

RESILIENT SOUTH CITY

SOUTH SAN FRANCISCO, SAN MATEO COUNTY

Resilient by Design
Bay Area Challenge

May 2018

HASSELL+

RESILIENT

BAY AREA CHALLENGE

BY

DESIGN

Our Team

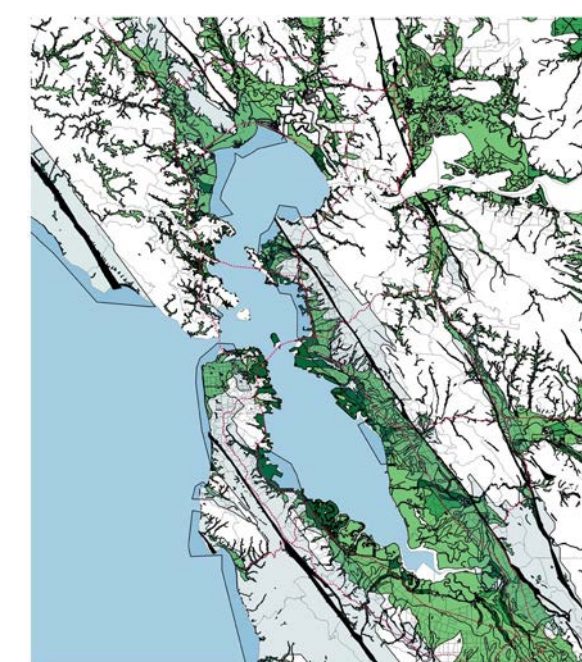
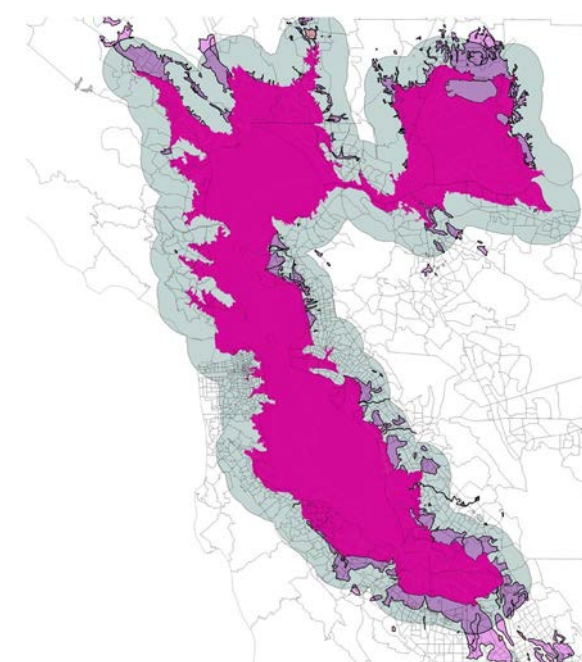
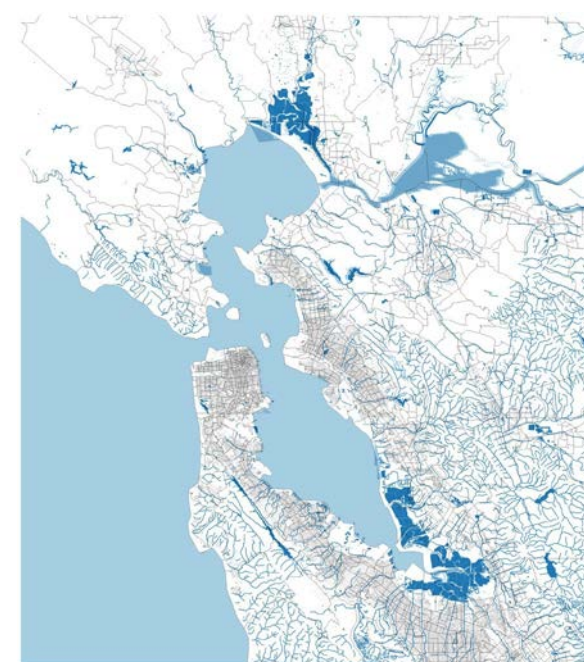
