



U m b u t h a n o C o m p l e x
d i l a r a k i p e l f i n a l p r o j e c t 2 0 2 1

C o n t e n t s

- I The Site
- II Literature Review
- III Case Studies
- IV Umbuthano



The Site



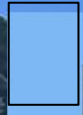
South Africa



The Eastern Cape



Tsitsikamma



Site Analysis



South Africa

South Africa sits at the southernmost tip of the continent of Africa. It has nine provinces, with the smallest being the highly populated and urbanised Gauteng. The country is home to many distinct ecosystems and is well known for its topography, flora and fauna, and cultural diversity. Since the end of Apartheid in 1994, South Africa has been known as the rainbow nation; willing to welcome everyone with great hospitality. Some well-known areas that many tourists visit are: The Kruger National Park, The Cape of Good Hope, Table Mountain, and The Garden Route which leads to Tsitsikamma in the province of the Eastern Cape.



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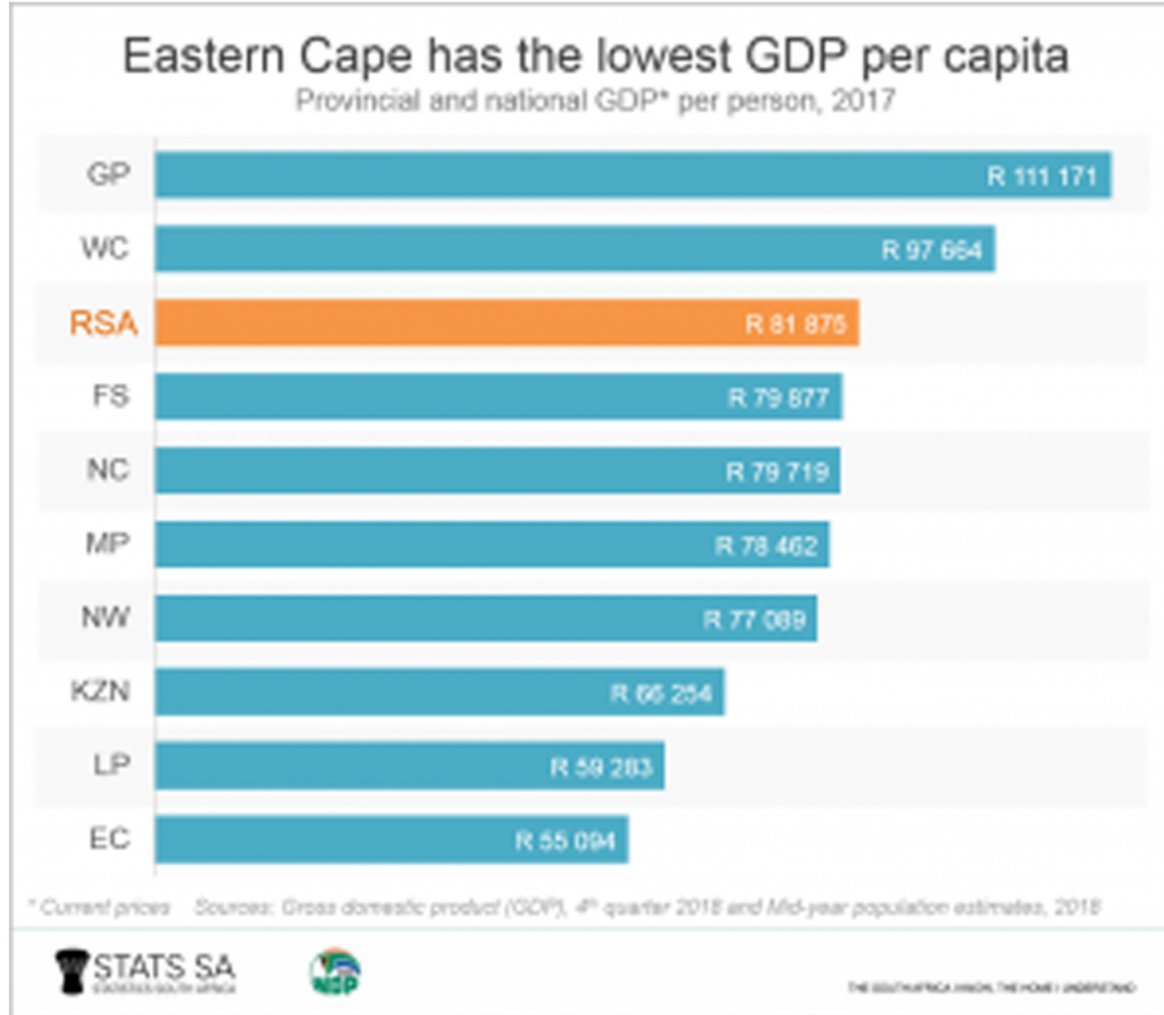
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The Eastern Cape

The Eastern Cape is a province that contains many wonders. It represents an 'untouched Africa' with its many natural attractions such as its 800km Wild Coast coastline, diverse flora and fauna, and its connection to the Drakensberg Mountains. It is also a culturally rich area as it contains the traditional Transkei and Ciskei regions, the home of the Xhosa people and Nelson Mandela's birthplace. Its most popular attractions are the Addo Elephant Park, the Tsitsikamma National Park, the Bloukrans Bridge Bungee Jump (216m) and the Jeffery's Bay town for surfers.



Eastern Cape Economy



Providing an 'untouched' experience is also Eastern Cape's downfall. Being the poorest province of South Africa and being the weakest contributor to the GDP of the country, 72% of its population lives below the poverty line (majority due to the effects of Apartheid. Most of the population in the former homelands practice subsistence agriculture which is not enough to promote economic development. An investment has been made into an industrial development zone and deep water port in order to boost the economy with export oriented industries.

The major issue to watch out for is making sure that the natural beauty of the region is not blocked by the new industrialisation. Programmes that promote ship-building and repair, offshore oil and gas works, marine transport and manufacturing have been put in place. It is therefore imperative that the natural state of the region be preserved.

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Eastern Cape Economy

NEWS SPORT EDUCATION TECH BUSINESS ENTERTAINMENT LIFESTYLE M



President Cyril Ramaphosa arriving at Transnet Durban Port, received by Premier of KwaZulu-Natal Sihle Zikalala, mayor of City of Thokwini Cllr Mxolisi Kaunda and Transnet board member Akwani Ramabulana. President Ramaphosa is visiting the port on a oversight monitoring visit. Photo GCIS

KZN govt on collision course with national govt over plans to move Transnet offices from Durban Port to Eastern Cape

By Bongani Hani May 5, 2021



Durban – THE KwaZulu-Natal government has expressed fear that the province's economy would be compromised if the Transnet National Ports Authority (TNPA) proceeds to relocate its headquarters from the Durban port to the Port of Ngqura in the Eastern Cape.



News COVID-19 Memorial Wall Lifestyle Sport Features Opinion Elections Madib

HOME » POLITICS »

Mabuyane expands plans to stimulate economic growth in Eastern Cape

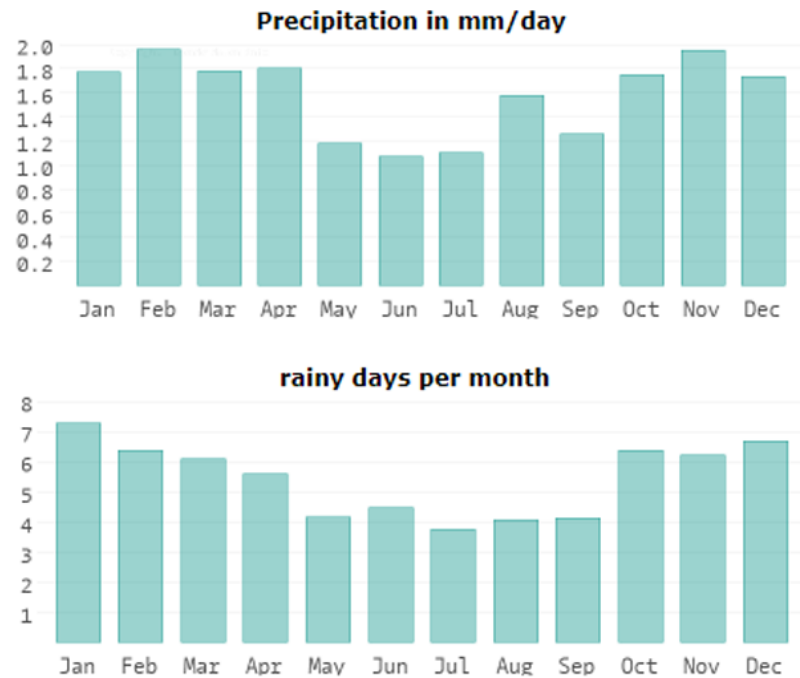
23 February 2021, 6:49 PM | Yanga Funani |

@SABCNews



Eastern Cape Climate

The Eastern Cape is one of the coldest regions in South Africa. The average daily high is 24 degrees Celsius. In 7 months the average temperatures are over 25 degrees. The region, however, has been suffering from a drought since 2015. This has had many negative socio-economic impacts on the locals and has even risked their food security. The drought patterns in the region are understudied and speedy action must be taken in order to correct this disaster.



> *Clim Dyn.* 2020 Aug 14;1-17. doi: 10.1007/s00382-020-05413-0. Online ahead of print.

Drought in the Eastern Cape region of South Africa and trends in rainfall characteristics

P T Mahlalela ¹, R C Blamey ¹, N C G Hart ², C J C Reason ¹

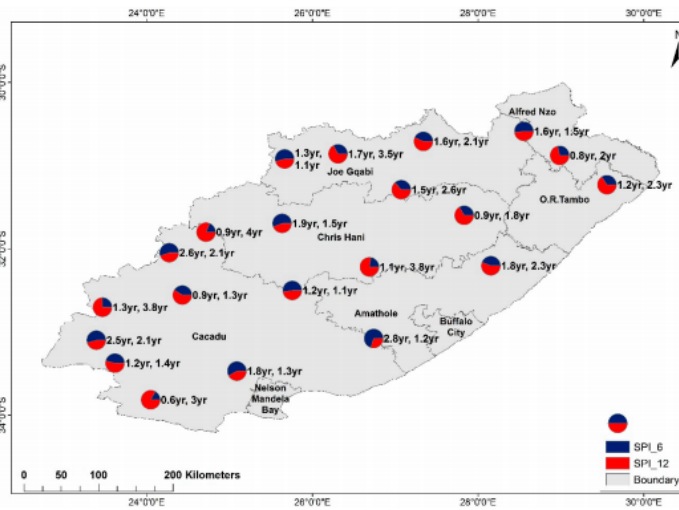


Figure 4. Spatial contrasts of maximal drought duration (in years) across the Eastern Cape province.

