



PEDERNALES, DR

Final Review



JACKSON P.



ALLISON L.



MYRON B.



SANJANA P.



EMMA S.



CARLOS G.



KENDRA H.



KATE P.



JIE W.



SIMÓN G.



AMINAH M.



AGENDA

1. GEOGRAPHIC CONTEXT

2. HISTORICAL CONTEXT

3. EXISTING CONDITIONS

4. DESIGN FRAMEWORK

5. PROPOSALS



GEOGRAPHIC CONTEXT



HAITI

PEDERNALES

DOMINICAN REPUBLIC

ANSE -A-PITRES



HISTORICAL CONTEXT



ORIGINS



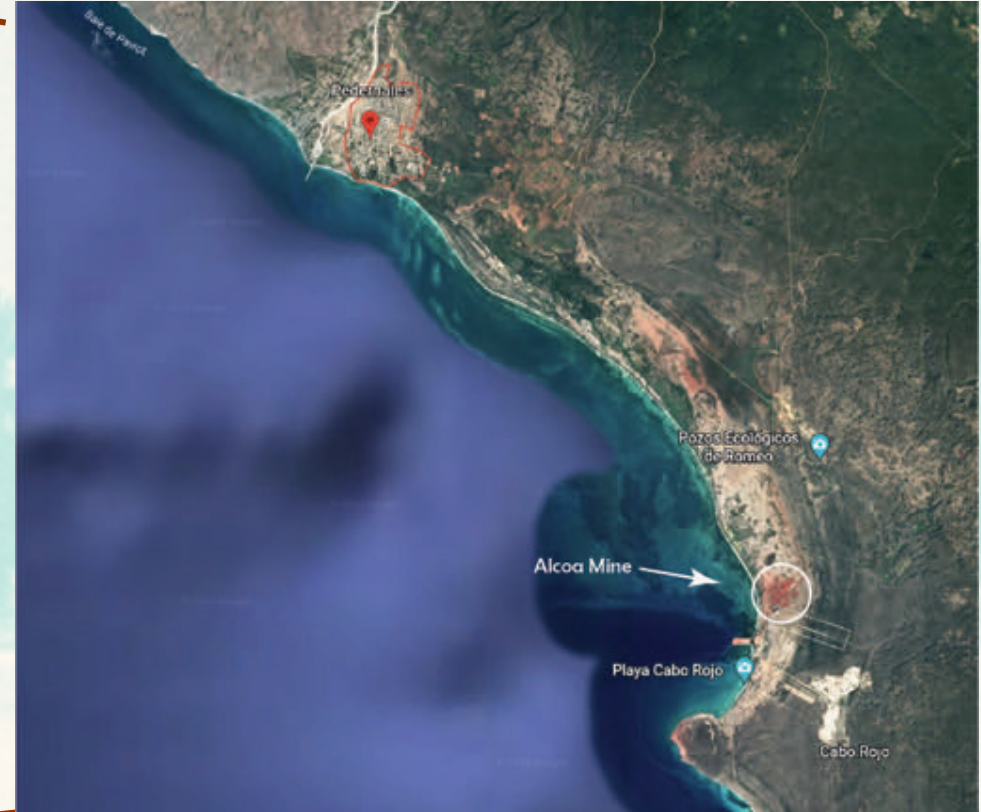
- Originally part of Barahona province
- Became a separate municipality in **1938**
- Settled as an **agricultural zone**

- Dictator Trujillo inflicted **anti-Haitian violence** in 1930s
- encouraged Dominicans to **settle along the border** for fortification



Alcoa's Impact on Pedernales

- Operated bauxite mines from **1942** to **1984**
- Turned Pedernales into a Company Town



EXISTING CONDITIONS



POPULATION



Average household size: **4.7 people**

Both Pedernales and Anse-a-Pitres are growing



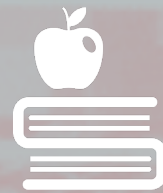
OUT OF 32 PROVINCES,
PEDERNALES IS.....

27th



Healthcare

32nd



Education

31st



Income

Major Industries

- **Logistics**
- **Agriculture**
- **Tourism**
- **Renewable energy**



Geographic Isolation

- **Limited mobility networks** connecting to other major cities
- Economies have become **mutually reliant**



BINATIONAL
MARKET



Located on the
Pedernales riverbed

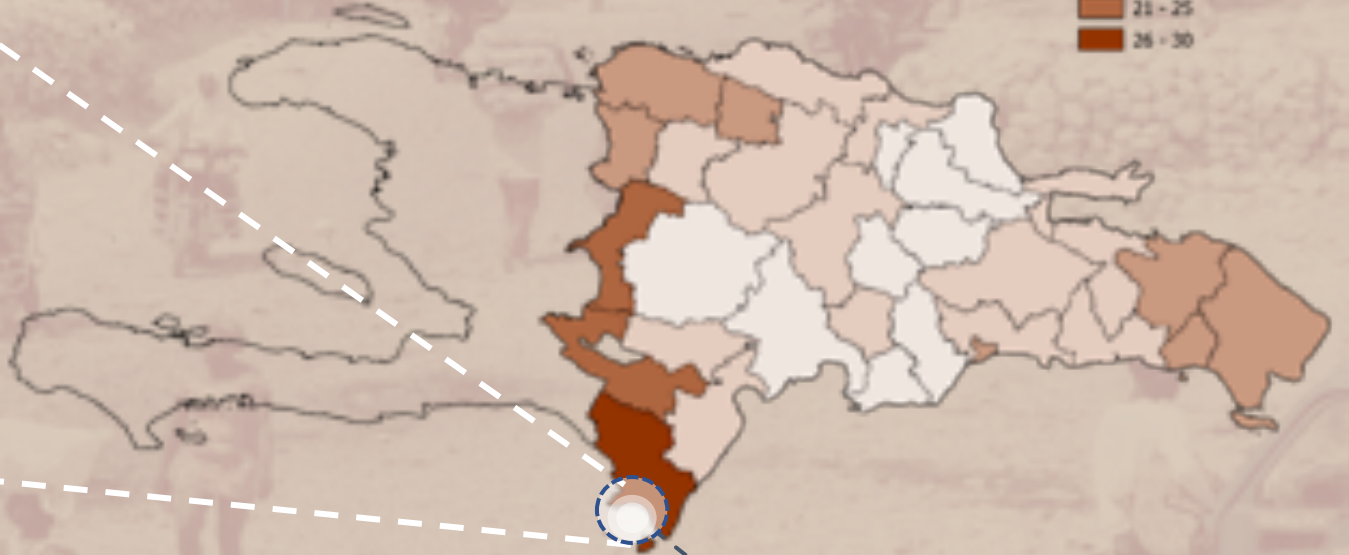
Economic and cultural
exchange at the binational
market



Connectivity with *Anse-a- Pitres*

Socially and culturally
interwoven

Shared festivals, music,
sports, and arts



Legend



Pedernales has the **highest proportion (30%)** of Haitian residents

MODERN
MIGRATION



The Dominican Republic has one of **the largest populations of stateless people** in the Americas



URBAN SPACES



Lively Urban Spaces

Spacious central plaza

Parks, sports facilities,
and beachfront



OVER-SIZED STREETS



INFORMAL
URBANIZATION

***Self-constructed
neighborhoods***

Clusters of self-constructed homes have emerged on the outskirts of the city



URBAN EXPANSION



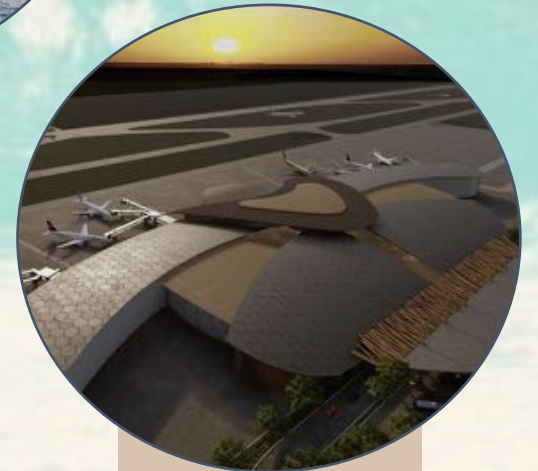


PLANNED
DEVELOPMENT

***Cabo Rojo Tourist
Development***

~ 25 km from Pedernales

Development in Cabo Rojo
will impact
the economy, population,
& character of Pedernales



TOPOGRAPHY

EXISTING CONDITIONS: NATURAL



WATER SYSTEMS

2 km of coastline to the south

Pedernales river to the west

Flood risks during the rainy season

Risk of **sea-level rise** on the coast



ECOLOGICAL
ASSETS



DESIGN FRAMEWORK



THE PROCESS



Community members shared the **strengths, challenges, and possibilities** for the future of Pedernales.



Community **design charrette** with the residents of Pedernales



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PROPOSALS



EXISTING BASEMAP



EXISTING ROADS



PROPOSED ROADS



PROPOSAL: ROAD NETWORK



PROPOSAL: WATER SYSTEM



PROPOSAL: GREEN ARMATURE

PROPOSALS



FRAMEWORK





CONNECTED COMMUNITIES

Pedernales has a strong existing urban identity which we propose strengthening through improved road networks and flexible housing models.