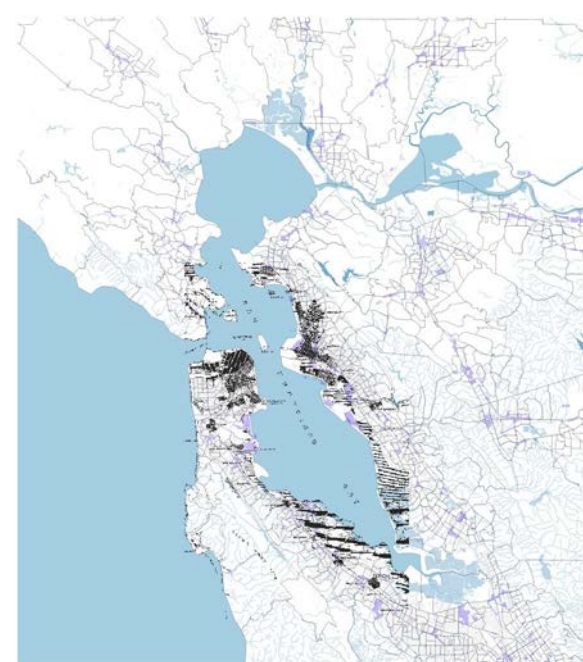
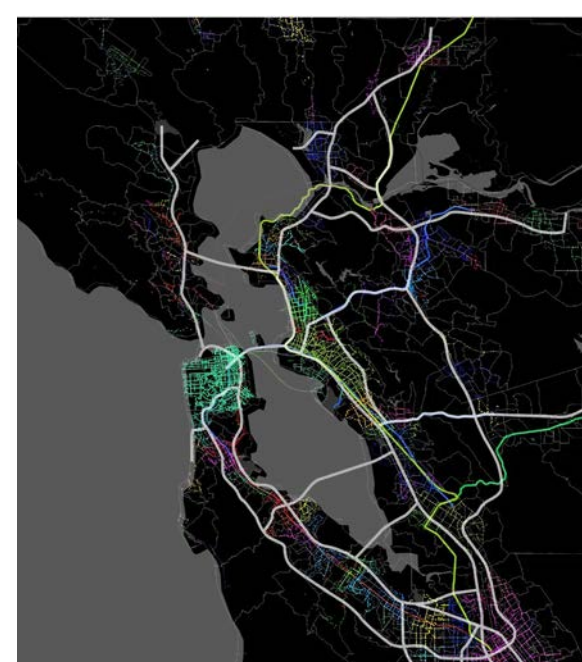
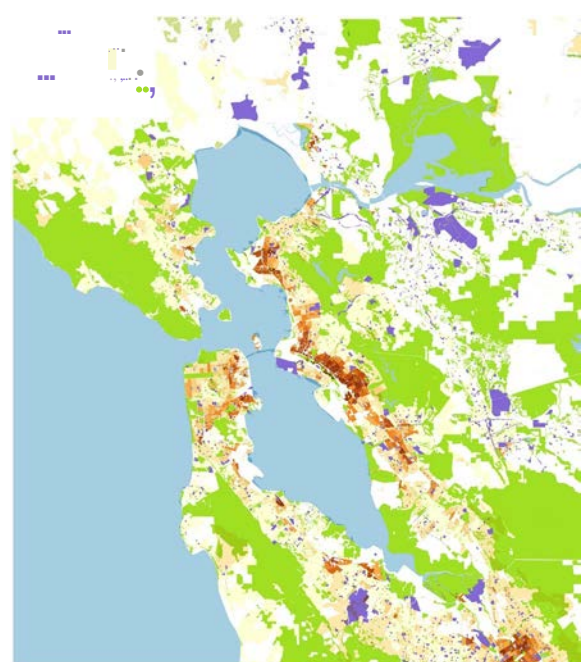
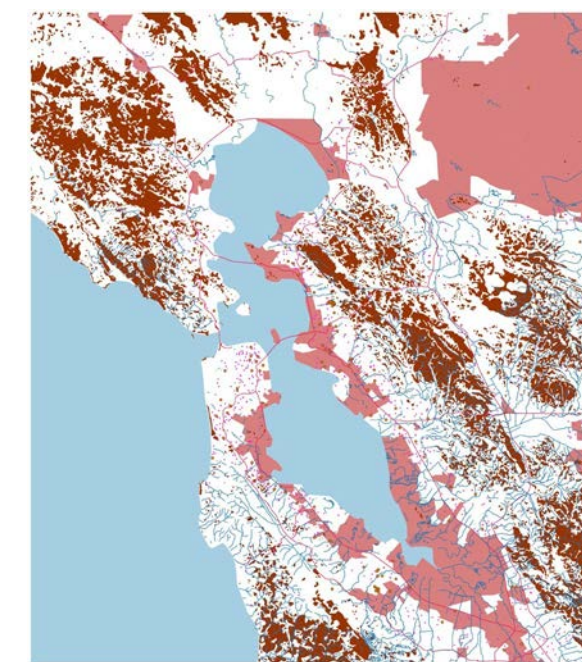
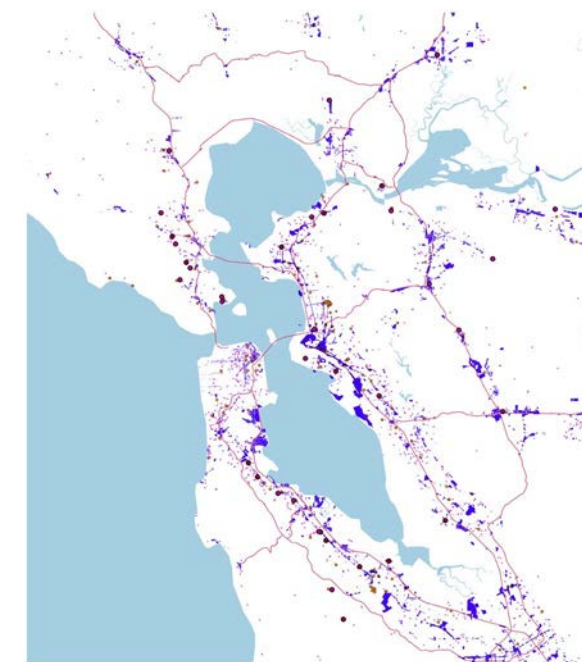
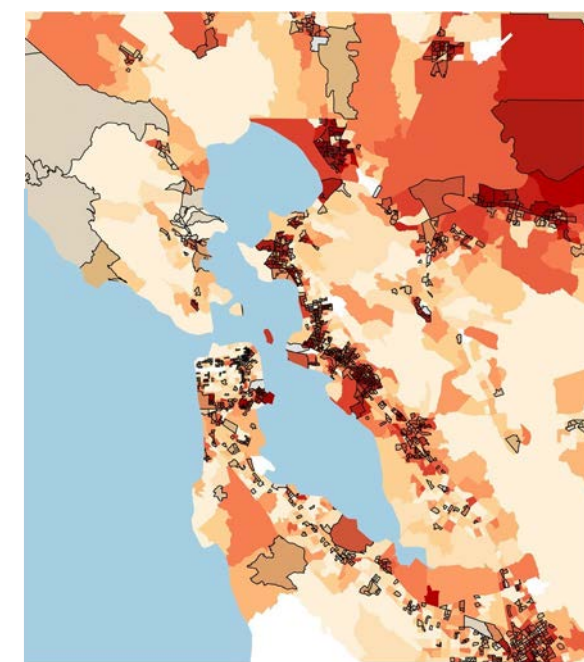
