

Phase 1

Due to large and increasing amounts of rain fall, the City of San Cristobal, Bolivar, located on the edge of the Canal del Dique, experiences server flooding and heavy losses in economical sources and housing, due to the lack of flood controlling infrastructure, building location, and typology. We propose a phasing strategy, that begins with the building of two bellmout spillways and reservoirs on the north-west and south-east sides of the city. The spillways and reservoirs will be used to relieve flooding and to bring a new life to the still low lying bodies of water that are already located in those areas. The introduction of fresh water into these areas through the spillways will allow citizens the ability to cultivate and control the growth of their fishing industry.

Phase 2

Once the reservoirs are complete, the high land next to the new bodies of water can be developed with a new housing typology. The new housing will incorporate community connection and safety. The new housing will use dry stacked concrete block construction, to create load bearing walls, fire walls, and water cisterns between buildings. Also the use of dry stack construction involves less skills sets, as well as reduces construction time by 70%. The water cisterns that will be built between housing will use roof water catchment systems, with natural filtering systems. The cisterns will be shared between four units and used as a secondary and an emergency source of water for the families. They are designed to hold enough water for a potential 16 people for a period of 20 days, with consumption and usage of an average of 123 gallons per person. The urban planning utilizes nodes of common public spaces as way finders, and small lockable allies and courtyards within small groups of buildings for protection. Theses new buildings and urban layout will reinforce the idea of a tight nit community among the people, while denazifying the city, and creating safe havens for the community residents. After completion of the new development, families will begin to move into it with the incentive of safer communities and closer connection to the new economical resource. The next phase will include the deconstruction of the now vacant housing, and the replacement of the of this city core with the new housing typology

Phase 3

After successfully shifting and revitalizing the urban core the citizens along the canal will be able to move into the new developed urban core. Then the vacant land along the canal will start reconstruction, into auxiliary spillways. These spillways will contain some infrastructure bases that will allow for organization to remain during and after the event of a flood, but when dry and empty the public will be able enter and occupy the space and use a public civil center. The spillway will contain temporary structures built for festivals, fresh markets, and any other community involvement events or economical resources. These auxiliary spillways will be used to divert waters during extreme flooding and save housing while keeping true to the community's connection to the canal and revitalizing and restructuring the community's economy.

PHASE TWO COMMUNITY DESIGN

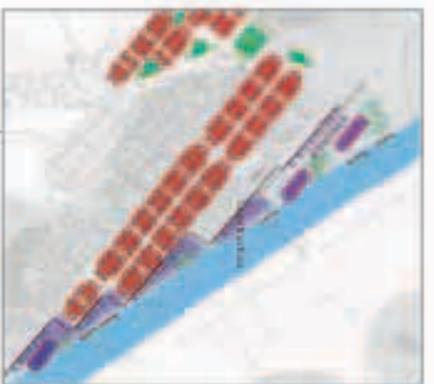
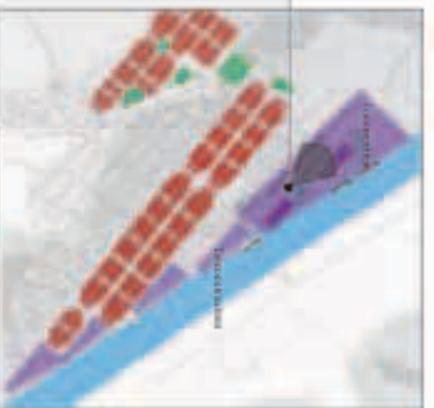
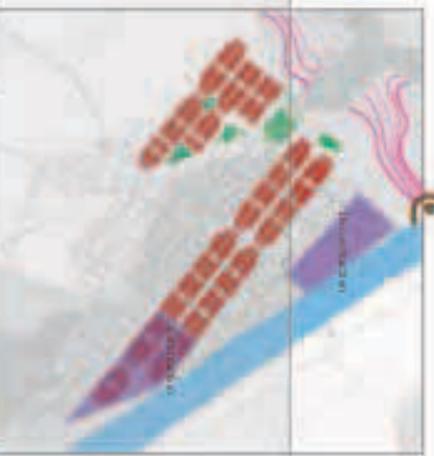
The development of the urban fringe first lies along the Canal del Dique. Reimagining the area to a farmer's and fisher's market enables a center of density for the residents. People of the city can prepare, source, agricultural and fishing products without having to worry about drainage due to flooding.