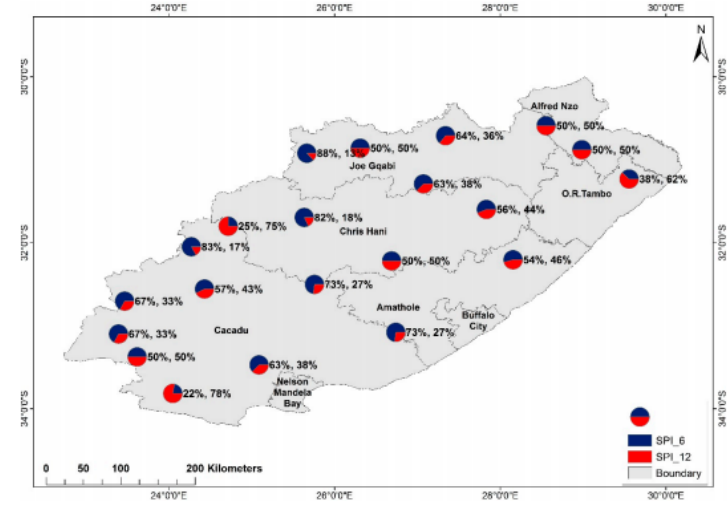


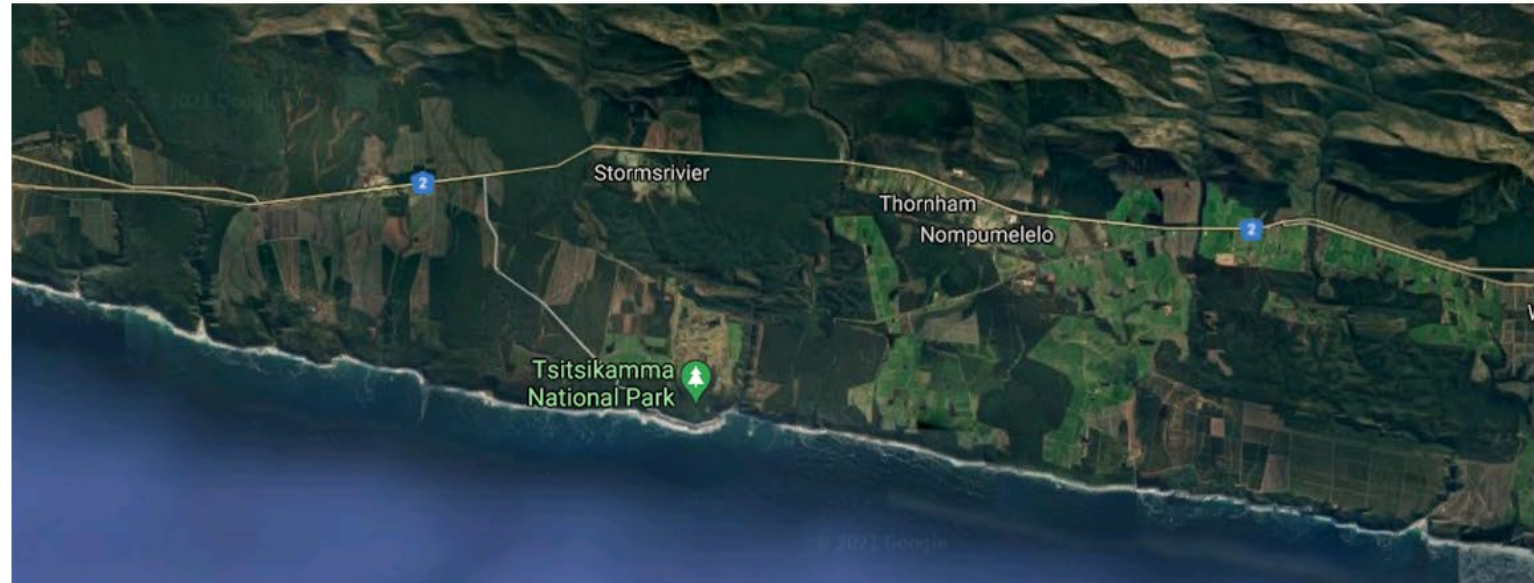
Figure 3. Proportion of occurrence of SPI-6 and SPI-12 drought episodes recorded across the Eastern Cape province, South Africa.

T s i t s i k a m m a

The Tsitsikamma National Park is a protected area on the Garden Route, Western Cape and Eastern Cape area of South Africa. It is a coastal reserve well known for its indigenous forests, dramatic coastline, and the Otter Trail. It covers 80 km of coastline and the rivers in the region extend to the mountainous area that is North of the park. The main accomodation is at the Stormsrivier mouth.

There are many trails that one can take, such as The Otter Trail, The Suspension Bridge and Lookout Trail, The Waterfall Trail, and The Blue Duiker Trail that lead to waterfalls, streams, forests, and more. The Park is managed by SANParks and is a Marine Protected area. The word 'Tsitsikamma' comes from the Khoi-Khoi words of tse-tsesa, meaning "clear", and gami, meaning "water."

Amenities, including a restaurant, shop, camp site and caravan park, information centre, adventure bookings office, the Agulhas lookout platform, trails etc make up the region.



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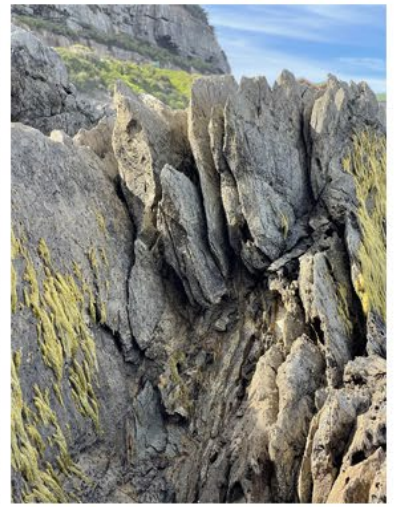
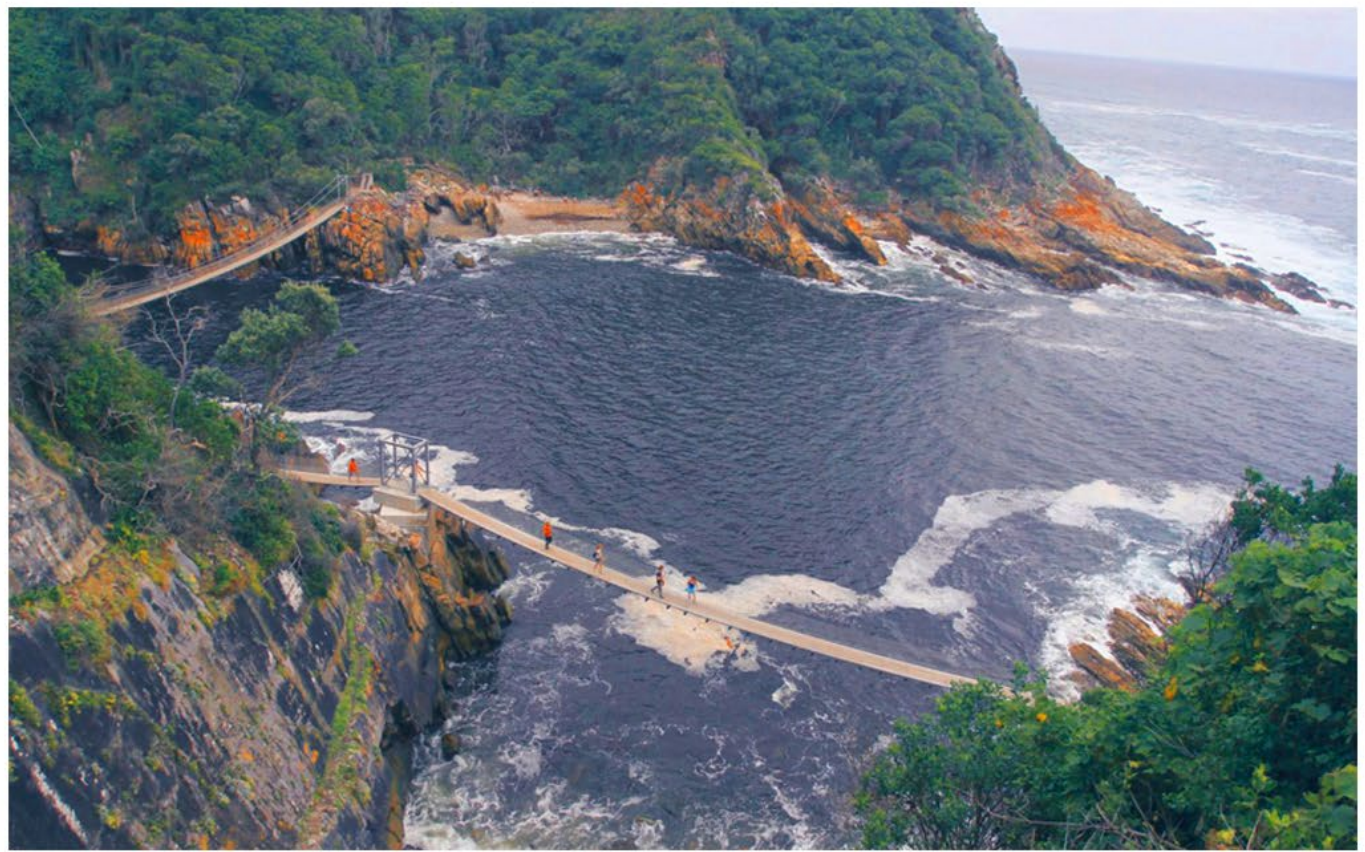
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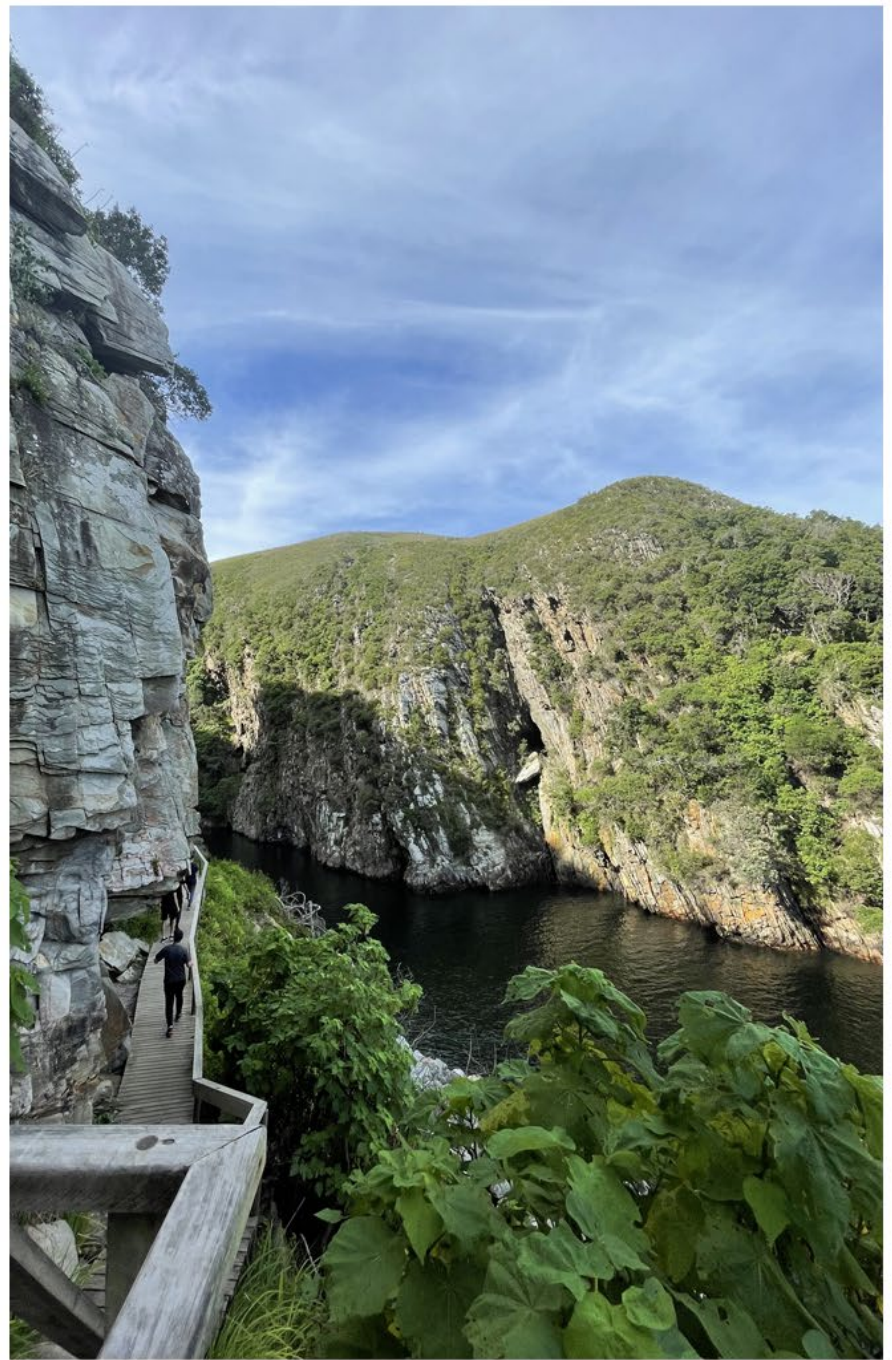
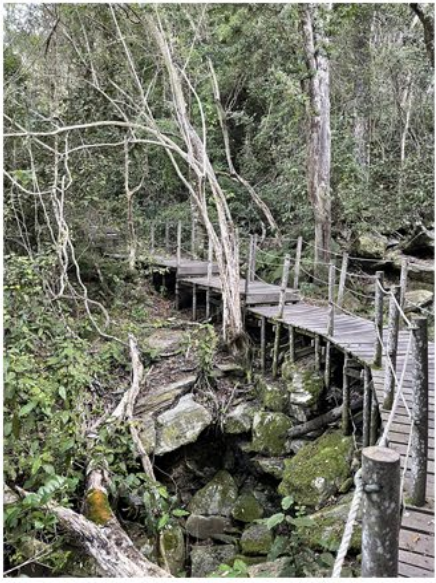


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Site Analysis

The use of the ordering systems in this region will be sure to help the locals fight against poverty and an unhealthy environment.