EXISTING
HOUSING



Self-constructed
housing



Self-constructed
rock walls

**BLOCK
TYPOLOGIES**

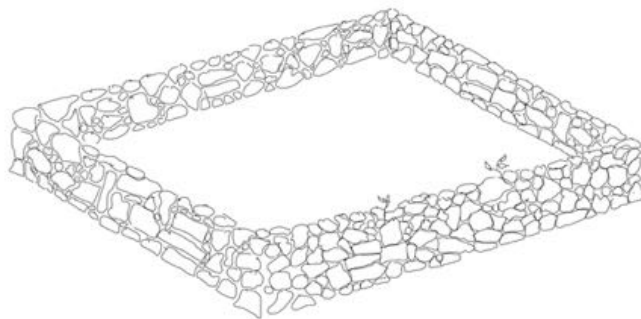


**Existing
Self-Constructed
Housing**

**BLOCK
TYPOLOGIES**

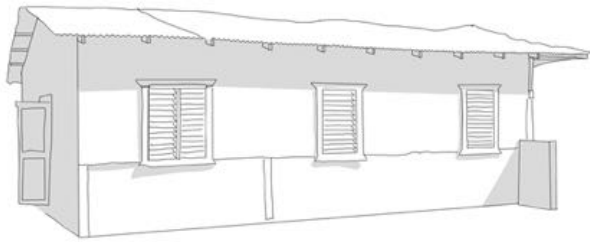


**Existing
Self-Constructed
Housing**

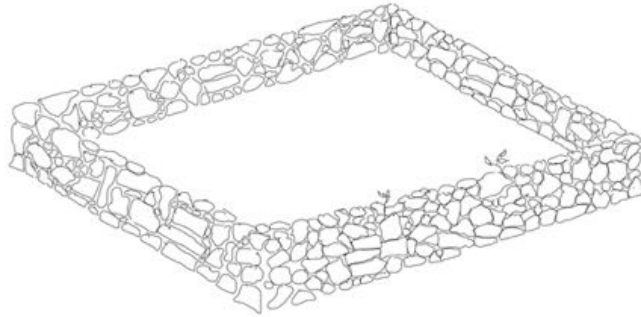


**Existing
Self-Constructed
Rock Walls**

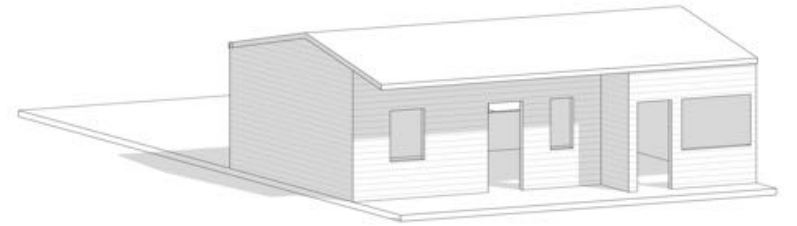
**BLOCK
TYPOLOGIES**



**Existing
Self-Constructed
Housing**



**Existing
Self-Constructed
Rock Walls**

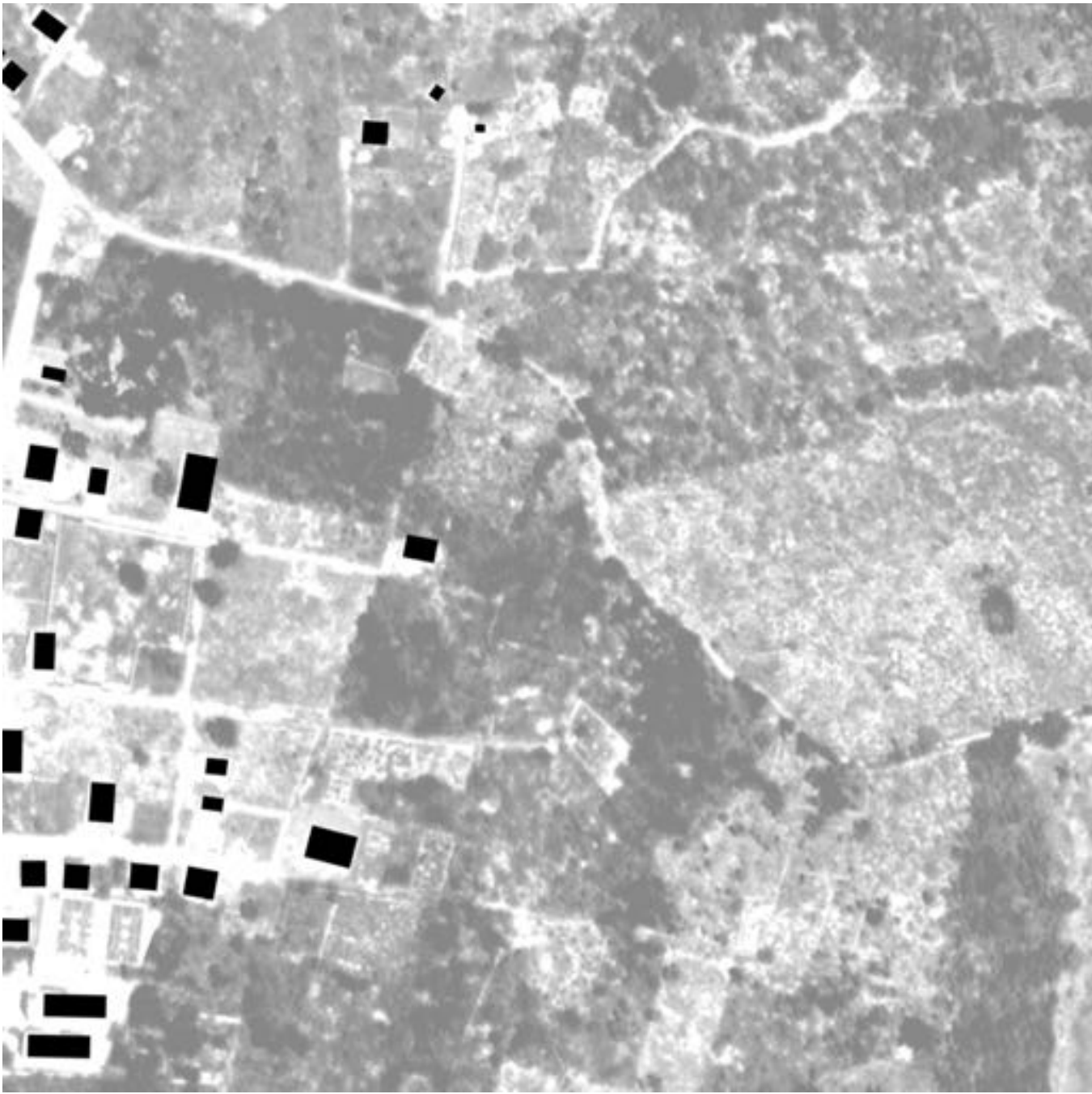


**Proposed Modular
Housing**

EXISTING



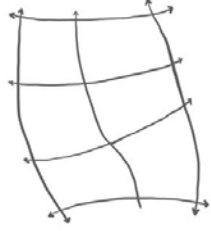
EXISTING BUILDINGS



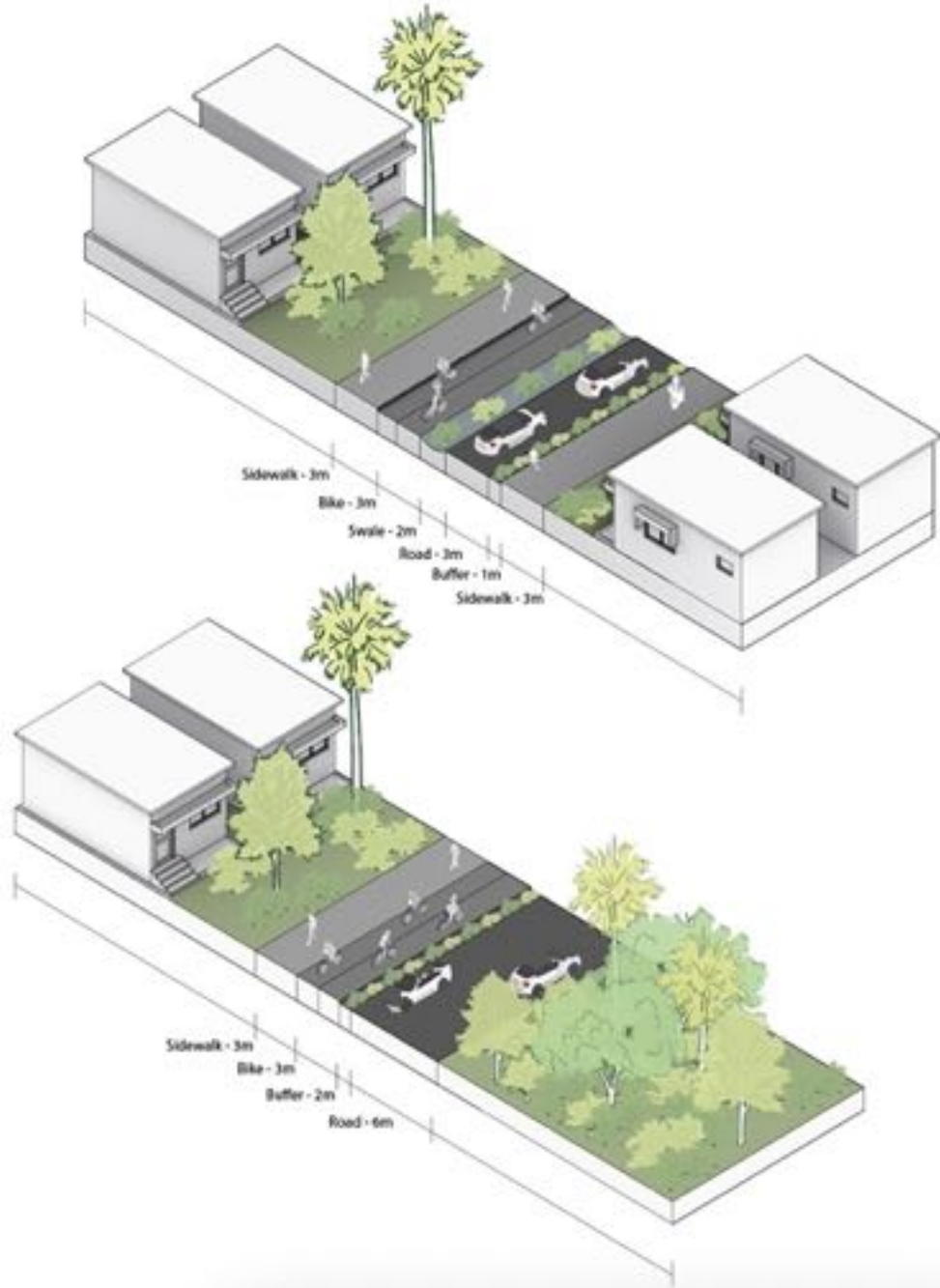
EXISTING BUILDINGS



VEHICULAR STREETS



VEHICULAR STREETS



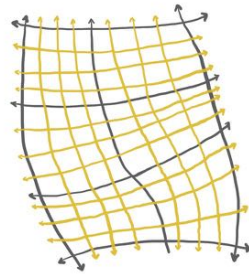
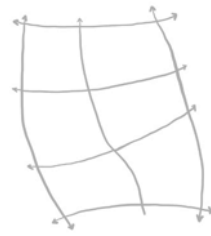
ONE WAY