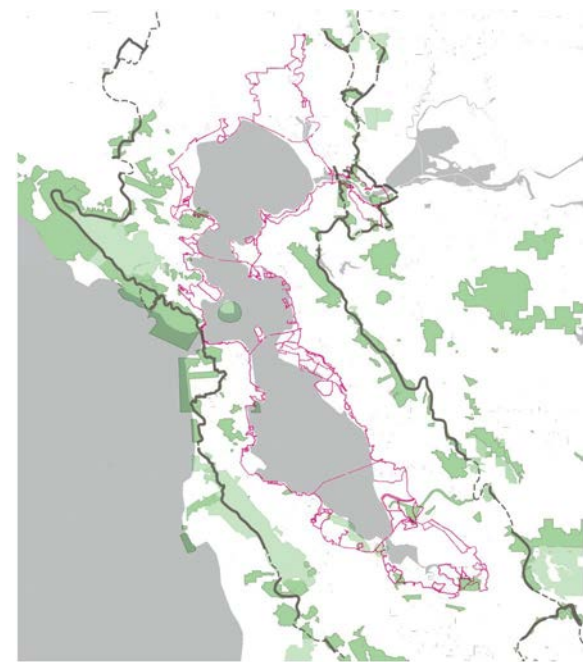
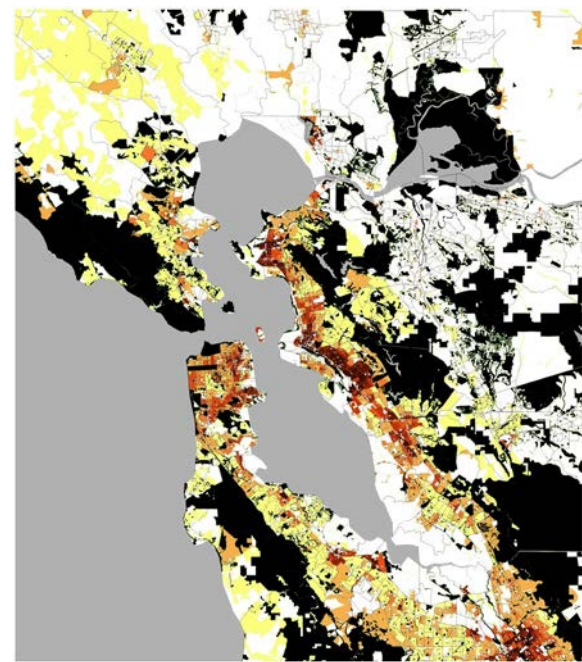
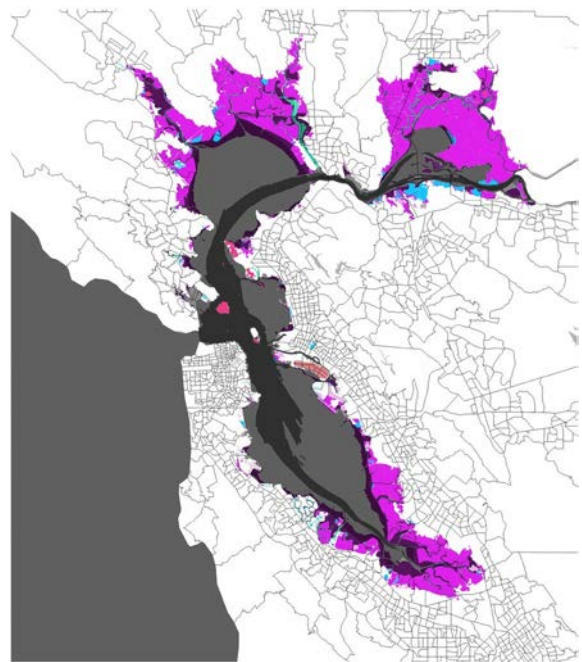
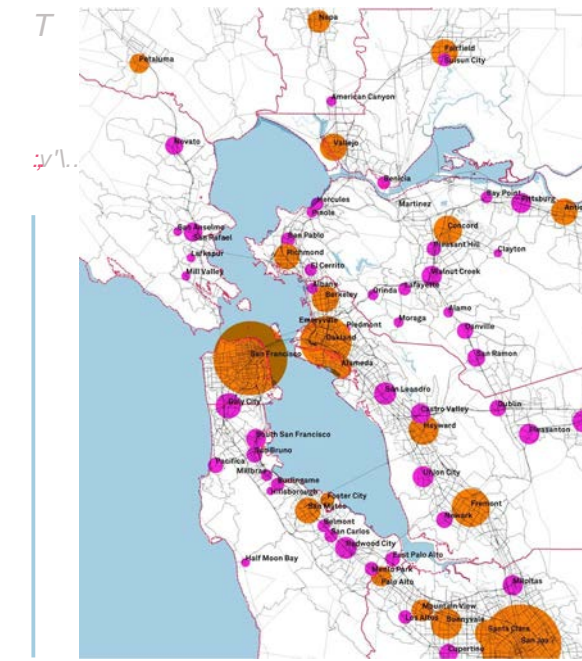
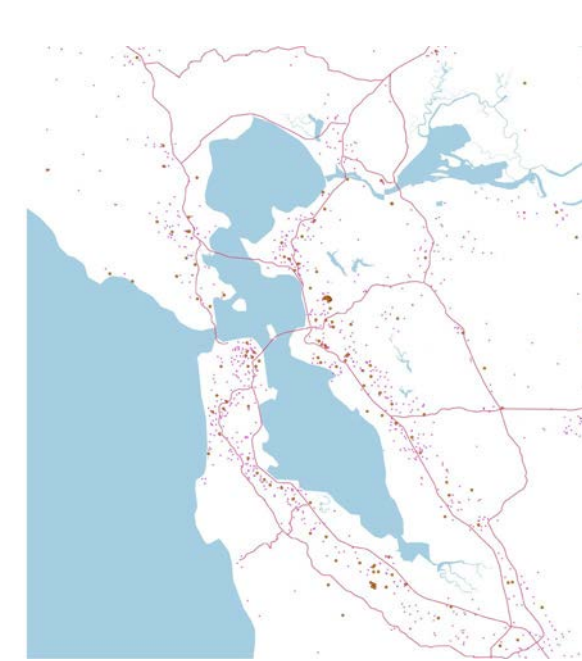
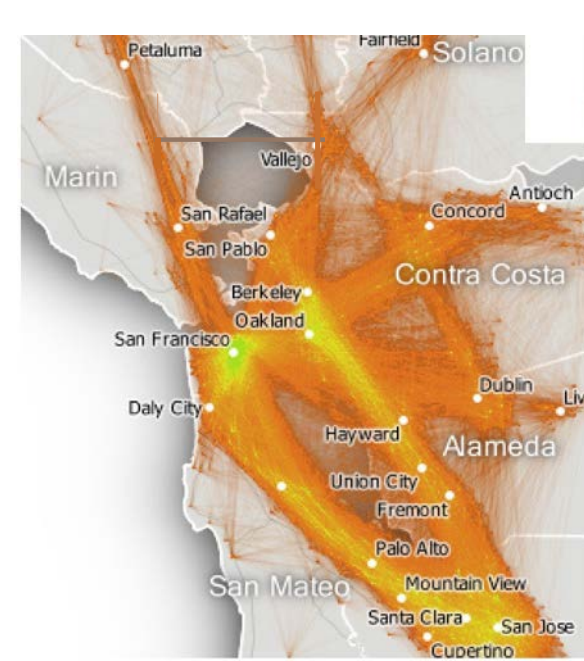
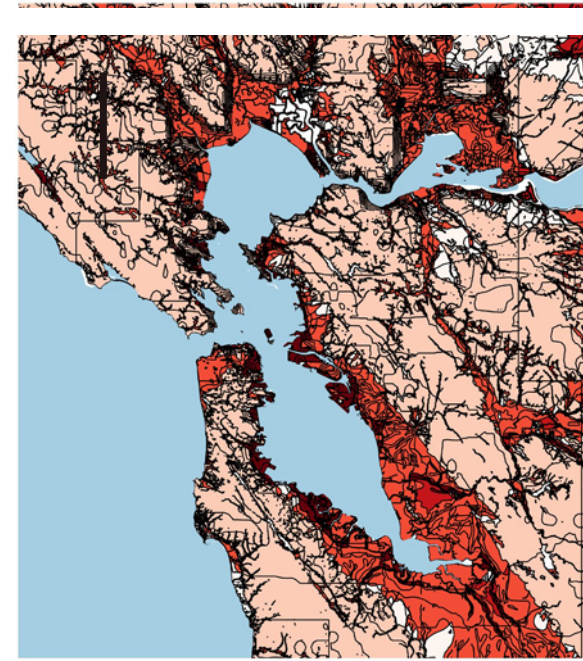