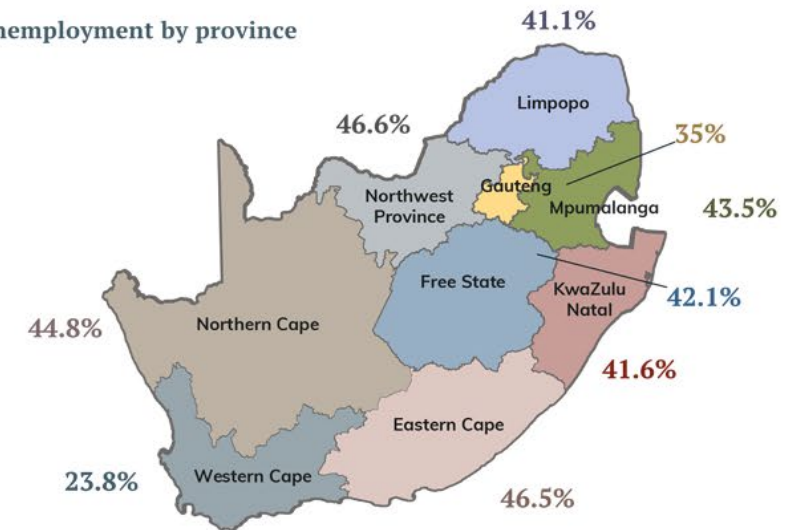
Counting the importance of sustainability for the region, the program of the building promotes education on agriculture and wildlife to those willing to learn in order to expand the knowledge of unemployed locals. Jobs will also be provided with duties of maintaining the park and the region.

The building will recede into the hill and provide the use of living machine technology as a means to remain 'clean' in the area. It will also aim to get rid of the structures that currently obstruct the view.

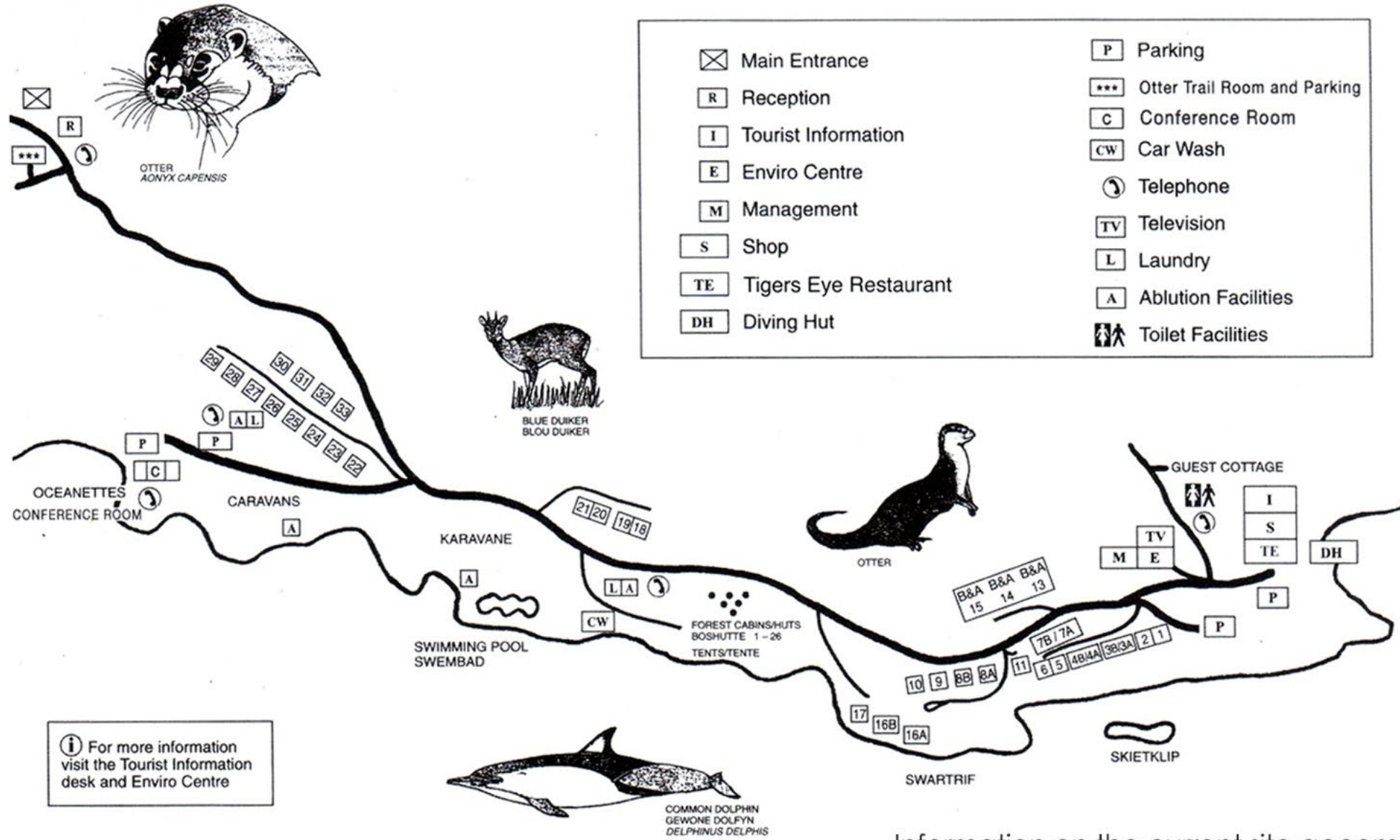
It shall be based on the local values and culture of the people while hinting toward vernacular architecture.



Unemployment by province



STORMSRIVIERMOND RUSKAMP STORMS RIVER MOUTH REST CAMP



Information on the current site accommodation.

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Site Analysis

Shadow Studies and Topography

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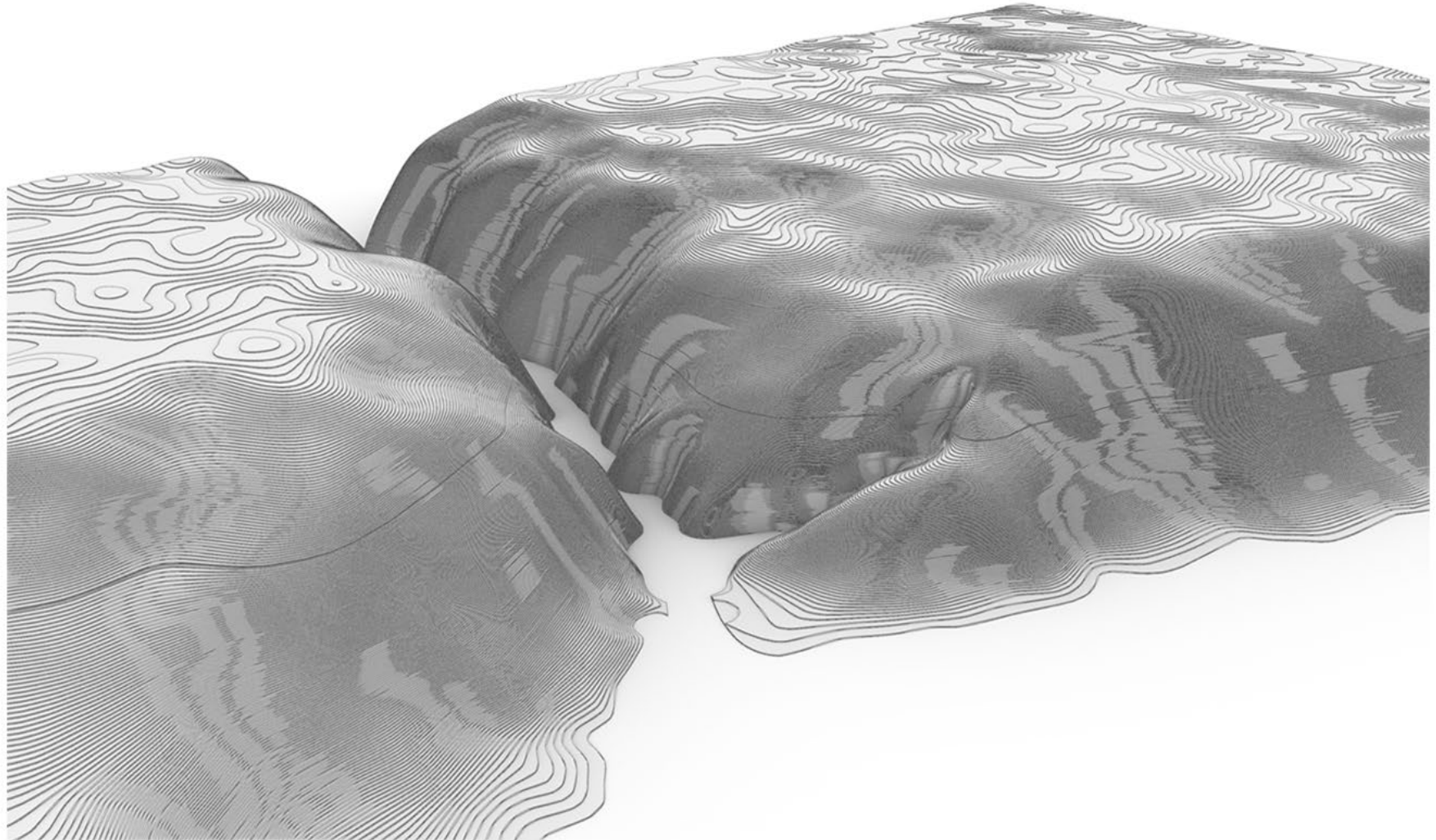
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Ecotourism



Permaculture



Living Machine Technology



L i t e r a t u r e
r e v i e w



Ecotourism



“Ecotourism is now defined as “responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education” (TIES, 2015). Education is meant to be inclusive of both staff and guests.”

The conservation aspect of ecotourism offers long-term solutions for the market of the region, and ensures that the economy provides room for biocultural diversity to grow while keeping the environment clean. It also provides opportunities for local employment as a tool to fight against poverty. The last branch is interpretation which provides good personal experiences with environmental awareness.