Urban Expansion
Neighborhood Roads

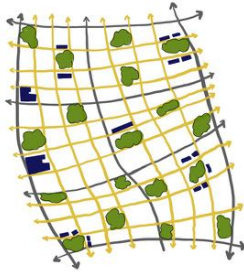
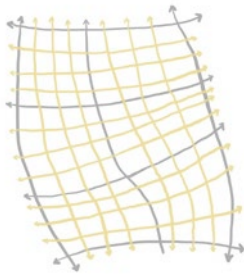
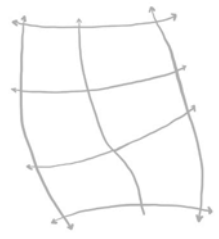
TWO WAY

Urban Expansion
Perimeter Roads

PUBLIC REALM



COMMUNITY SERVICES



EDGE STEWARDS

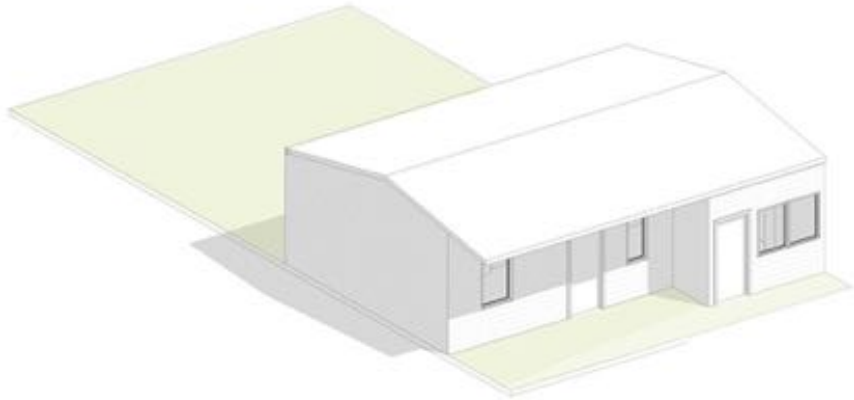




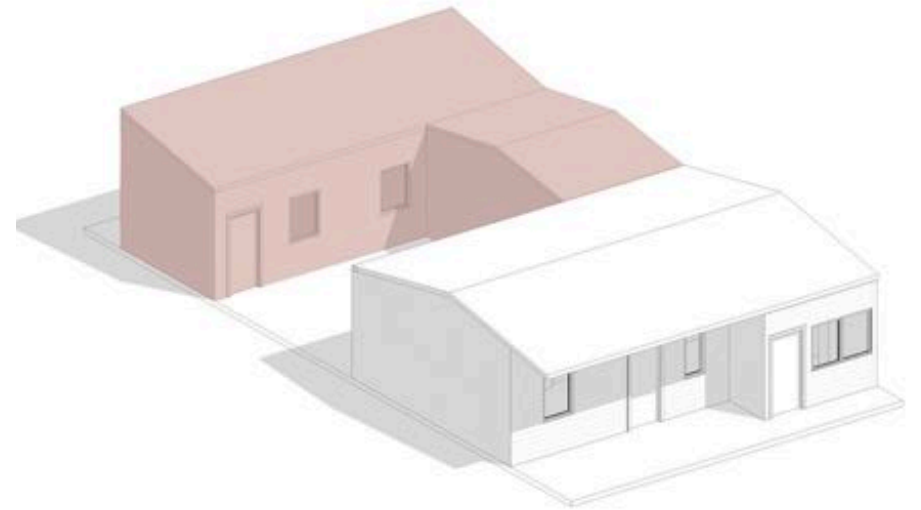
HOUSING GRID



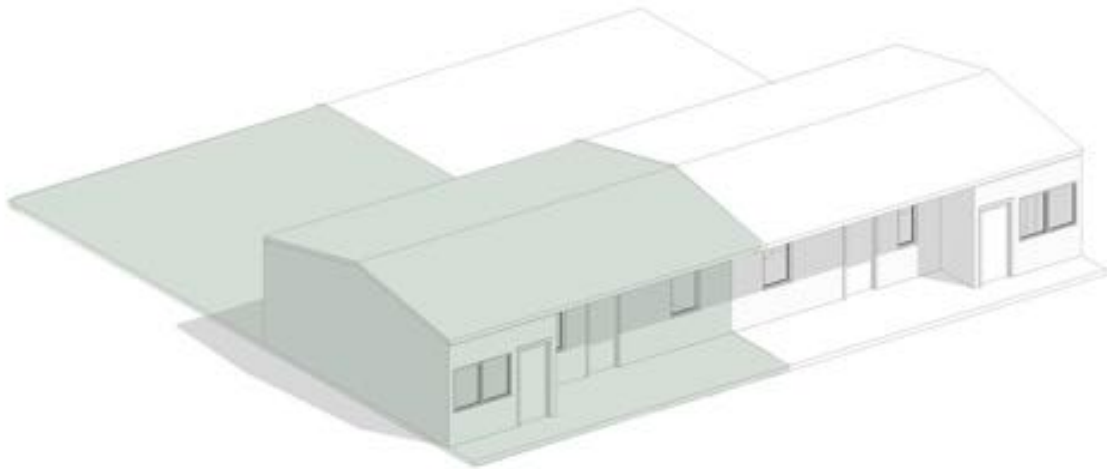
HOUSING
TYPOLOGY



**Basic Unit (10m x 8m) with
Front & Back Yard
(10m x 20m lot)**



First Possibility of Growing



Second Possibility of Growing

HOUSING
TYPOLOGY

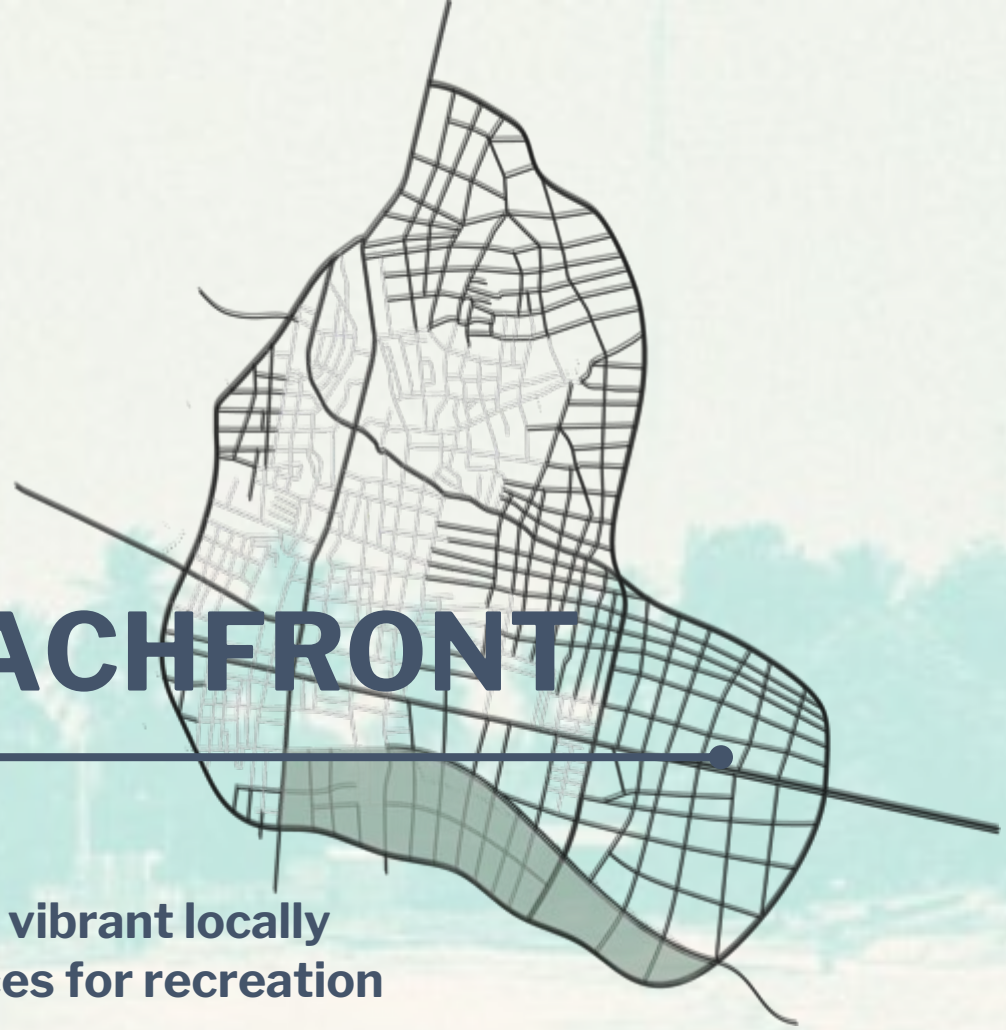






ACTIVATED BEACHFRONT

The beautiful coastline will be home to a vibrant locally driven tourism economy and public spaces for recreation and outdoor activity.

