pathways help strengthen the senses: sight, touch, taste, and hearing. These act as a companion tool for meditation and ergo therapy (therapy for social rehabilitation). The sensory path is organized as a place that encourages relaxation and control of hypersensitivity to the environment, which is why it is very favourable for people with autism. This will consist of five stations, which will accompany users from the geyser to the roof of module 2. It will take approximately ten minutes to travel the sensory path.



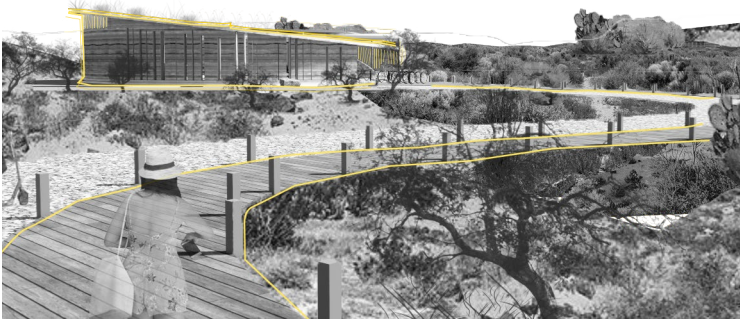
*Mapping of sensorial path*



*Caleidoscopio*



*Sinfonía del viento*



*View towards O-phasis from path*

There are numerous nerve endings on the soles of the feet and activating them is healthy. A short walk barefoot on the grass or sand stimulates the functioning of various organs, especially the abdominal region, and tones the nervous system.



*Sensorial path*

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# PART 2: CONSTRUCTION SYSTEM

Proposal for a construction concept, linked to the architectural concept, and proposal for a constructive and structural system, with attention to constructive details, main constructive cut and proposal of materials, always consistent with the foundations of regenerative and bioclimatic design, as well as the description of the technology and technological innovation used in the project.

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## 2.1 MATERIALS

The main material of O-phosis is the mud which is made by material from the site in an artisanal way, for which they have a lower environmental impact.

The roof which connects the two volumes will have luminescent photovoltaic panels which will generate 92,322 kWh per year.

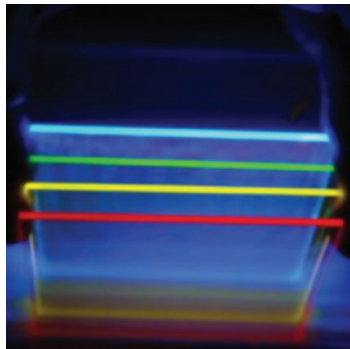
In this area, there is a vestibule wall which will be made of mesh better known as "cloud chasers" which will collect 130,000 liters per year.

The interior walls will be covered by Krion K Life porcelain which is a material that purifies the air to have a healthy interior environment.

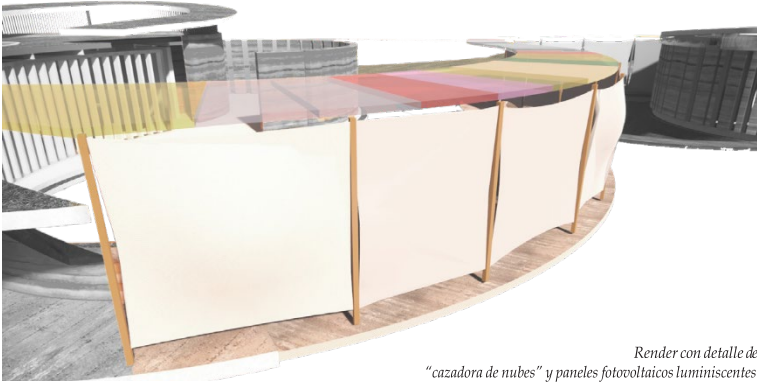
In addition to these materials, aluminum, wood, and certified glass will be considered, which gives us the security that is obtained with the greatest care for the ecosystem.