Global Ecotourism Market
OPPORTUNITIES AND FORECAST,
2021-2027

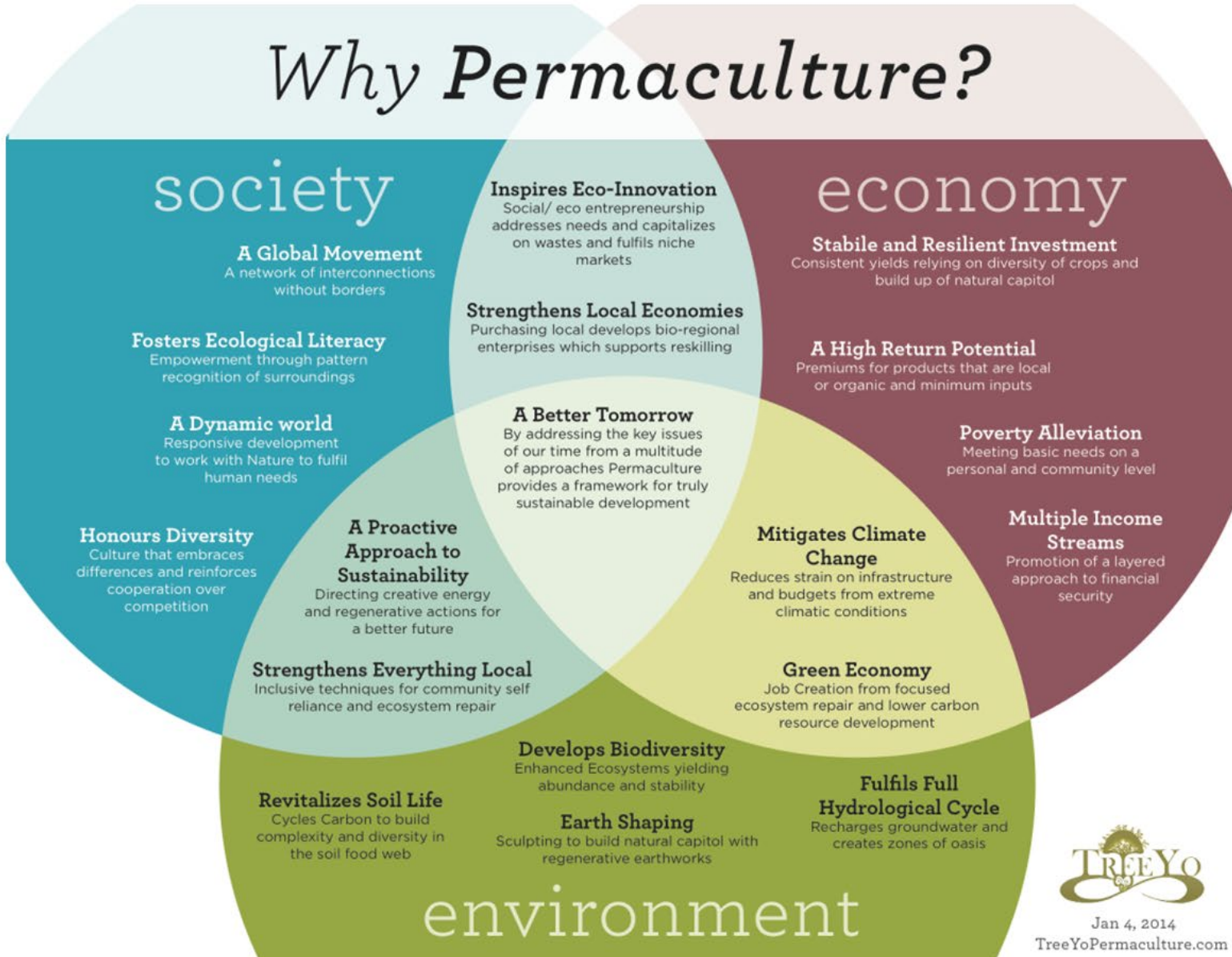
Global Ecotourism Market size is expected to reach **\$333.8 Billion** by 2027.

Growing at a **CAGR of 14.3%** (2021-2027)



Permaculture

Why Permaculture?



Permaculture aims to provide a land management system and philosophy that is able to thrive in natural environments.

The Eastern Cape is well known for agriculture but is unable to participate sustainably with many crop lands going to waste and subsistence farming stopping a possible growth.

This concepts uses ideas such as 'regenerative agriculture, rewilding, and community resilience' which is just what the region needs in order to kickstart their growth.



Jan 4, 2014
TreeYoPermaculture.com

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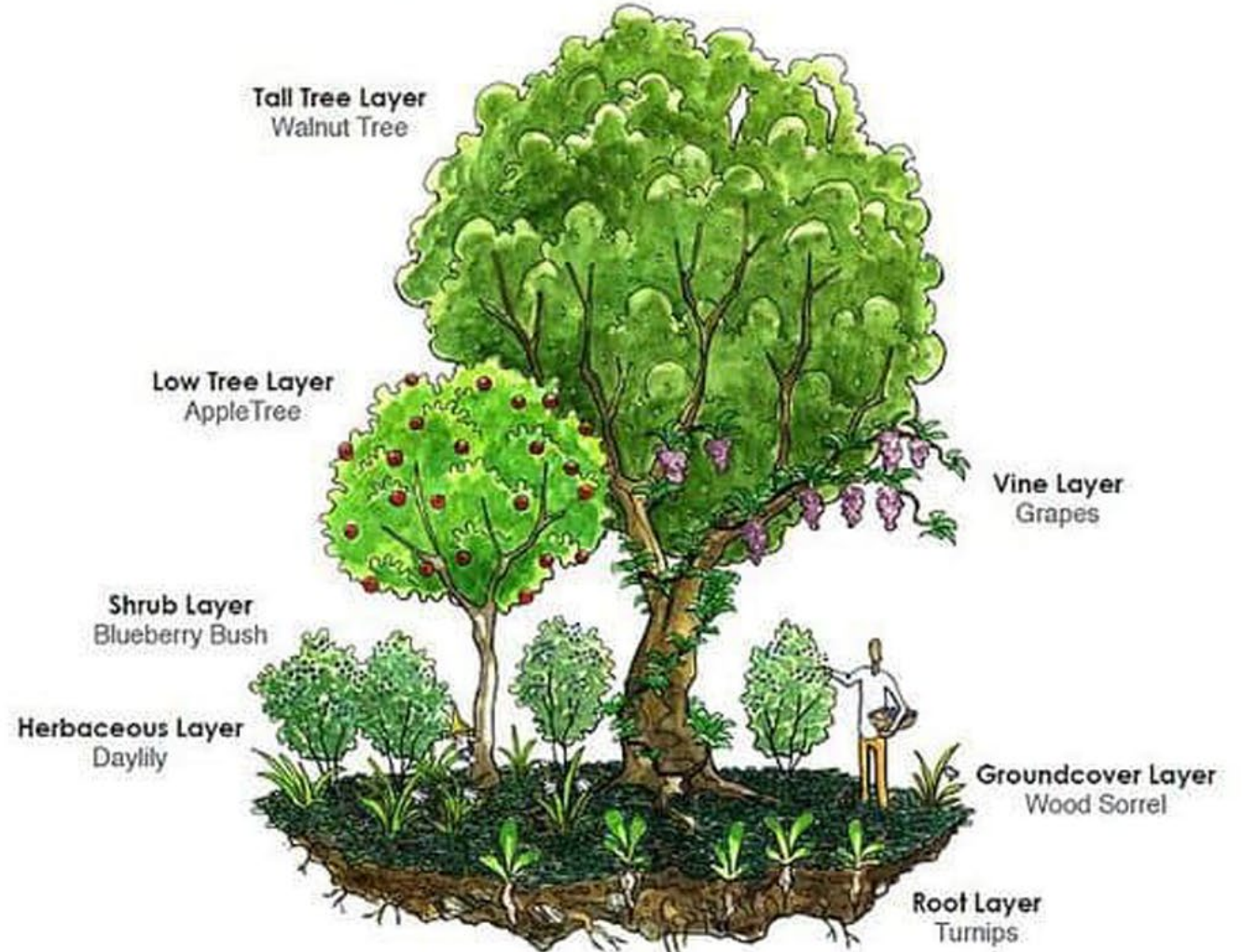
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Permaculture



Layers of a Forest Garden



Paul Kearsley 2014

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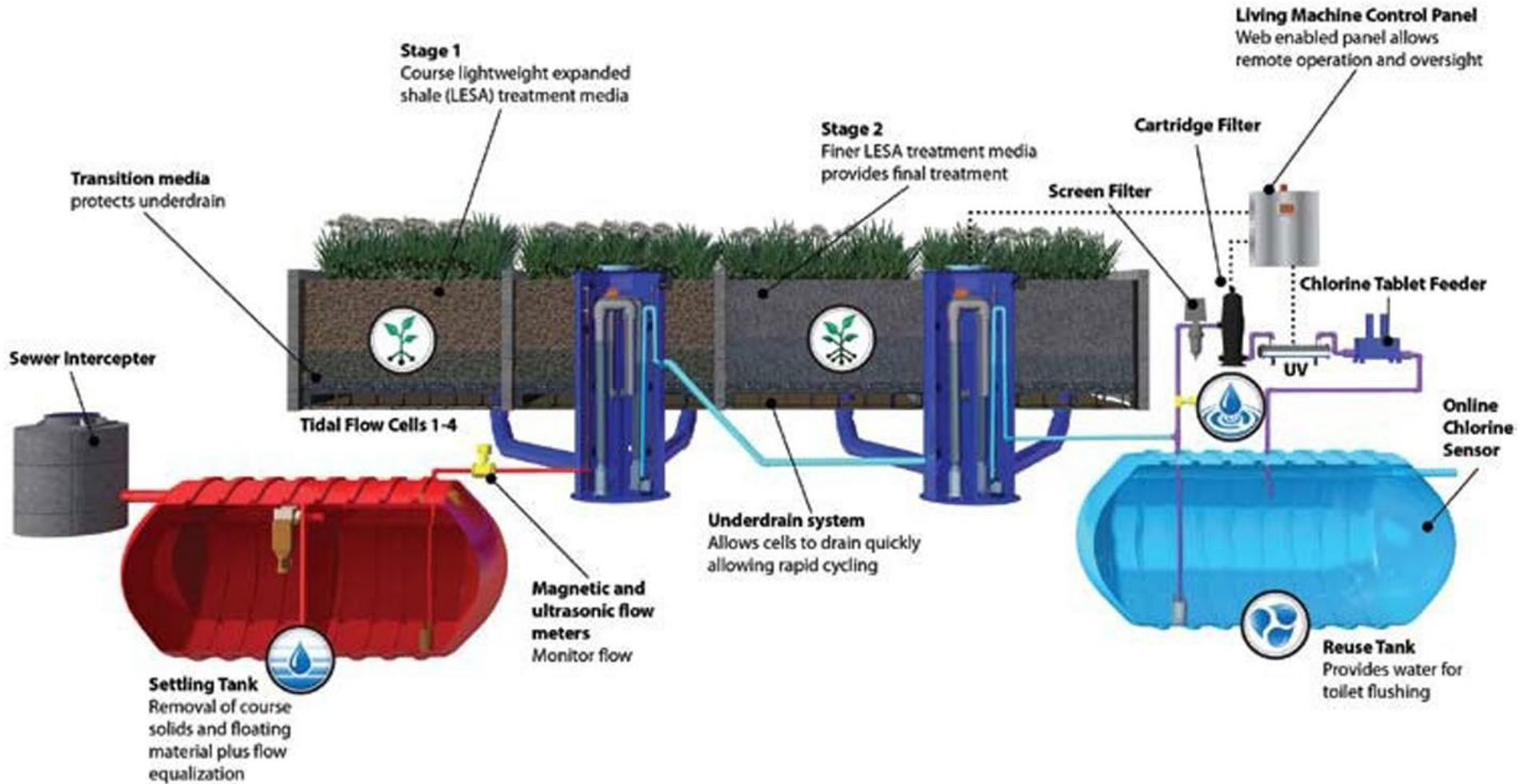
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Living Machine

Living Machine technology uses scientific methods in order to 'mimic the ecology of natural coastal wetlands.' The aim is to provide sustainable water solutions through the process of treating and reusing wastewater through natural elements that in the end provide for safe, clean, and reusable water.



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GLA

Glacier Skywalk / Sturgess Architecture

SEN

New Artist Residency In Senegal / Toshiko Mori



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GLA

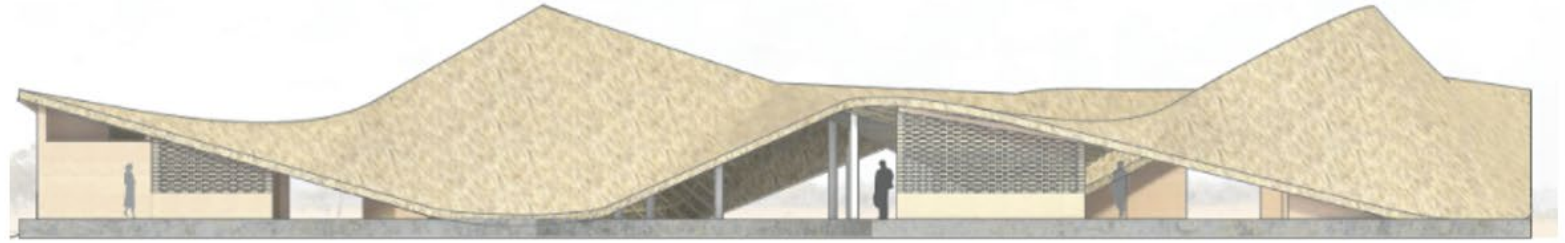
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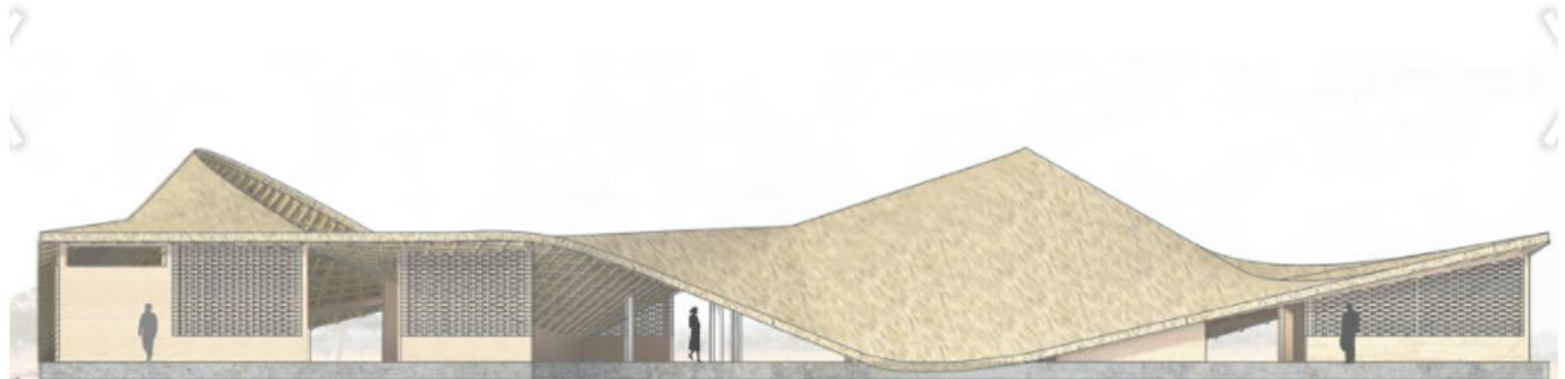
New Artist Res.