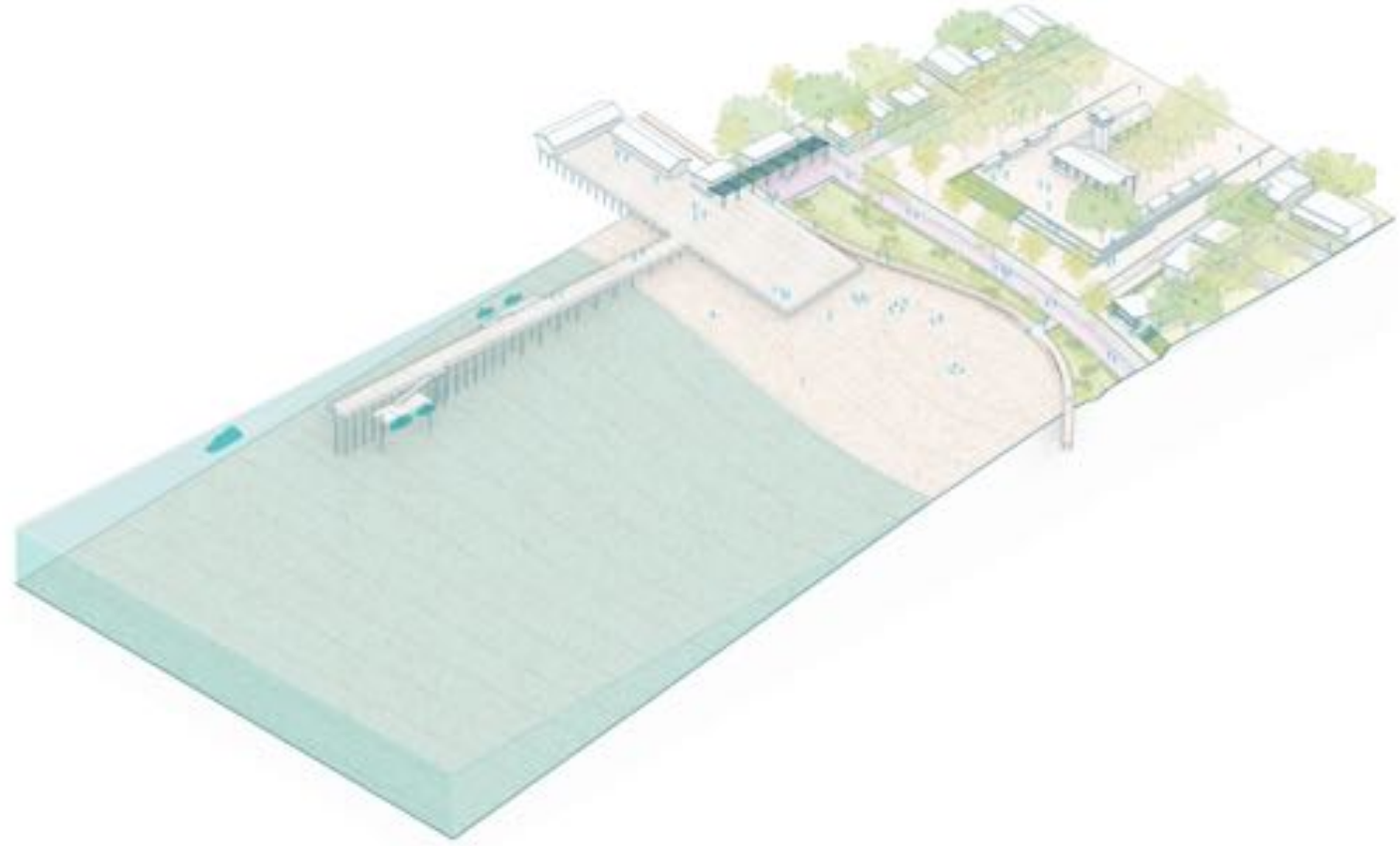




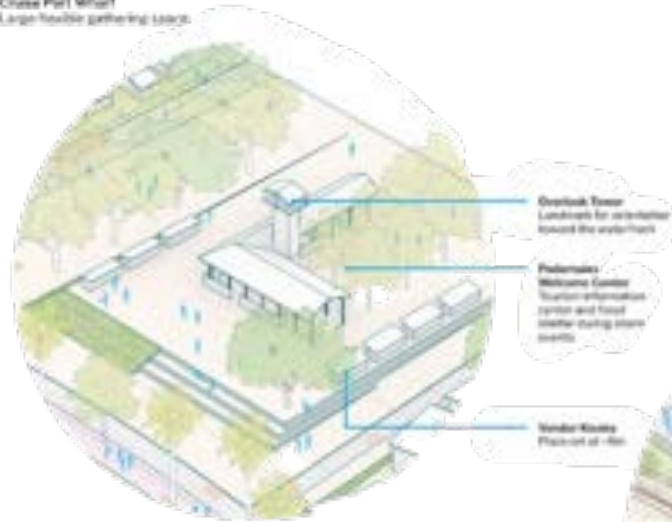
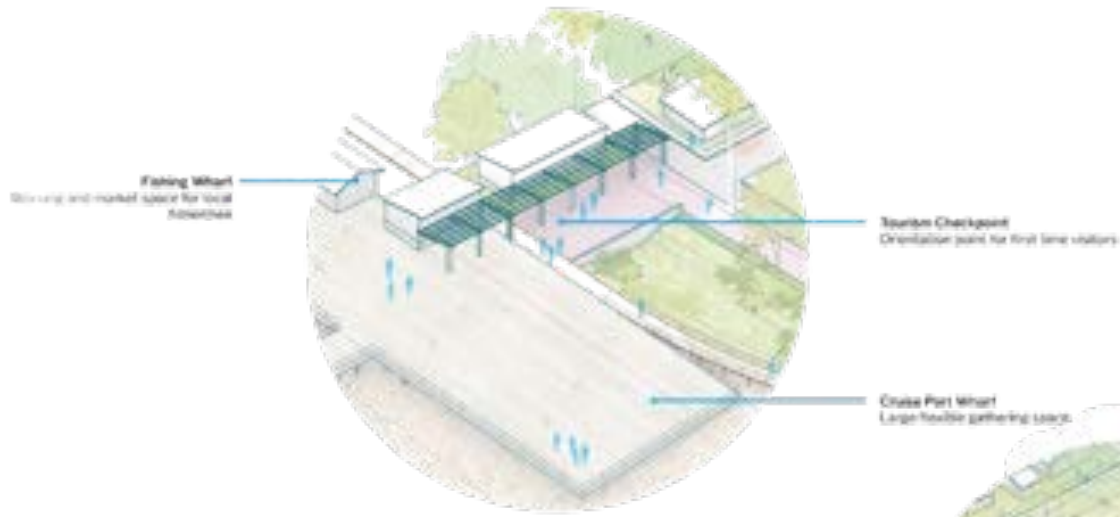
BEACHFRONT CONNECTIONS