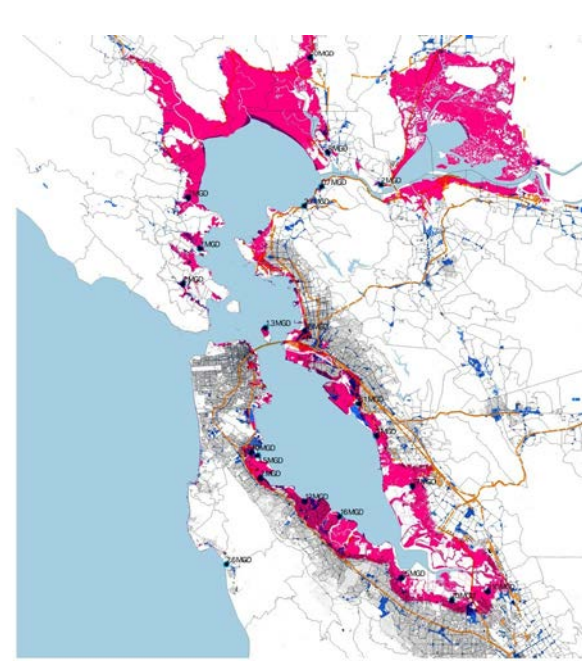
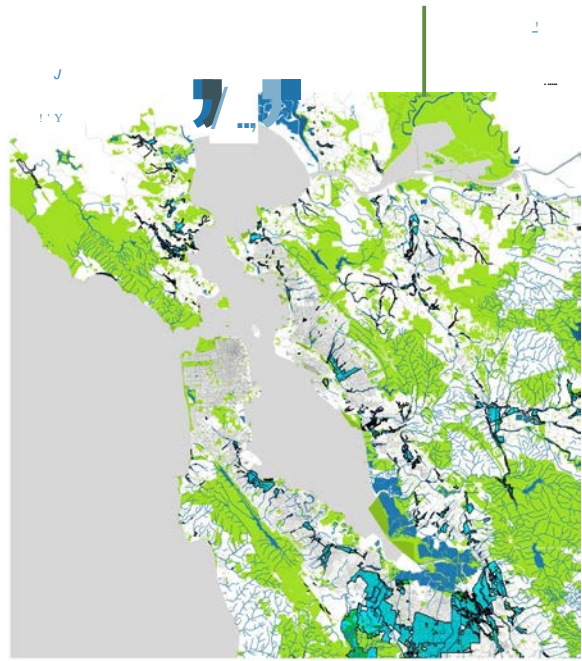
The **HASSELL+** team understands water. We understand designing for water, living with water and **the immense social potential that waterfront places offer communities** when they are connected to them.