Existing Street Conditions



Fernán Market and Shopping Spoken



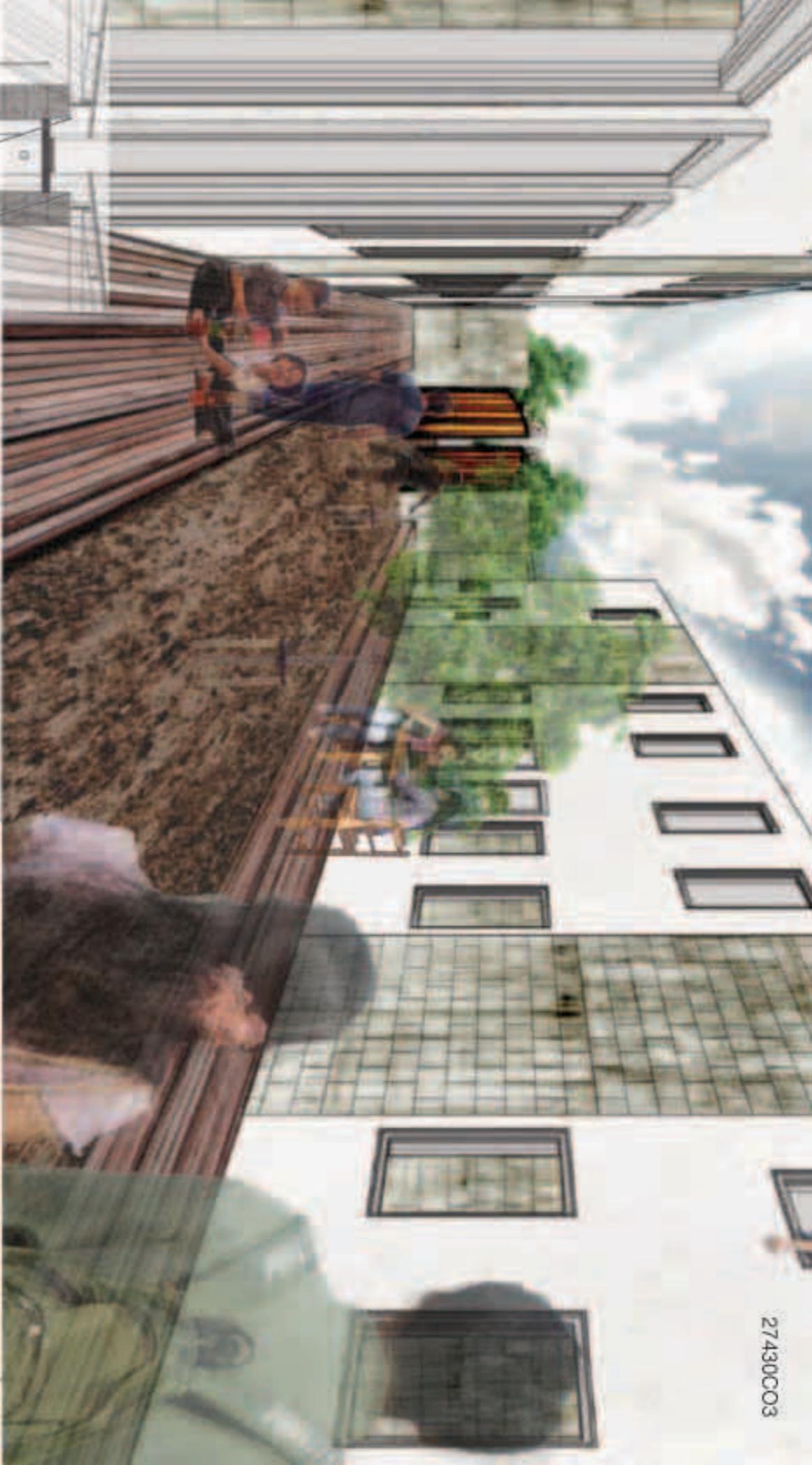
STAGE 4

STAGE 5

STAGE 6

The **Auxiliary Spillway** will be located by Canal del Dique's new 15th development phase. The auxiliary spillway will divert and store rain from the city and other reservoirs.

The former marshy, flooded area is a prime area for a park and play area. The city's intention is to create a multi-use area with a park, a playground, and a community center. The area will be a mix of green space and urban development.



115,385 L
Collected Daily
from ENTREE

9,102 L
Consumed Daily
from RESIDENTS

This story, SINGLE-FAMILY, apart-
ments are grouped together to form
outlet corridors and courtyards.

External gates can remain open to
invite the COMMUNITY into the
area for spaces. During emergency
situations, the gates may be
closed for safety of the tenants.

Wider CIRCULATION can link between
the apartments. While serving as a
secondary watercourse for occupants,
the CMU columns also act as firewalls
for fire safety and promote a sense of
community through sharing and inter-
action.



The concrete can just using Dry
Stack construction. The con-
struction style takes 70% less
time to construct, less labor, and a
lower steel cost needed.



Dry stack construction is started
with a concrete footer and 18"
bed of concrete sand to level and
stiff CMU blocks. Then stack
blocks in American red with verti-
cal supports every few feet. Also
needs to have a 1/8" bonding and
Sealing Coat applied to both
sides.