MALECON PLAZA

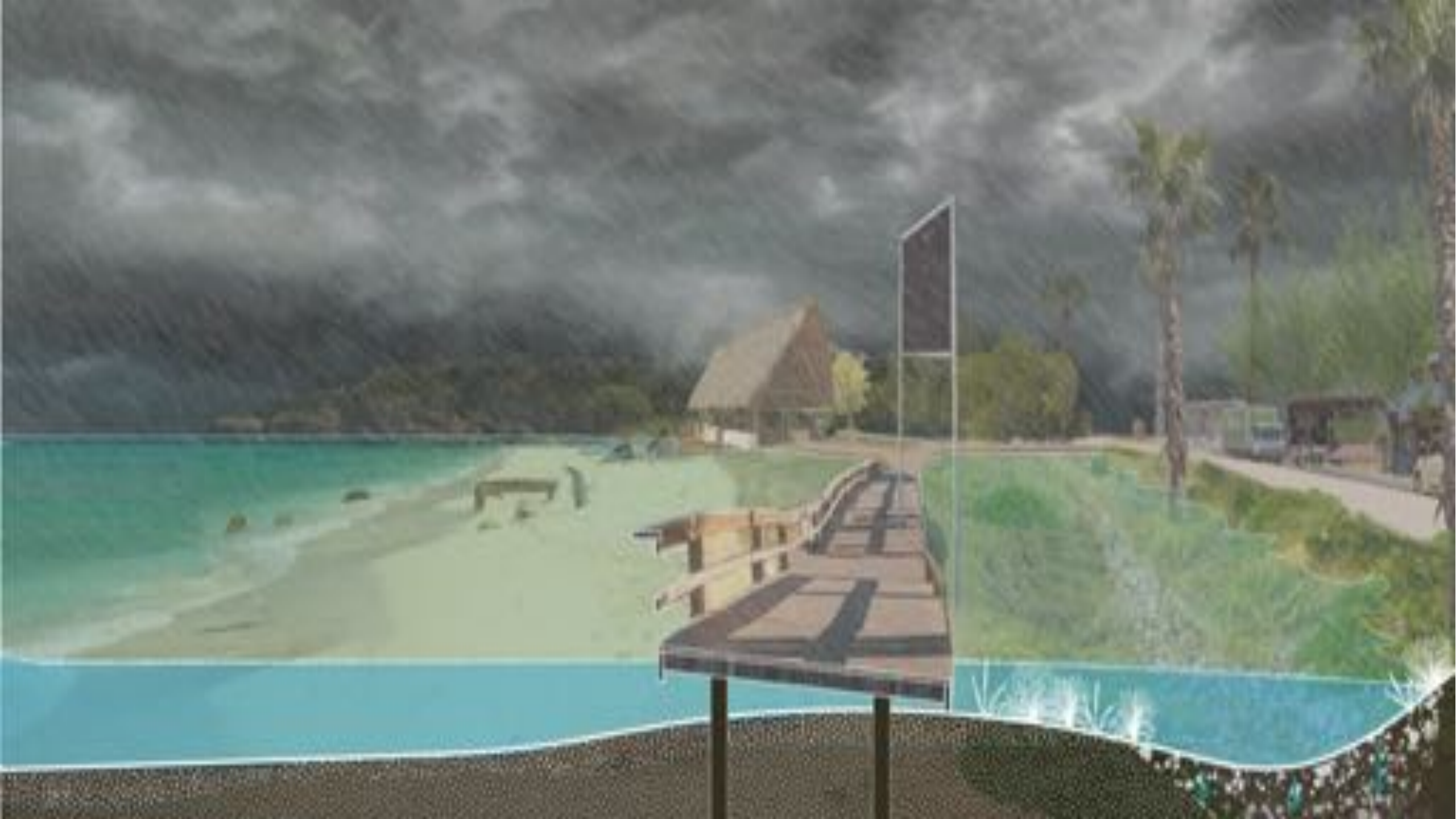


MALECON PLAZA





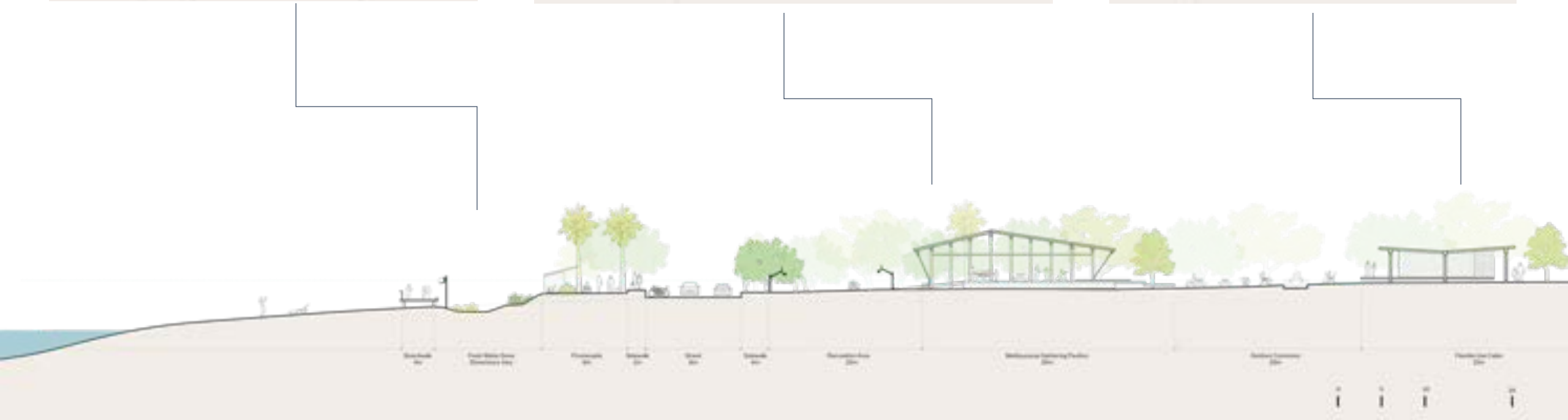




Boardwalk & Promenade

Multipurpose Pavilion

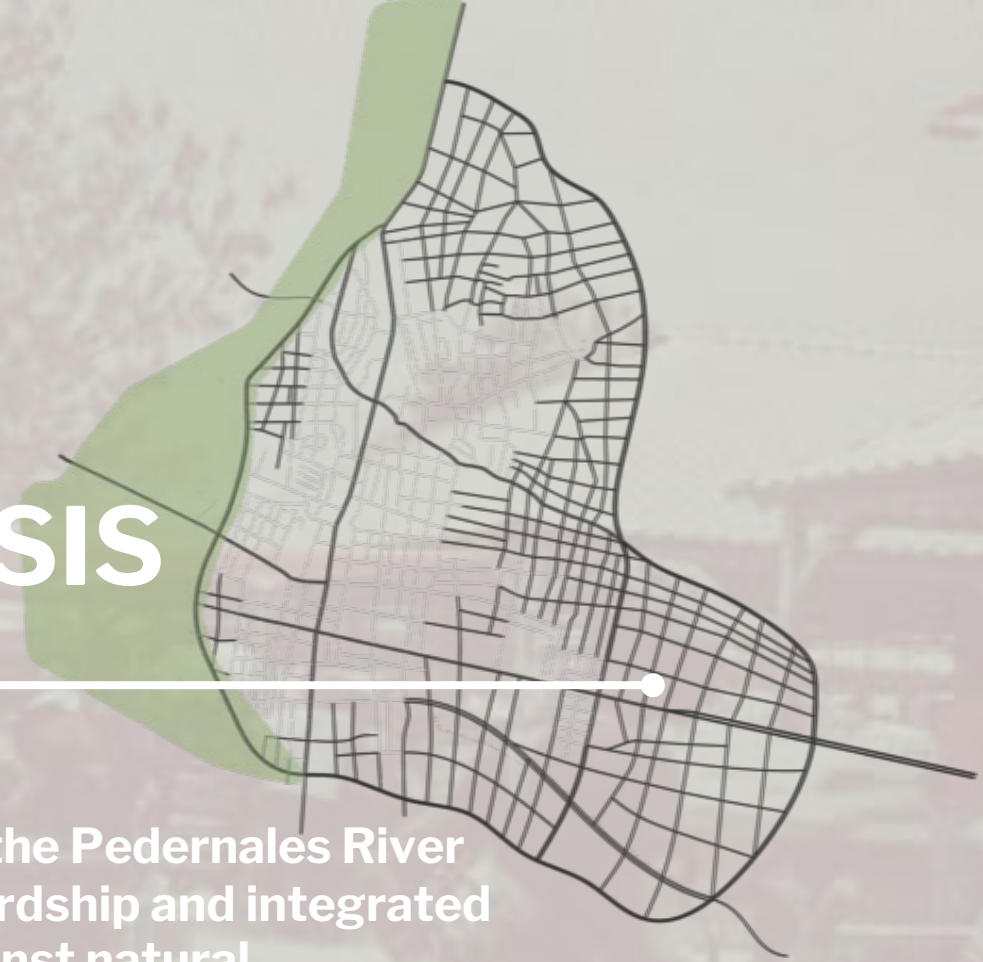
Flexible Use Cabin





BINATIONAL OASIS

Enhancing the existing public spaces in the Pedernales River through binational environmental stewardship and integrated community development to protect against natural disasters, boost the local economy, bolster peace and security, and preserve the convivial nature of the sister cities.



BINATIONAL
RIVERBED

*A point of
crossing,
connection, and
sometimes
conflict*

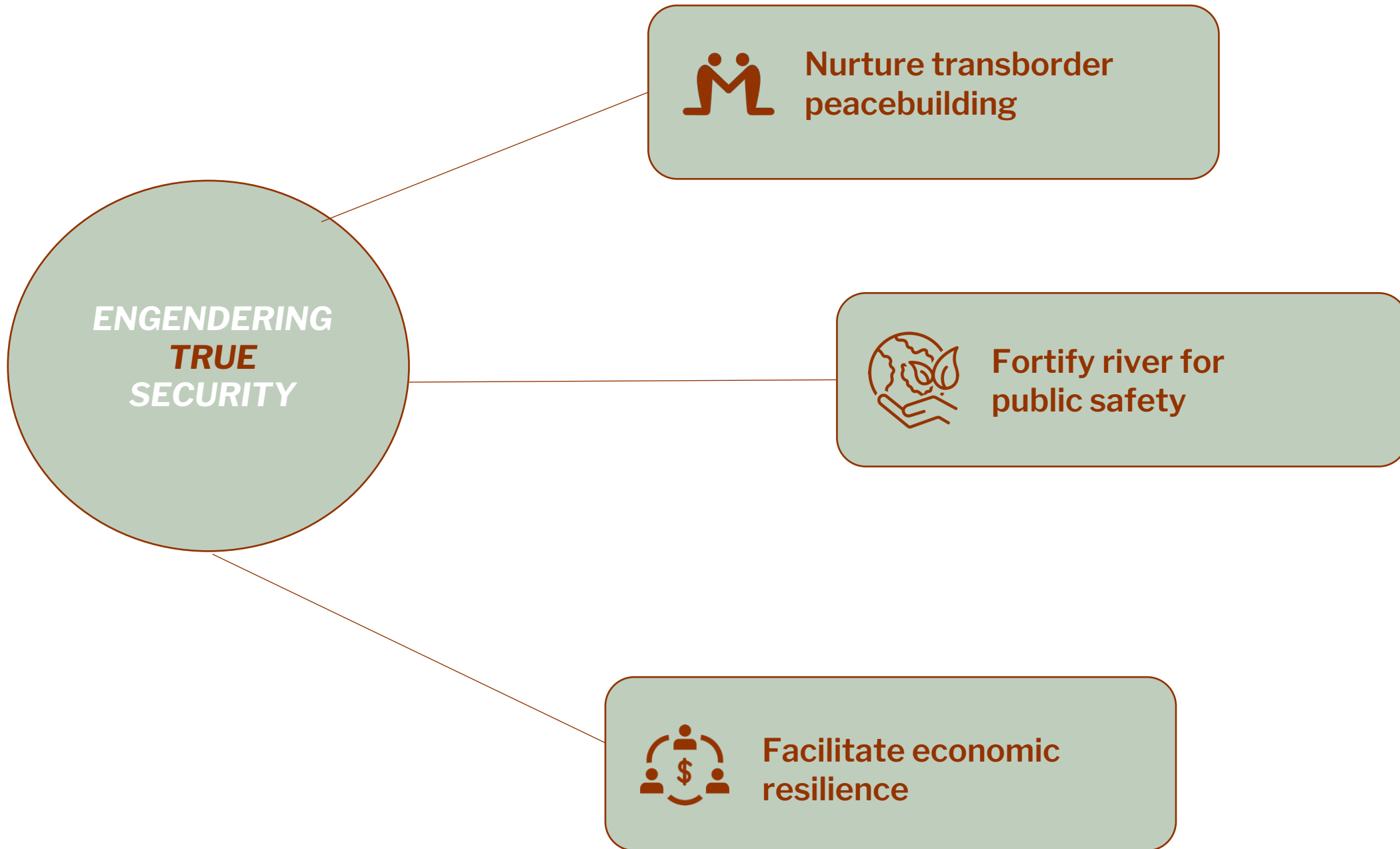


MILITARIZED BORDER WALL



Border walls do not address the root issues that compel people to flee their homes; therefore, **people will continue to migrate, wall or no wall**