The Challenge

A year-long **collaborative design challenge** bringing together local residents, public officials and local, national and international experts to develop **innovative community-based solutions** that will strengthen our region's resilience to **sea level rise, severe storms, flooding and earthquakes**





how do disasters change the VALUE we PLACE ON PARKS?

"We lived on Fillmore. From there we were chased up to the park, on Steiner and Clay, slept a night and watched the city burn. The next morning we were chased to Presidio."

Evacuated San Francisco Resident

"We're here until we can work out where to go next. It's been hard to find information but once we got here and spoke with others in the community.. it certainly helped"

Evacuated Sonoma Resident



1906

Presidio after 1906 earthquake
source: <http://abc7news.com>

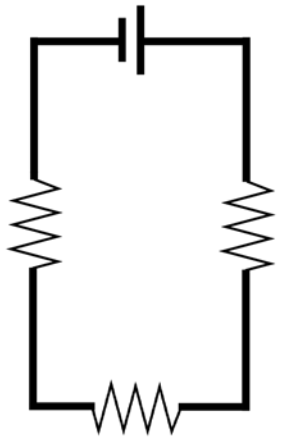


2017

Sonoma Fairgrounds October 2017,
source: <http://www.pressdemocrat.com>

FROM A LOOP

Bay Trail
Ridge Trail
BART/CalTrain/Freeways/Priority Development Zones



=vulnerable



FROM A LOOP...