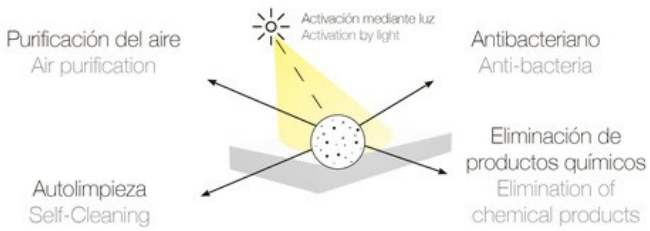
*Tapial detail*



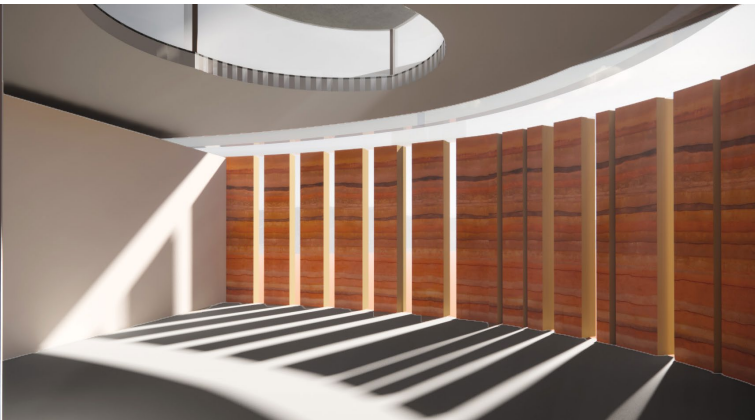
*Luminescent solar concentrator*



*Render con detalle de "cazadora de nubes" y paneles fotovoltaicos luminiscentes*



*Functionality diagram of porcelain*



*Interior detail with tapial and porcelain coating*

## 2.2 CONSTRUCTION SYSTEM

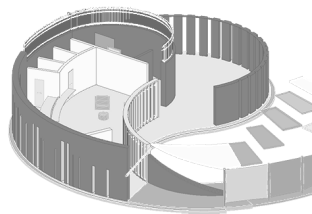
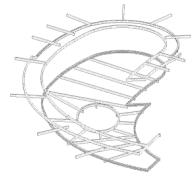
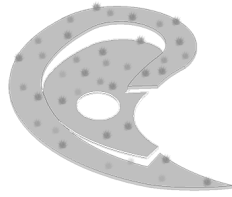
### CEILING

The building is supported by a system of 16 cm \* 22 cm laminated wood beams every two meters. Then there is the 3 cm wide laminated wood plank part.

Subsequently, there is the recycled aluminum layer to give way to 25 cm of the soil layer to achieve this green cover.

### Load-bearing walls

The load-bearing walls are made of rammed earth, better known as rammed earth, 50 cm wide. The interior walls are also made of this material, 20 cm wide, and are covered with white Krion K Life porcelain tile.



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# PART 3: BIOCLIMATIC STRATEGIES

This section presents the formal bioclimatic or regenerative design strategies which are based on a biological learning from nature. The Living Building Challenge certification was also incorpo

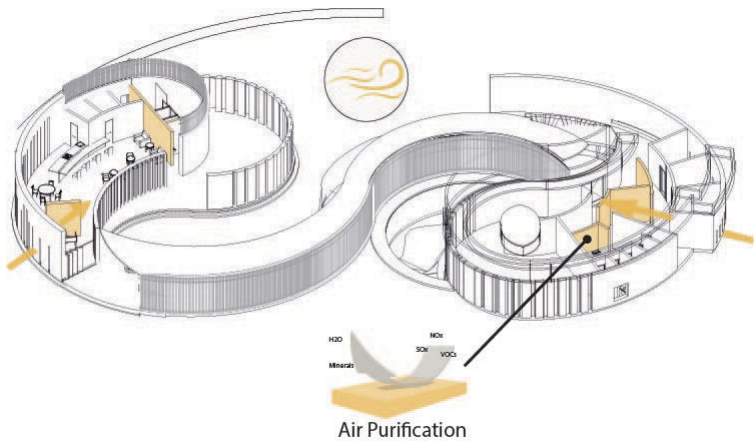
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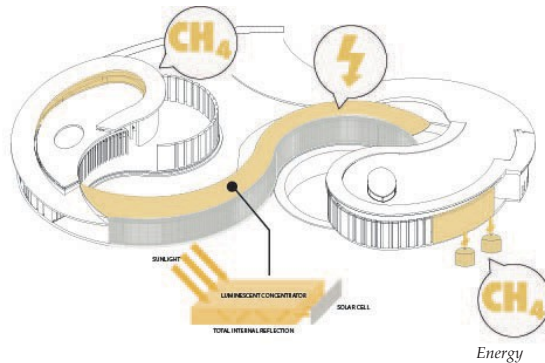
### 3.1 LIVING BUILDING CHALLENGE

The Living Building Challenge is an international sustainable building certification program created in 2006 that promotes the most advanced measurement of sustainability in the built environment, this through the conception of seven petals with specific imperatives. The petals that must be fulfilled in the design and construction are: place, energy, water, health + happiness, materials, equity and the last one, beauty + biophilia. Below are diagrams to explain the intervention of each petal in the project.



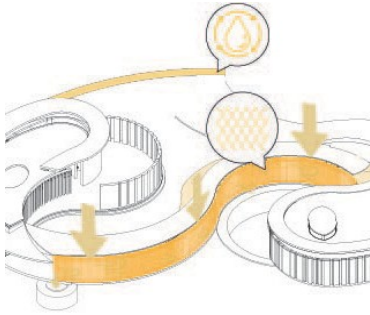
*Healthy Interior Environment*

The project has solar concentrators of energy as cover of the connection bridge that generate 92,322 kWh per year. The compost generated by the bio digesters will be used on green roofs.