BINATIONAL OASIS

Proposal

Public Health Center

Recycling Center

Binational Market

Binational Hospitality Training Center

Cultural Center

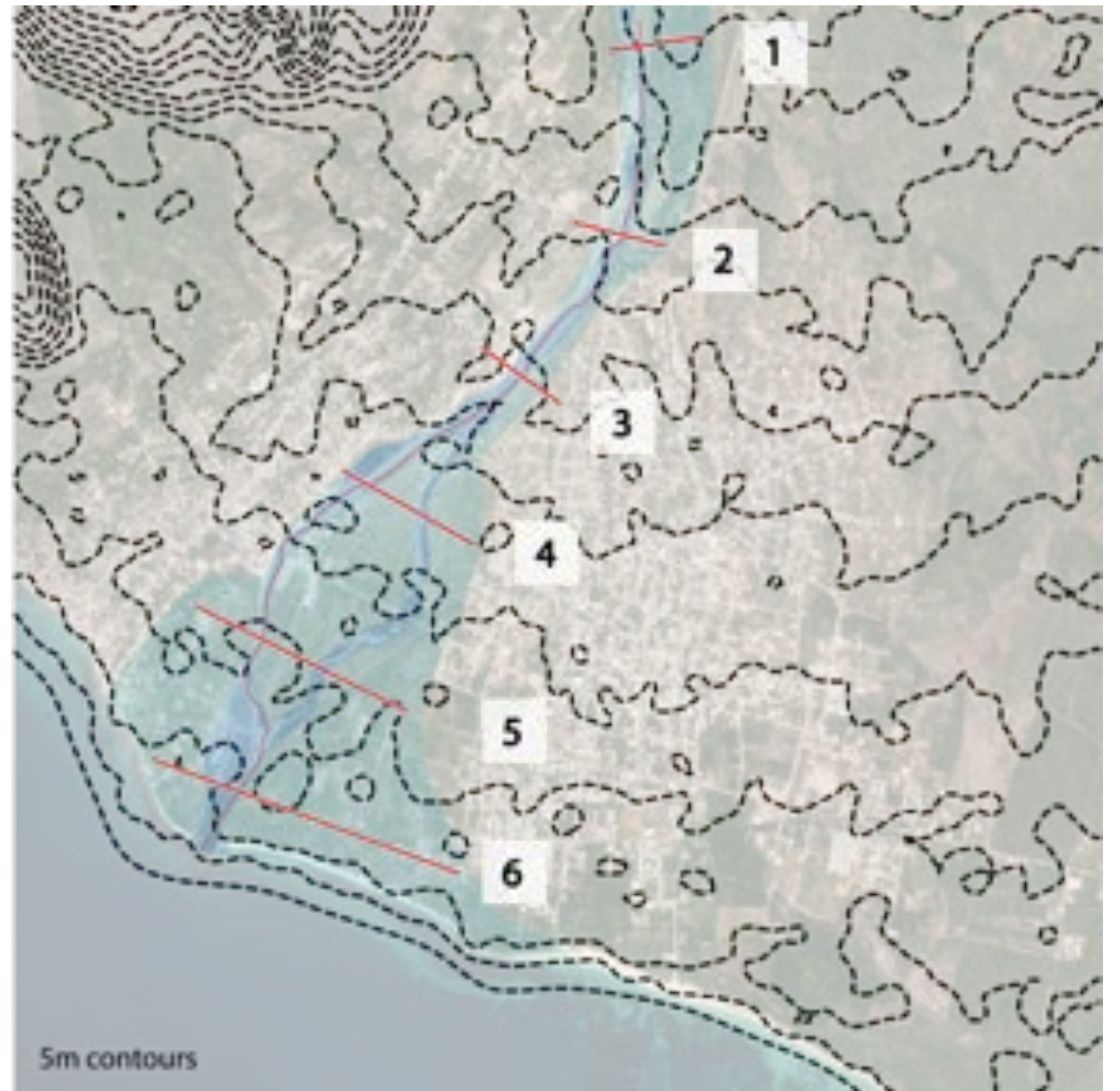
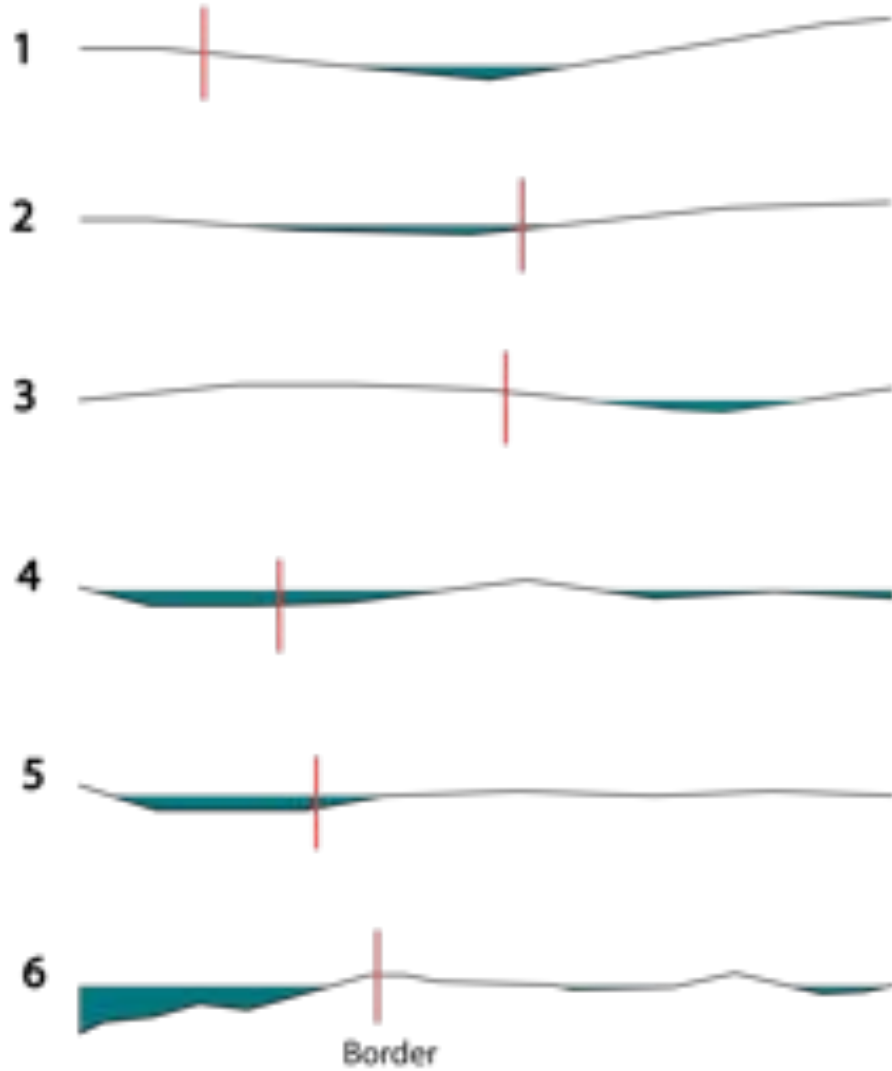


**CURRENT RIVER
CONDITIONS**

- **Dry river ecology**
- **Intermittent & flash flooding**
- **Gravel & sedimentation in the delta**



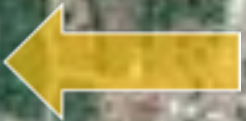
EXISTING TOPOGRAPHY



2010



2021



BASIS OF DESIGN

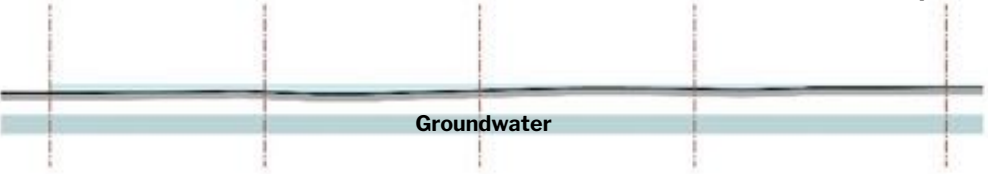
- **Deepening** the river
- **Artificial meanders-**
slowing down the flow
- **Terraces, Gabion walls, &**
Berms for flood control &
recreational space