'A venue for markets, education, performances and meetings, the centre will be a hub for the local community and a place where the resident artists can have a truly meaningful experience of Sinthian society.' - is how the architects described this building.

The mix of culture in a community hub is essential for the people to feel comfortable and accept the structure along with the functions. This thatched roof system is one is believe is quite successful and hoped to achieve a similar flair.



WEST ELEVATION



EAST ELEVATION

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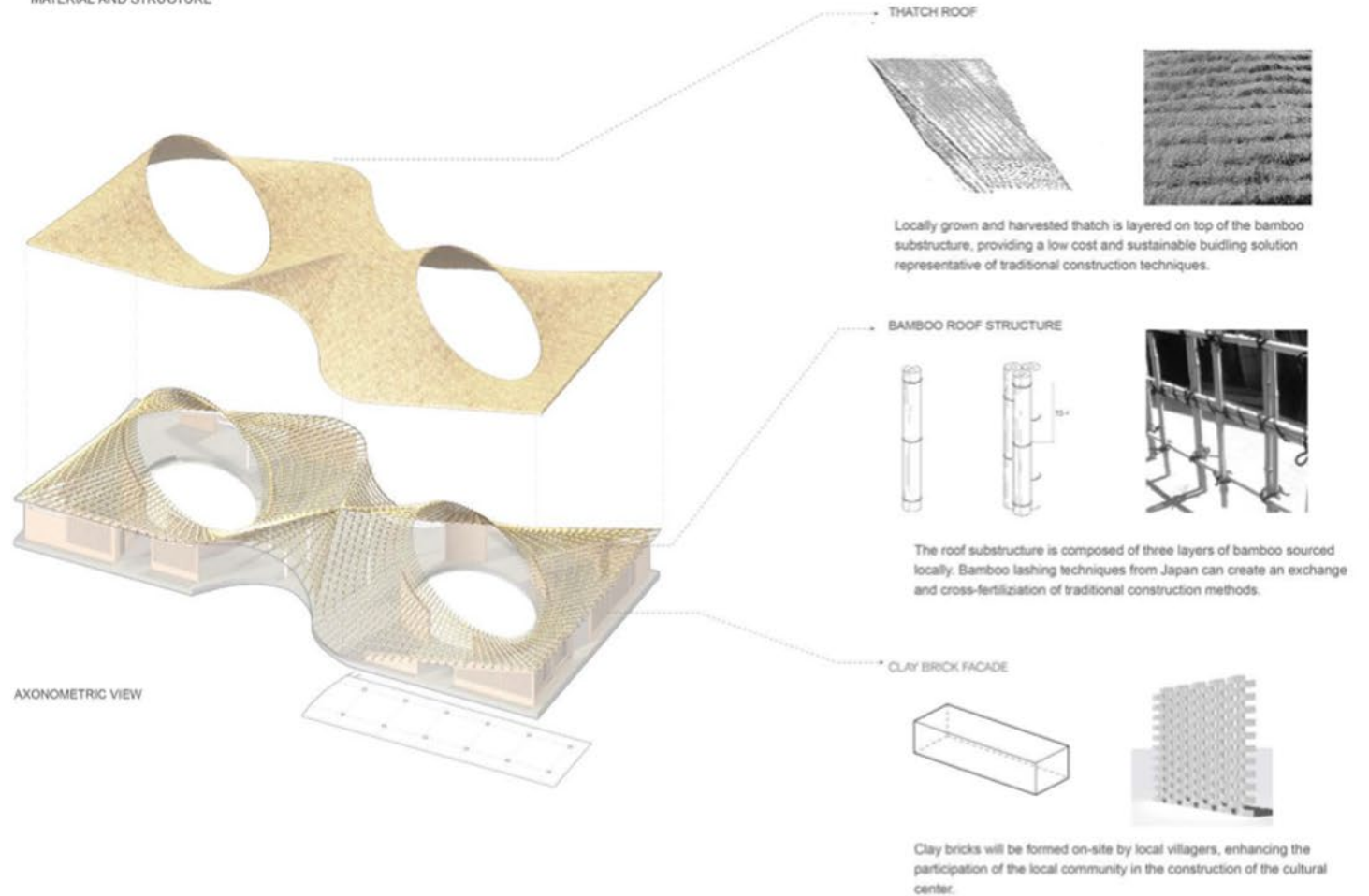


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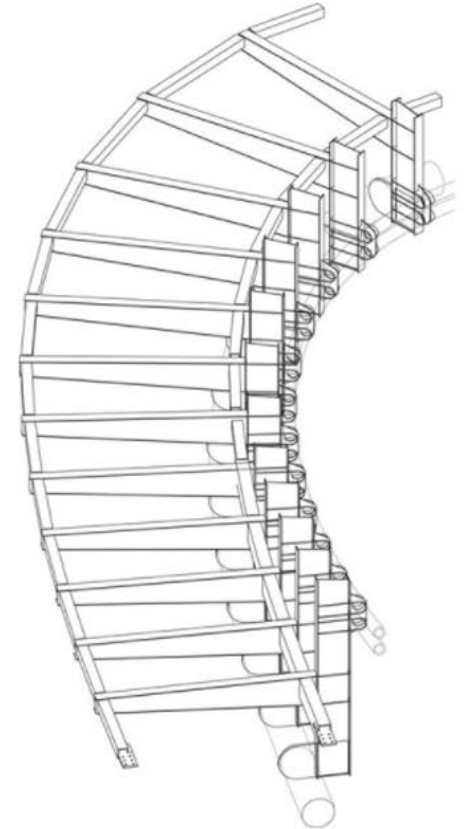
New Artist Res.

MATERIAL AND STRUCTURE



Glacier Skywalk

'The 30 m long glass skywalk is supported by 600 t of cantilevered, trapezoidal box girders secured onto tied back foundation blocks. The foundations were anchored in depths of 10 to 20 m in the load-bearing rock using rock anchors. DSI Canada supplied 48 rock anchors for tying back the foundation blocks. Sixty-four micropiles and double corrosion protected rock anchors were installed in the concrete foundations for the box girders. The concrete foundations were further post-tensioned with 77 tendons. The steel frame structure was secured to the concrete foundations using 80 post-tensioned anchor bolts. Two Type 9-0.6" strand tendons in steel ducts were used to support the cantilevered glass platform.'



Vista Isometric



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Glacier Skywalk



U m b u t h a n o



Concept



Development



Site Plan



Functions



Technical



Views

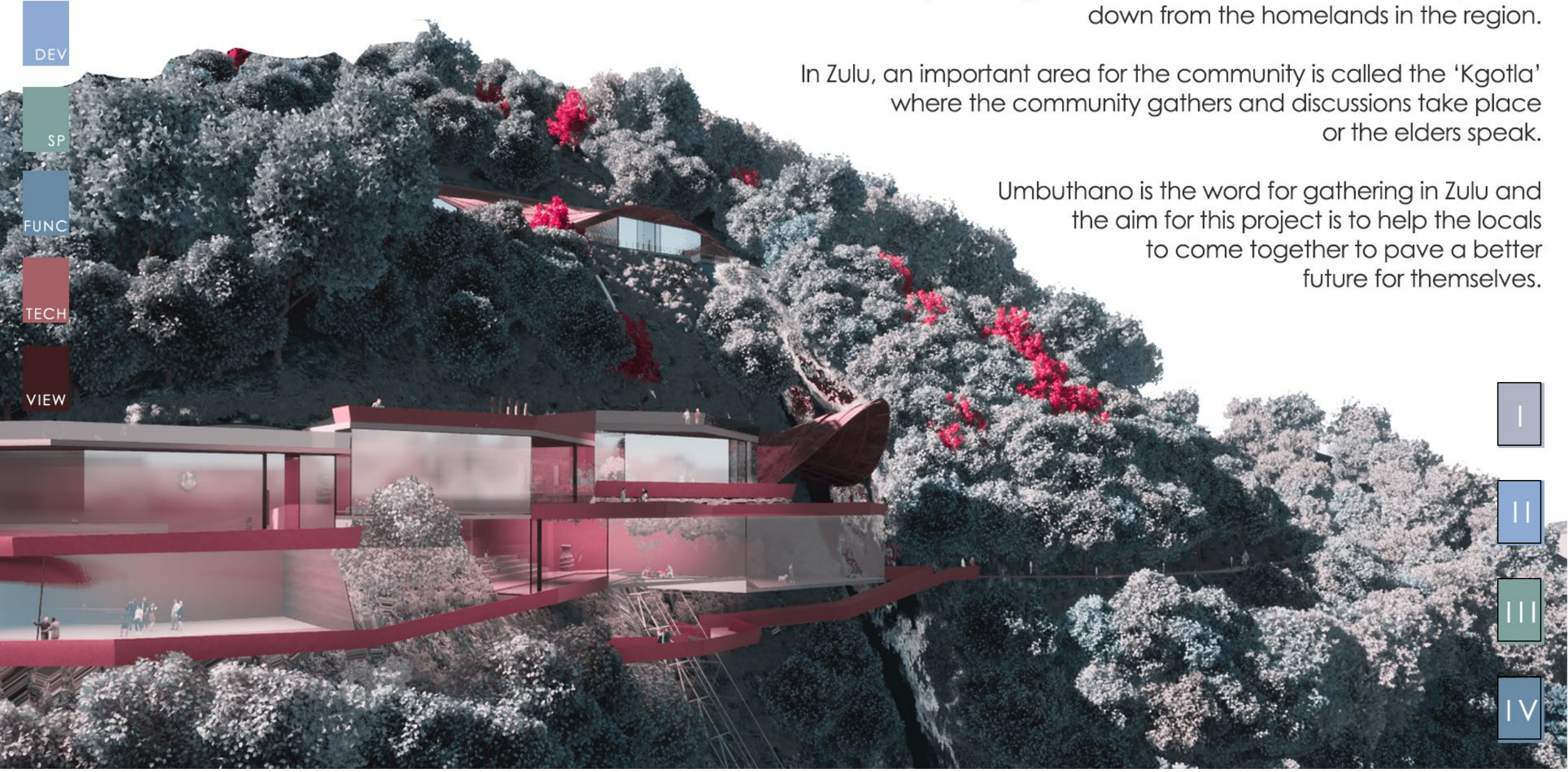


CONCEPT

The concept for this project was derived from traditional vernacular architecture. Being a region very closely affected by Apartheid, the Eastern Capers hung on to their traditional roots that were passed down from the homelands in the region.

In Zulu, an important area for the community is called the 'Kgotla' where the community gathers and discussions take place or the elders speak.

Umbuthano is the word for gathering in Zulu and the aim for this project is to help the locals to come together to pave a better future for themselves.