COLLECT

- Defining renewal corridors linked to transit
- Creating spaces for water and people
- Allowing for emergency gathering and organisation
- Creating places for celebration and community-building



FROM A LOOP... ...TO A NETWORK

COLLECT

Defining renewal corridors linked to transit
Creating spaces for water and people
Allowing for emergency gathering and organisation

CONNECT

Turning a loop into a network
Connecting the Bay and Ridge Trails
Creating "streets of retreat" up and down
New cross-bay ferry connections



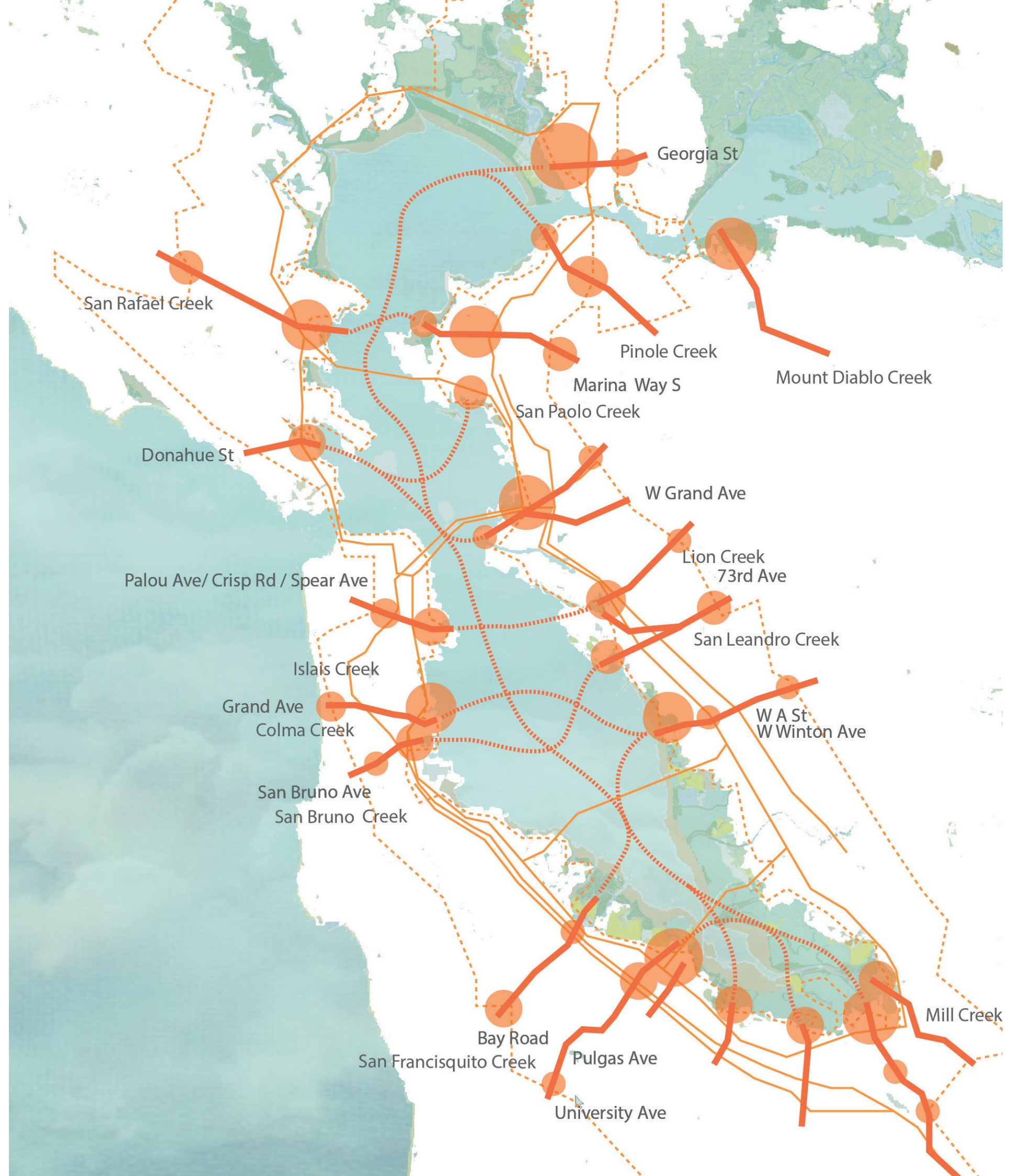
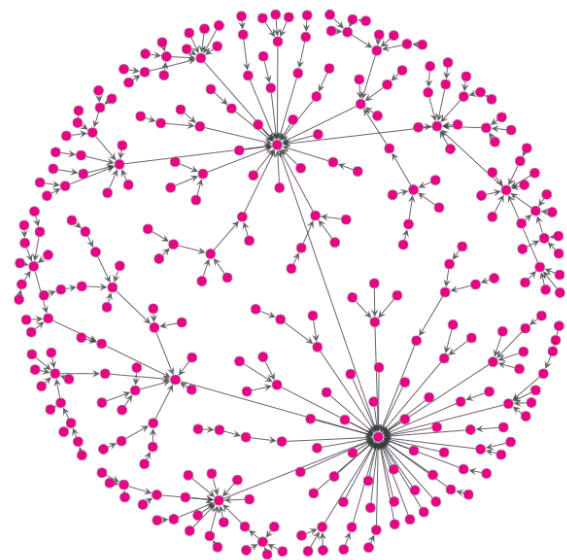
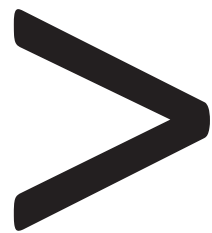
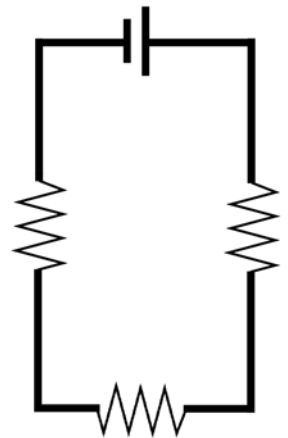
FROM A LOOP... ...TO A NETWORK