Existing
river
channel &
floodplain

Haiti

Dominican
Republic



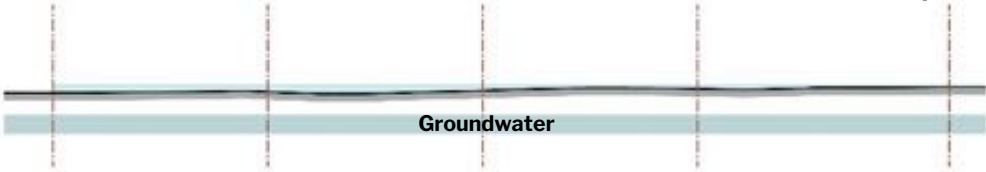
Groundwater



Outer lines
of flood
defense

Haiti

Dominican
Republic

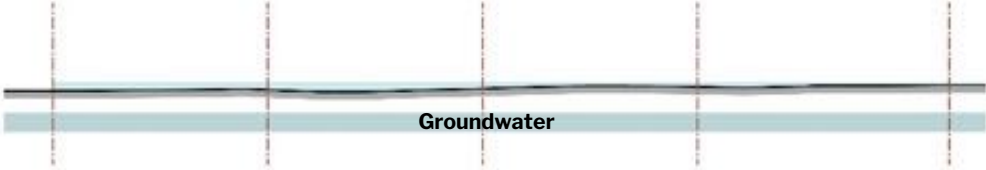




Inner lines
of flood
defense

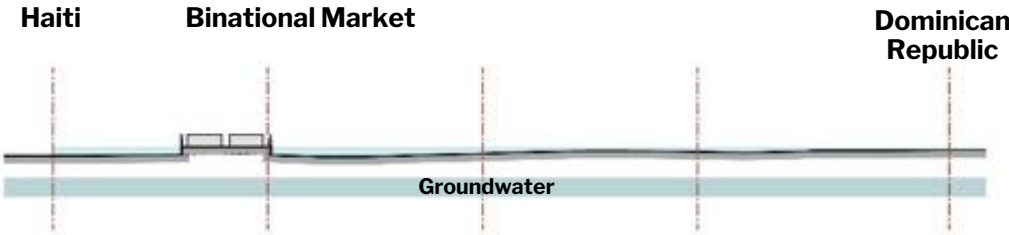
Haiti

Dominican
Republic



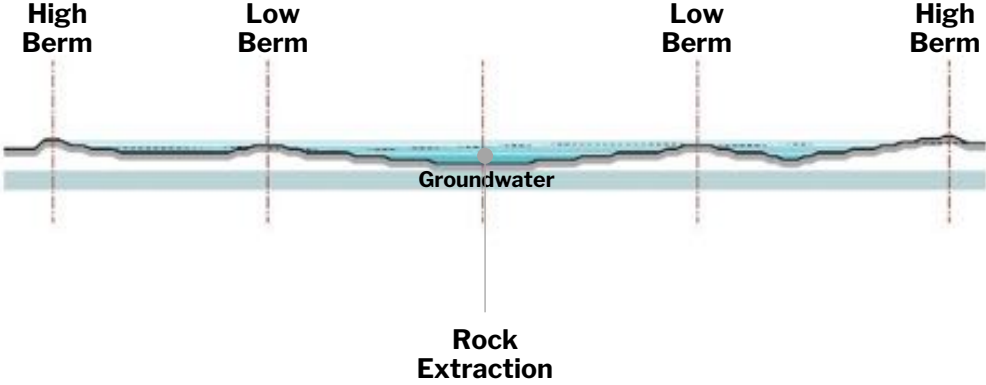


Proposed
Wall



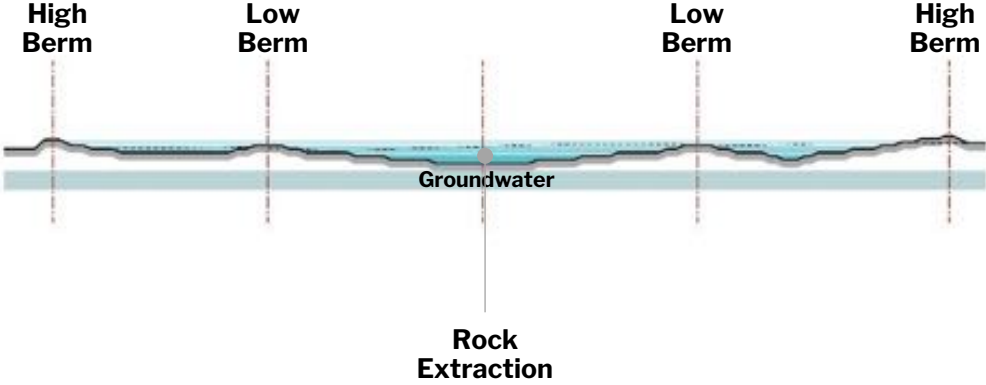


Proposed
river
meander



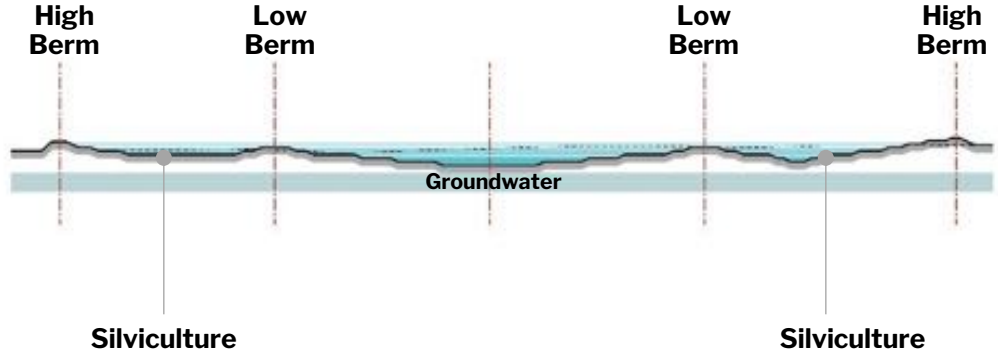


Land forms
for river
training



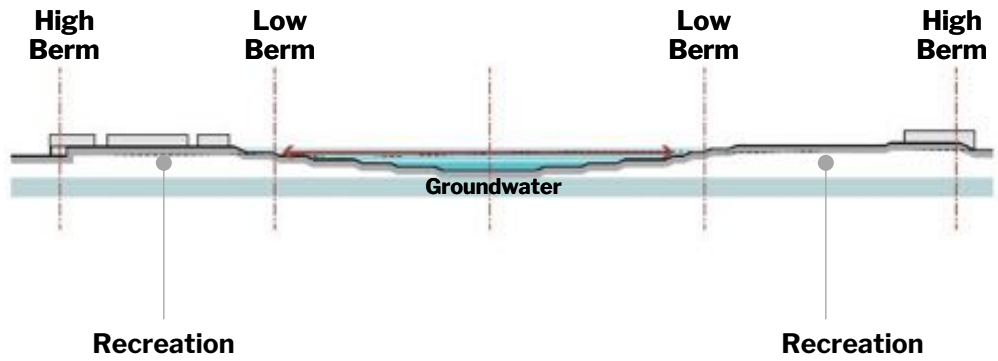


Check dams
&
silviculture



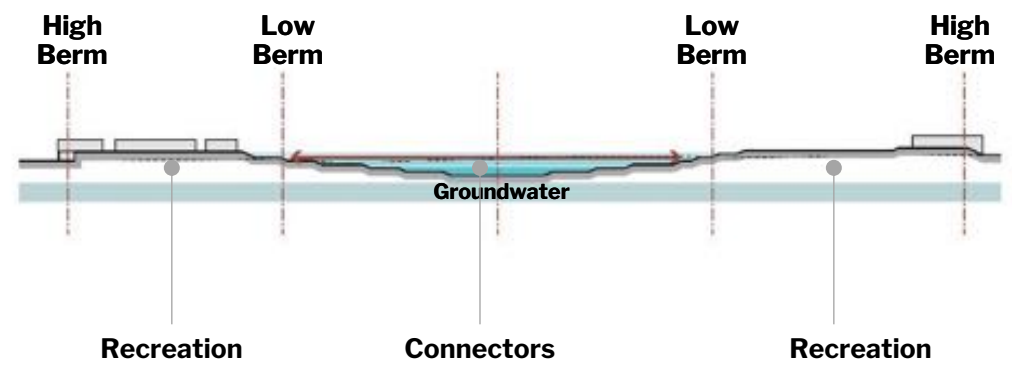


Edge
stewards &
connectivity





Bicycle paths





Hall

Western Edge Sitewards
High Berm
100m

Terrace
30m
Low Berm
+ Bike
Path
30m

Flow Area
180m

Recreational Space
Low Berm
150m

Music, Arts, and Dance Amphitheatre
Agora/Forum
170m

Eastern Edge
Sitewards