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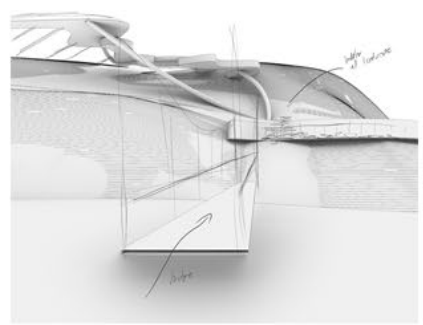
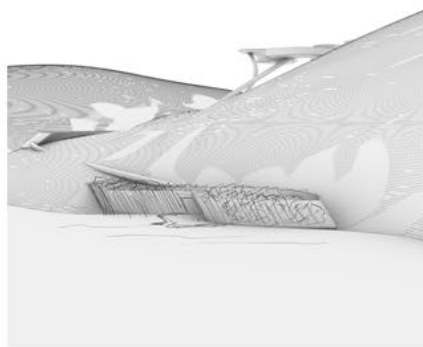
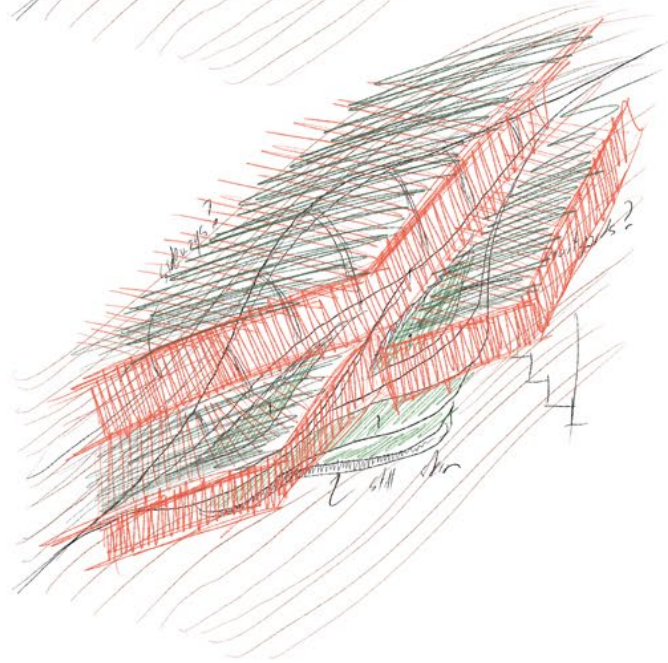
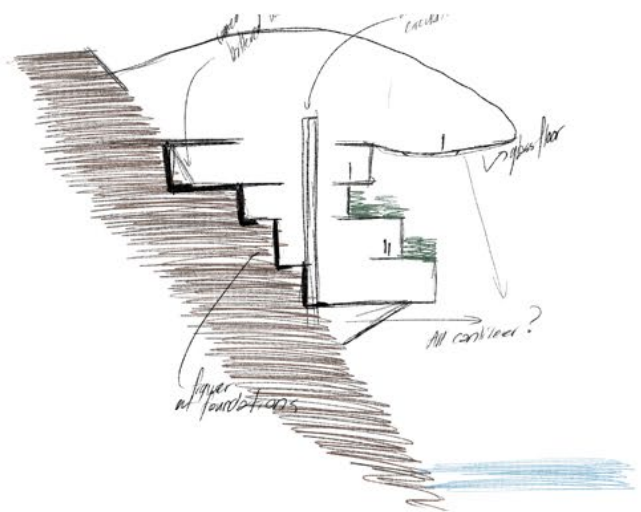
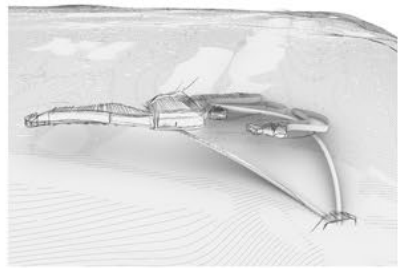
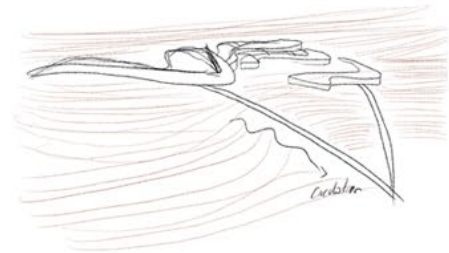
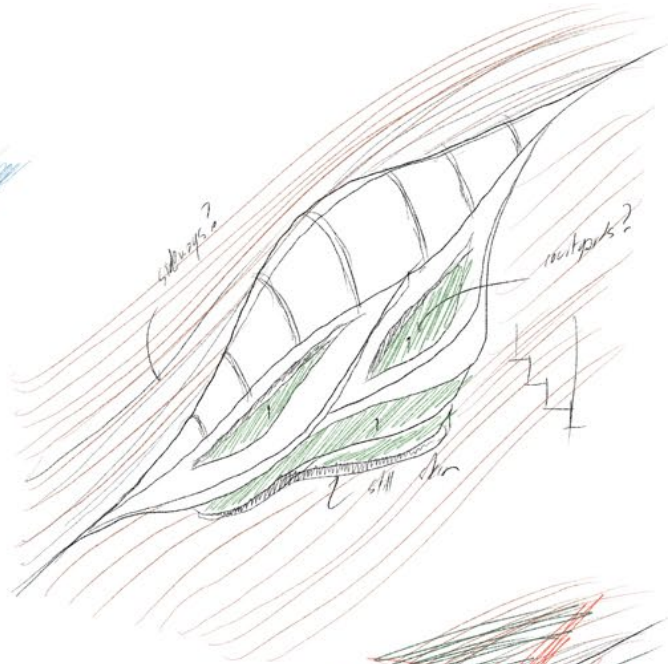