COLLECT

Defining renewal corridors linked to transit
Creating spaces for water and people
Allowing for emergency gathering and organisation

CONNECT

Turning a loop into a network
Connecting the Bay and Ridge Trails
Creating "streets of retreat" up and down
New cross-bay ferry connections





304

WHAT

WOULD

YOU DO TO

BECOME

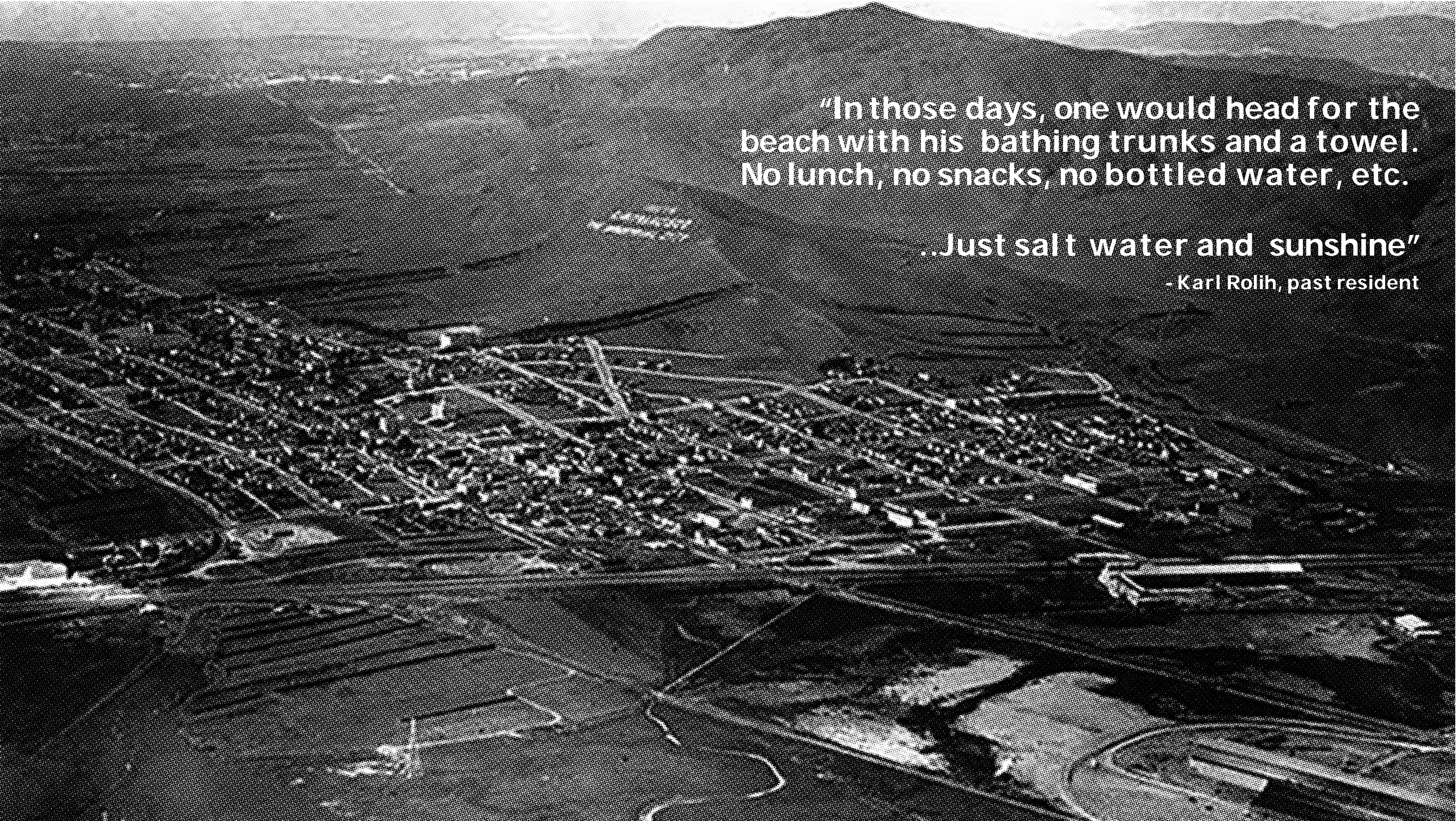
RESILIENT



SOUTH CITY STOREFRONT

“A little higher... Yeh that’s the spot. It floods there sometimes... plus it’s hard to cross the street! I’m no expert but I’ve got a couple of ideas...”