Cultural Center
High Berm
45m



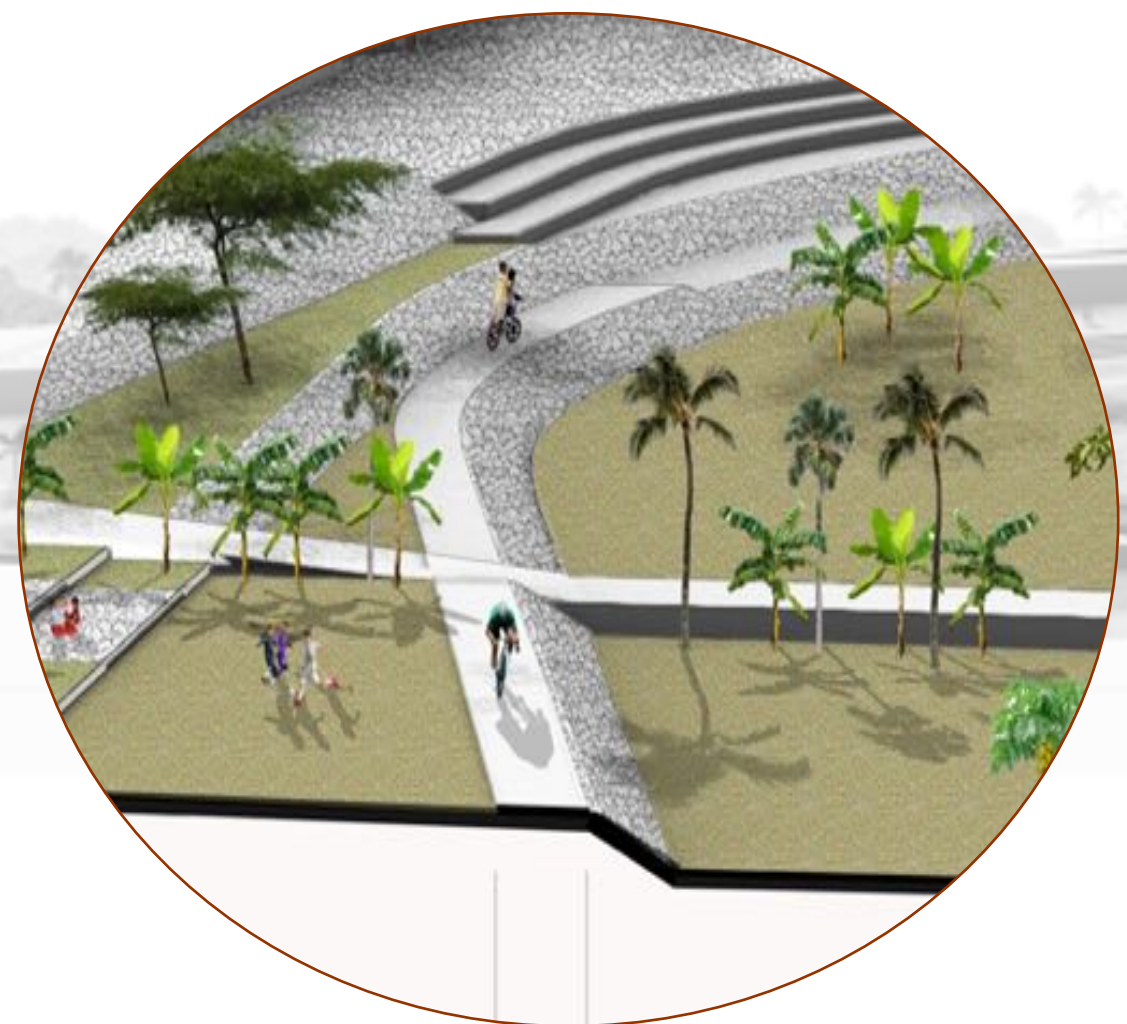


Wall

Loading Ramp
15m

Border

Western Edge Towards Structural Market
High Bar
1.80m



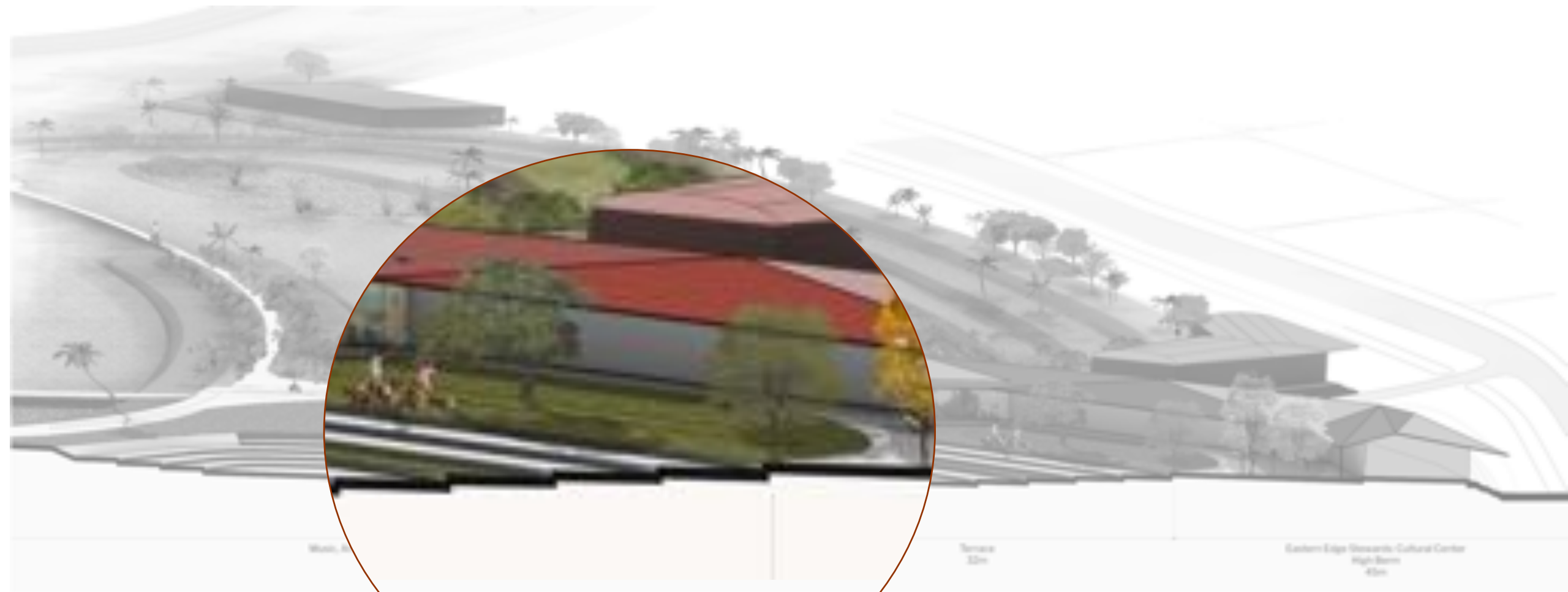




Music, Arts, and Service Amphitheater
1500

Service
1500

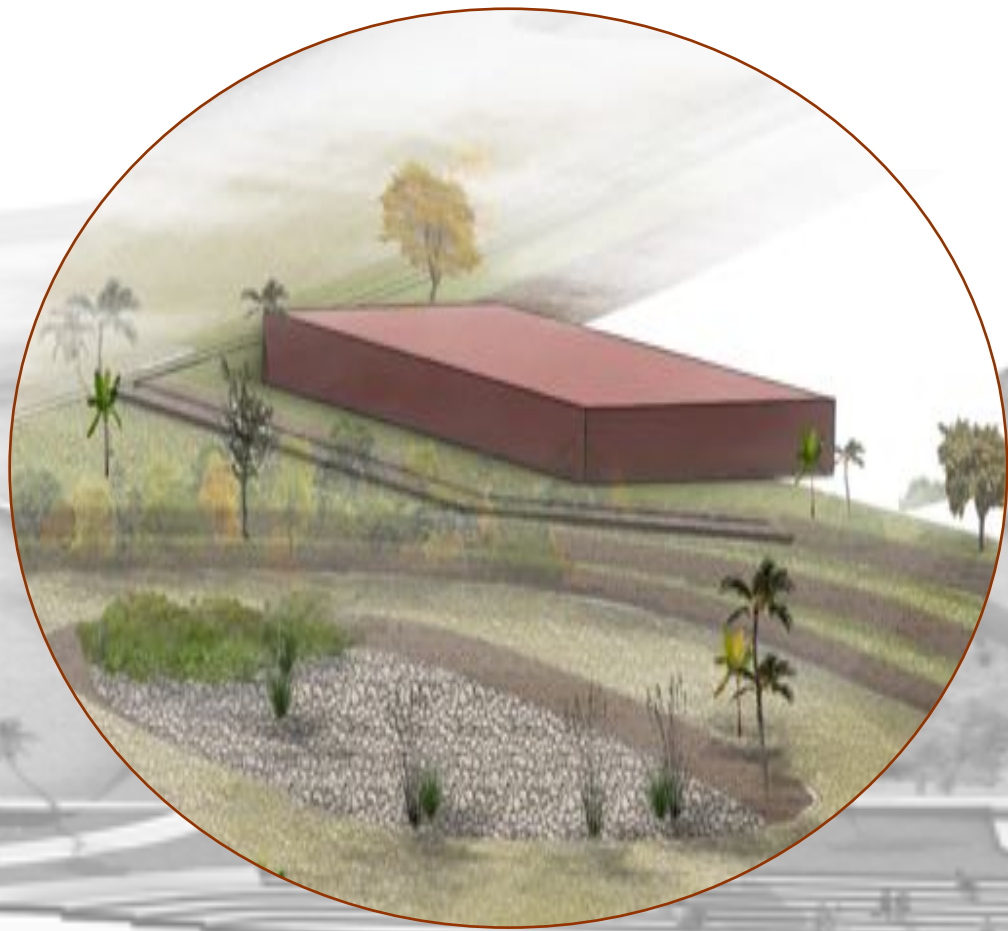
Eastern Edge Meadows Cultural Center
High School
1500



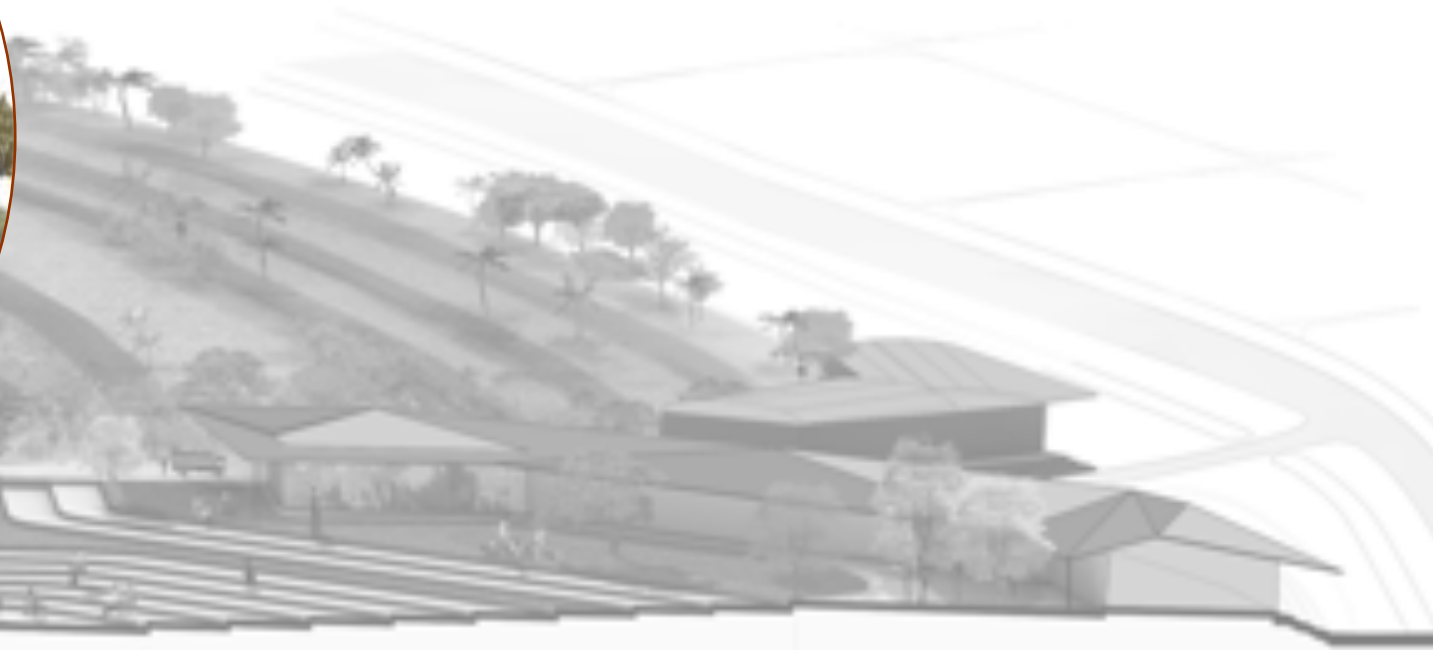
Main View

Terrace View

Eastern Edge Towards Cultural Center
High Beam
45m



Music, Arts, and Dance Amphitheater
15m



Terrace
5m

Eastern Edge Steeple Cultural Center
High Room
45m



An aerial photograph of a city, likely San Francisco, with a river winding through it. The image is overlaid with a semi-transparent orange filter. A horizontal line with circular endpoints is positioned below the 'THANK YOU!' text.

THANK YOU!

Kate
Sanjana
Allison
Jackson
Simón
Jie
Kendra
Carlos
Emma
Aminah
Myron