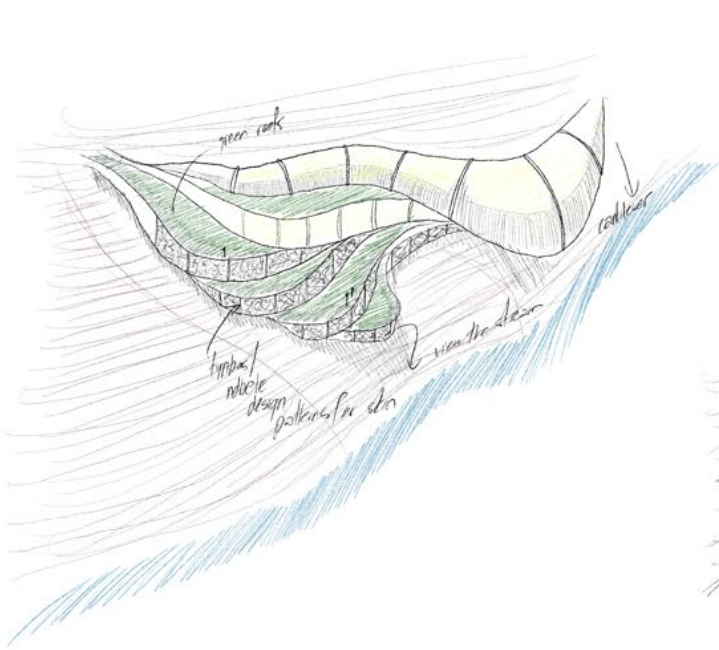
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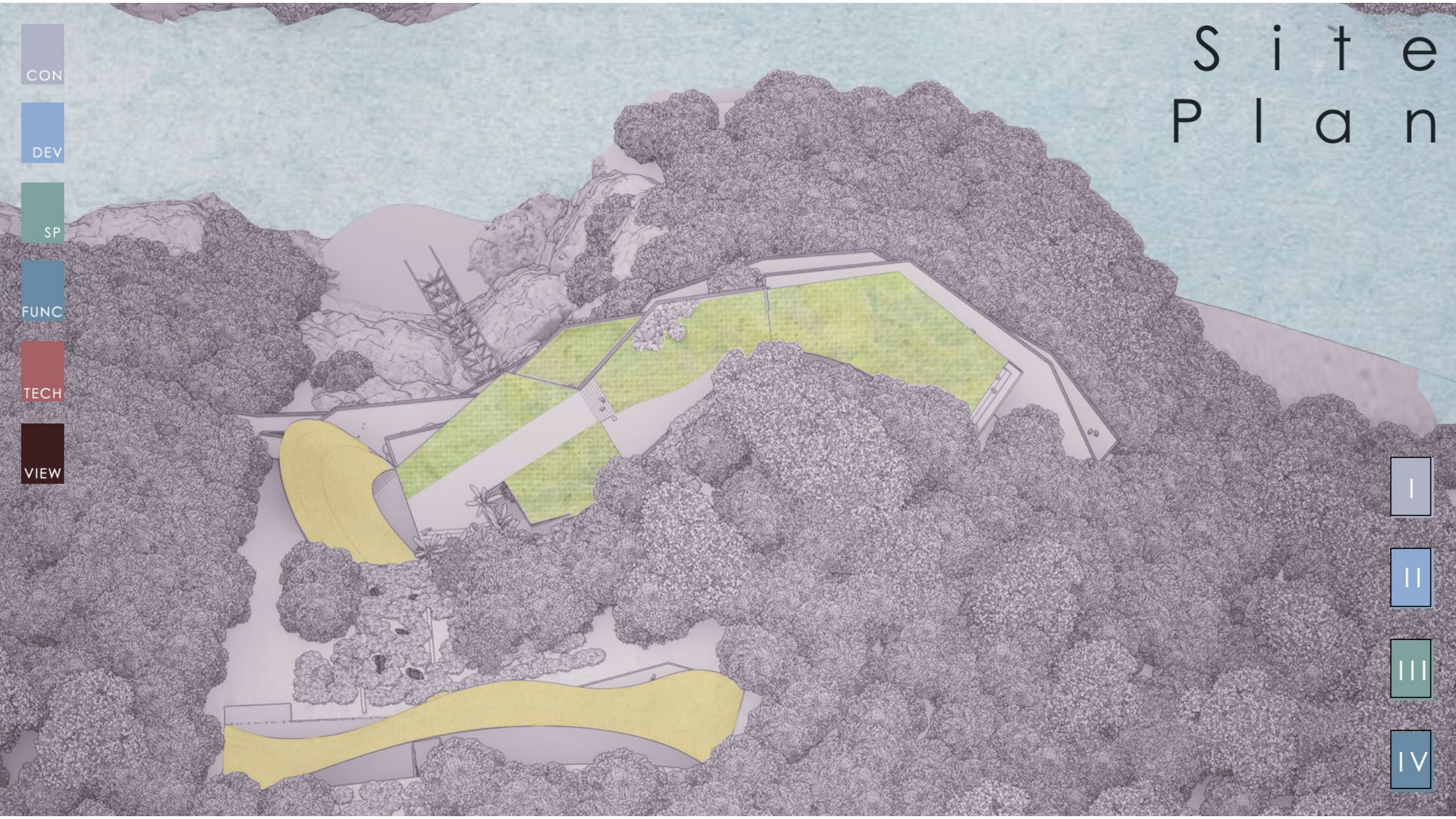
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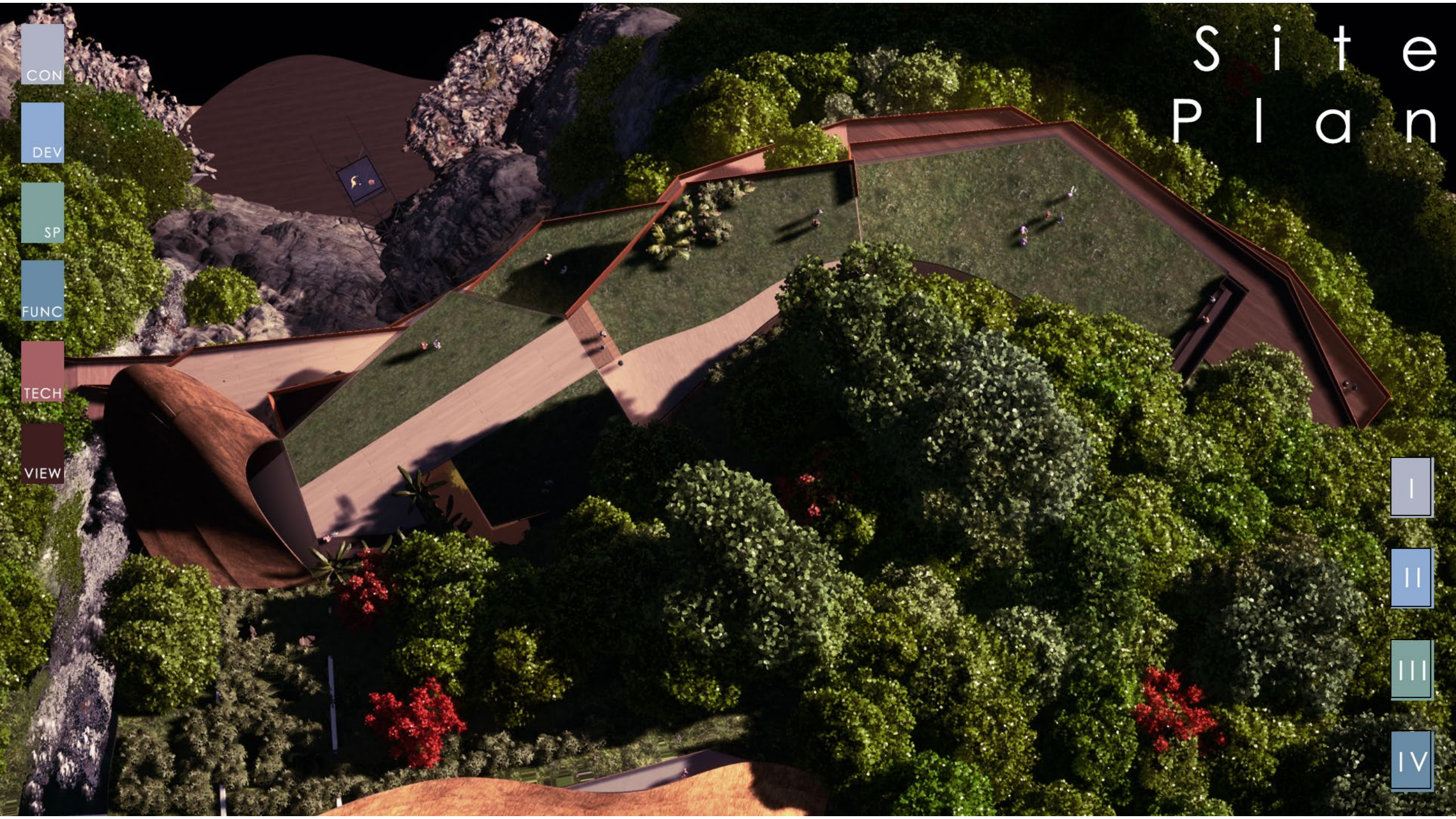
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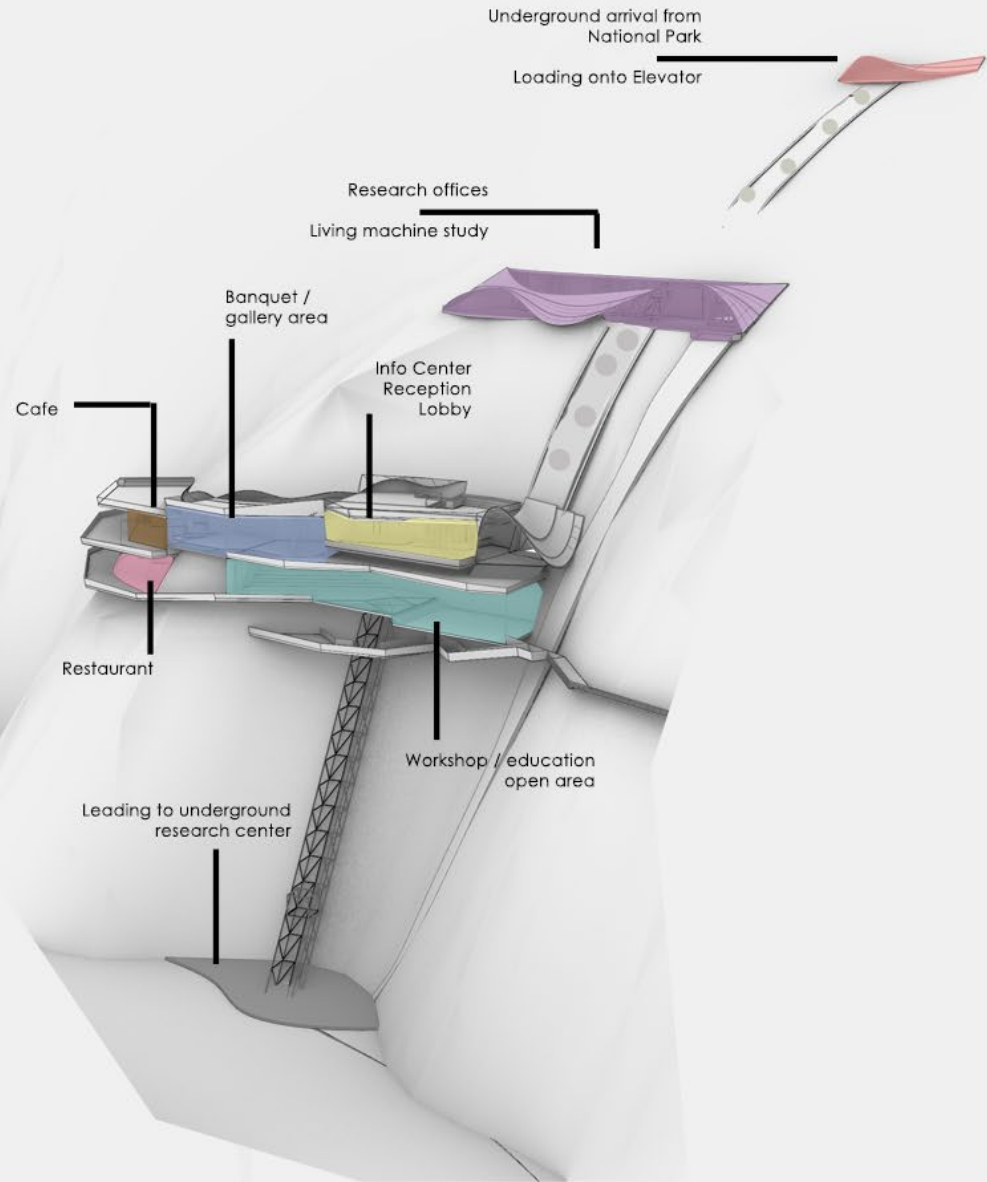
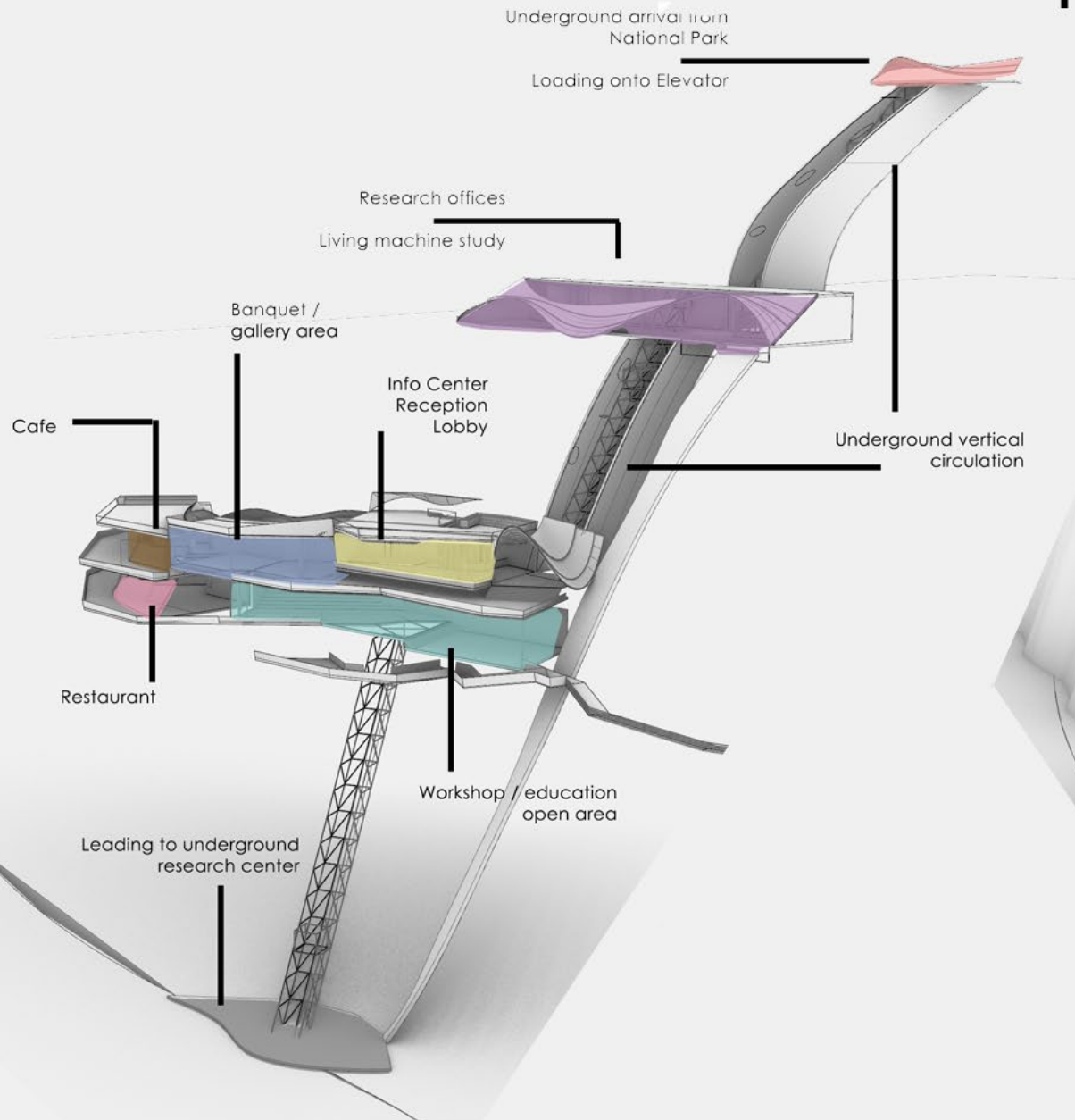