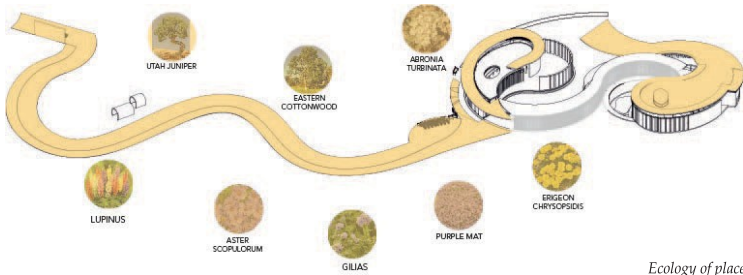
*Energy*

# IMPERATIVE DIAGRAMS



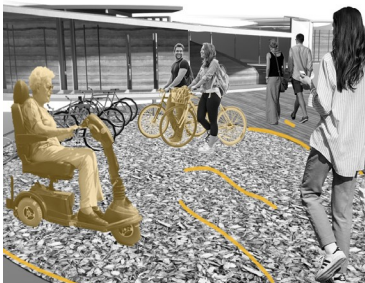
*Water*

For this imperative we will work with a "cloud chaser" which will work to collect water from the environment, from that humidity that prevails during cold mornings. They will be located along the connecting point. The grey water will be collected in the wetland to later be purified and can be used again. No waste of water will be allowed.



*Ecology of place*

The project respects all protected natural areas. In addition, native species of the place will be used to restore the endemic landscape and the ecosystem will not be affected.



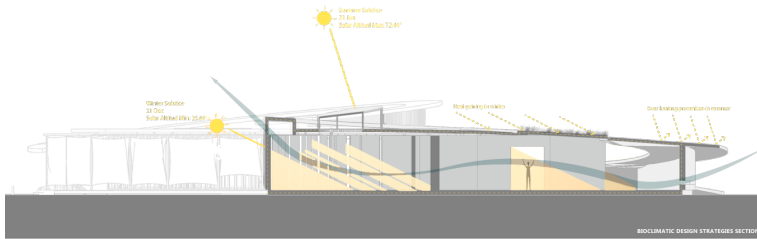
*Human Scale*

O-phosis is designed so that anyone regardless of their physical condition, gender, age, social class or origin can have access. That is why we implement two roads, as well as several types of transport in the facilities so that they have the confidence of being able to travel the surroundings with comfort.

## 3.2 THERMAL COMFORT

### *Bioclimatic Strategies*

#### *Summer - winter*



Designing under bioclimatic strategies serves to take advantage of the climate and the surrounding conditions to achieve a situation of thermal comfort inside. It is played exclusively with design and architectural elements, without the need to use mechanical systems or energy inputs.

The main factor that was analyzed was the solar radiation of the site. This is how we obtained, from the longitude and latitude of the site, that the maximum angle of the sun during the summer would be  $72.4^\circ$  (from which we protect the building) and during winter it will have a minimum angle of  $25.6^\circ$  (which is why there are low windows which will capture the sun's radiation only during winter).

Night ventilation tries to take advantage of the drop in the outside temperature in summer. Our prevailing winds come from the North, which is why our openings are located in the North and South quadrant

since in this way we can effectively have cross ventilation to cool the facilities during the summer.

Green roofs are roofs to which a substrate and vegetation are added. This strategy is always highly recommended as it is very complete because it prevents thermal gain during the summer while in the winter it helps to avoid the loss of internal heat from the installations. Another advantage of this strategy is that it will help purify and refresh the air, in turn, filtering rainwater. Also, it prevents the deterioration of the roof by solar radiation, as well as noise.

# Bioclimatic Strategies

## Day - Night

Thermal insulation is one of the first bioclimatic strategies to be adopted since it is the ability of materials to resist the passage of heat through them. For this reason, it was decided to use mud walls and green roofs, since they are characterized by their low thermal conductivity and high density. During the day the wall reflects radiation while the interior remains cool. Later, during the night, due to its thermal inertia, the absorbed gain is inserted inside while the temperature is low outside.

Evaporative cooling is a method of cooling the air through the evaporation of water. These bioclimatic strategies are antique; we can easily find them in nature; a lush forest or our own sweat. This strategy is present in the area of the hot springs, which

expands the length of the connecting bridge. This is how this microclimate is created, which at night heats the facilities thanks to the thermal transfer between the thermal water that is at high temperatures and the environment at night with low temperatures, and during the day its evaporation refreshes and creates the desired atmosphere of rest.

It should be mentioned again that cross ventilation is also present through the unevenness of the roofs, as well as the white walls, which help reflect sunlight and thus refresh the interior.