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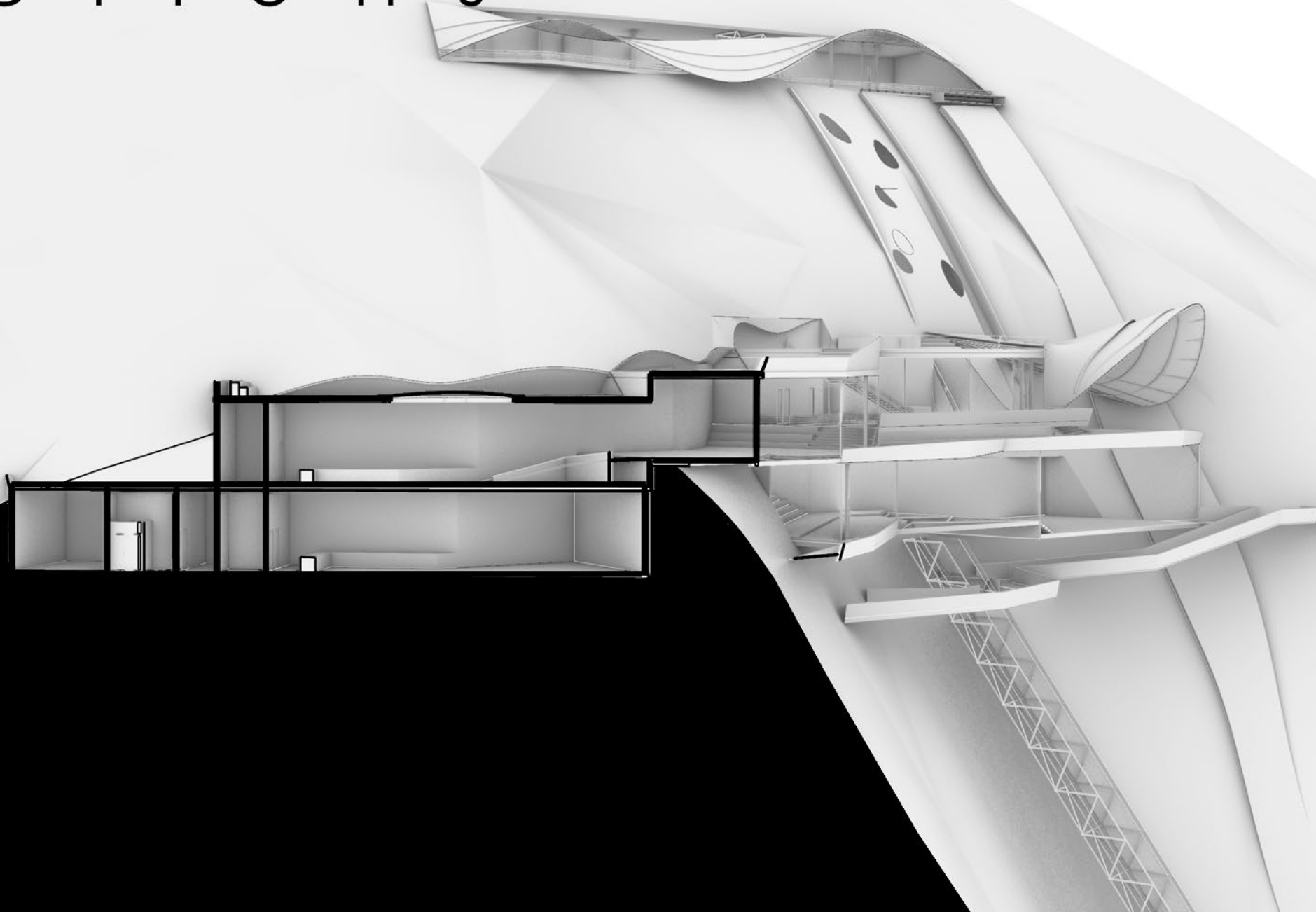
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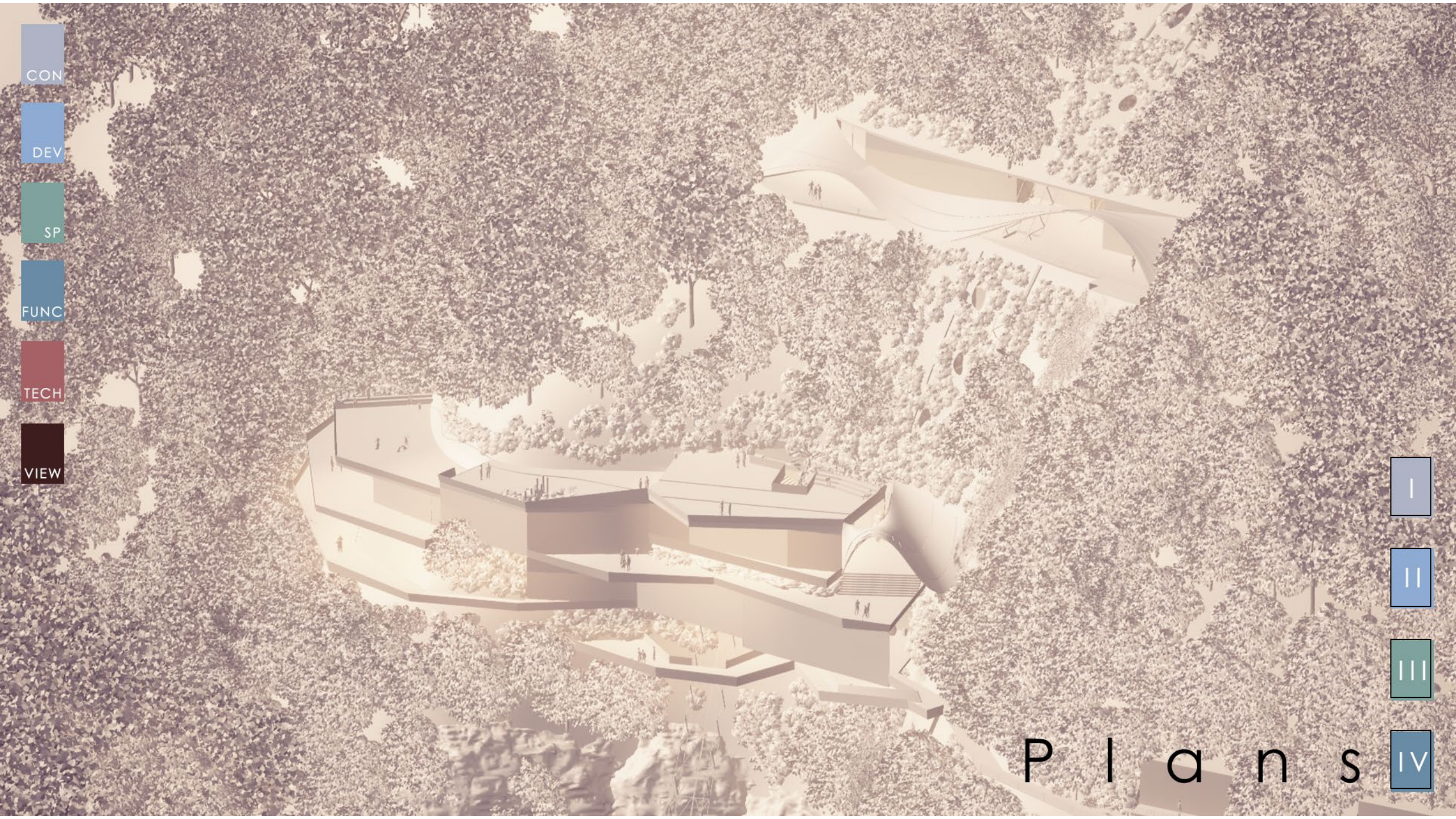
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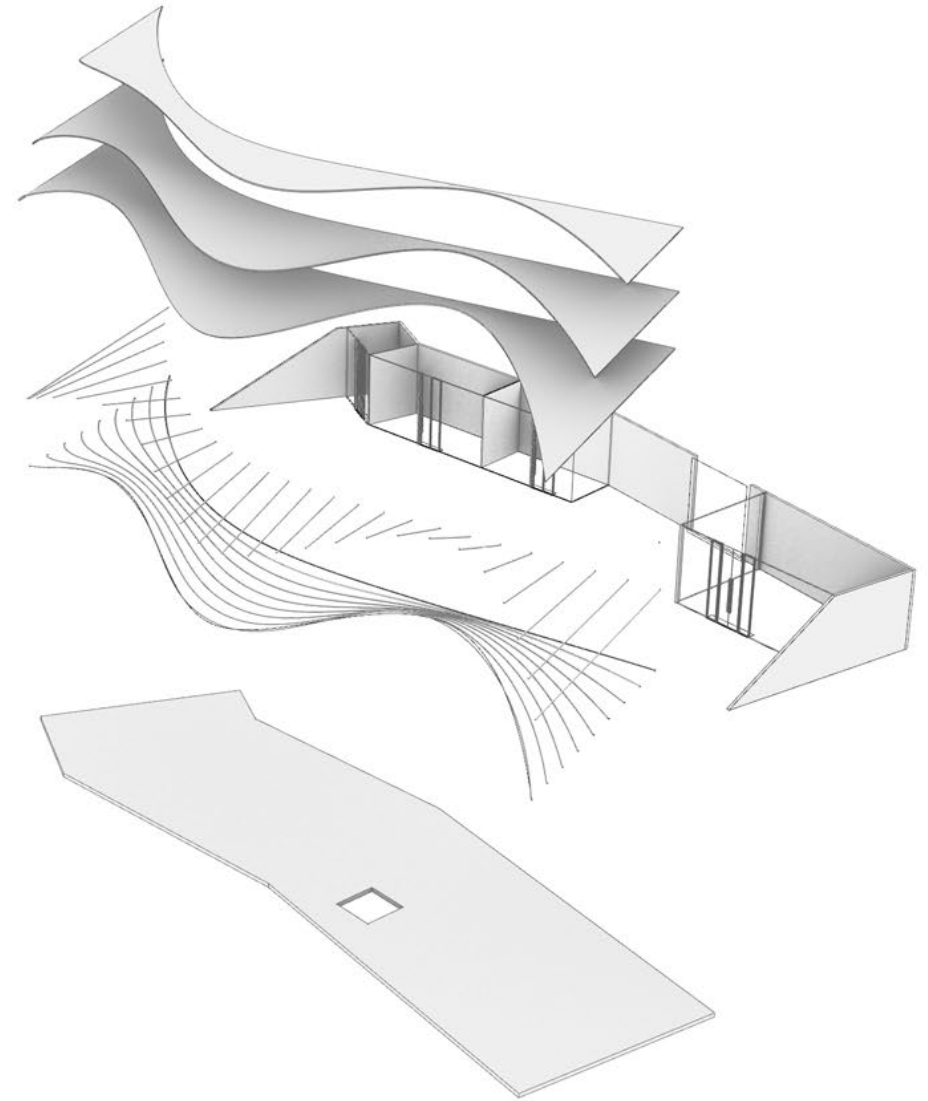
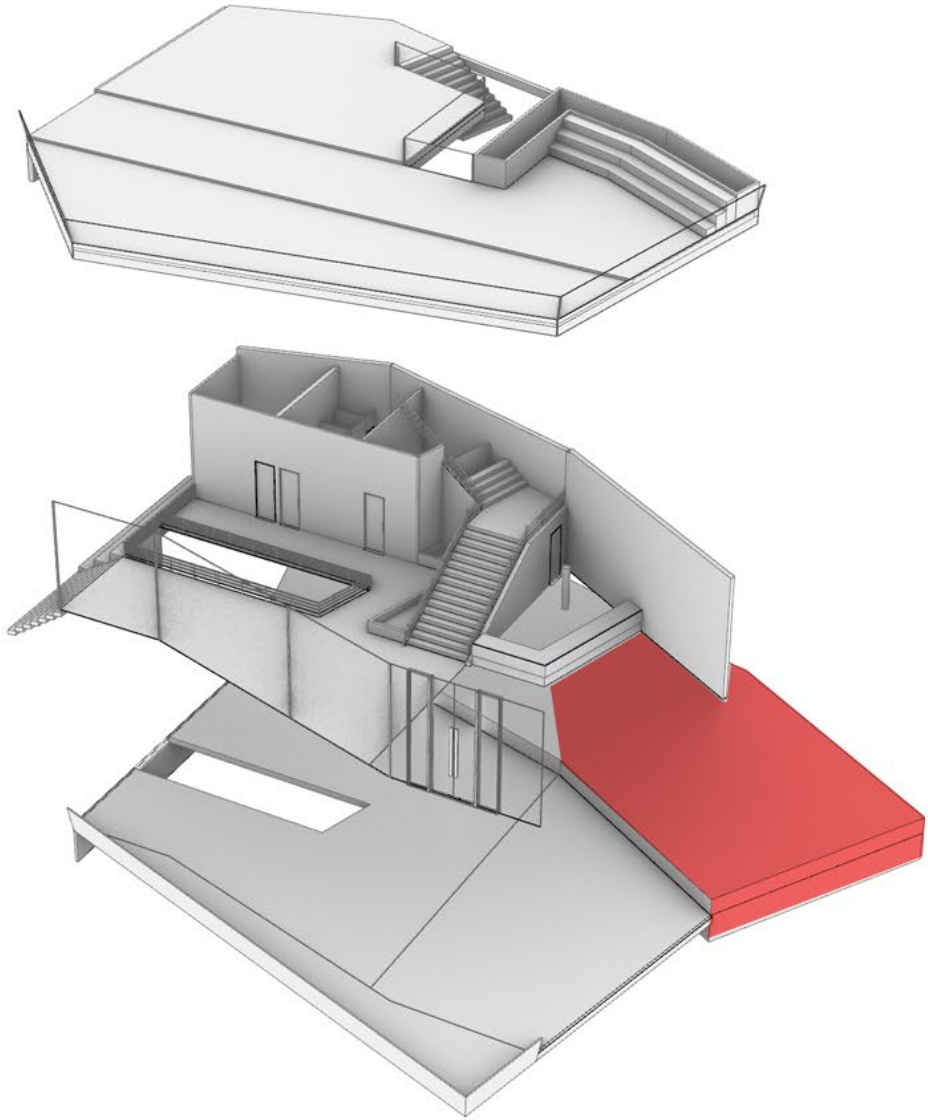
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