"In those days, one would head for the beach with his bathing trunks and a towel. No lunch, no snacks, no bottled water, etc.

...Just salt water and sunshine"

- Karl Rolih, past resident

**ANALYSIS:
HISTORIC HYDROLOGY 1896**



ANALYSIS: FEMA FLOOD ZONE



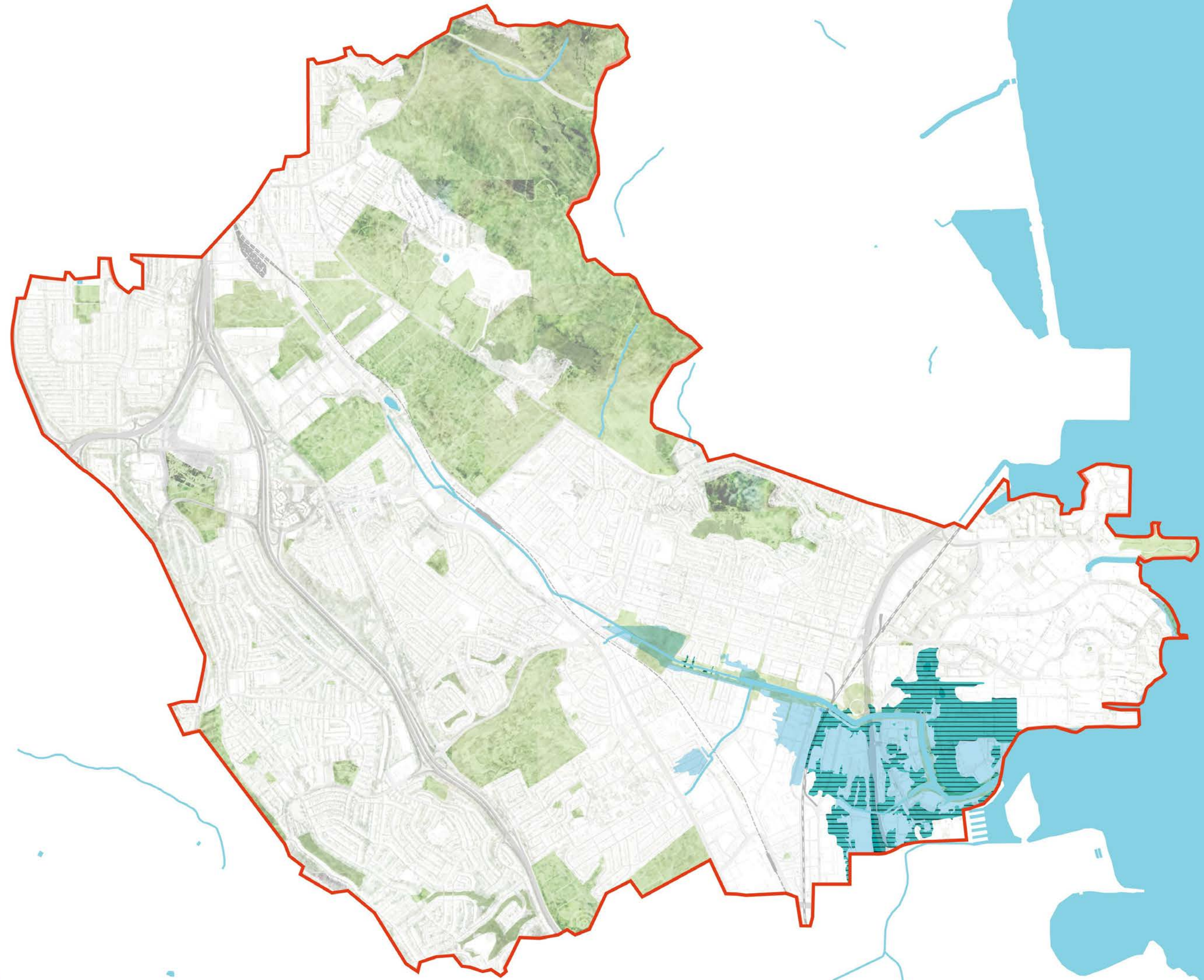
Resilient South City is in South San Francisco, California. Published by Richard Mullane [?] · 2018 ·

Have you seen flooding in South City over the years? We want to know the problem spots! This image was taken at Grand Ave/Airport Blvd (11 December 2014)

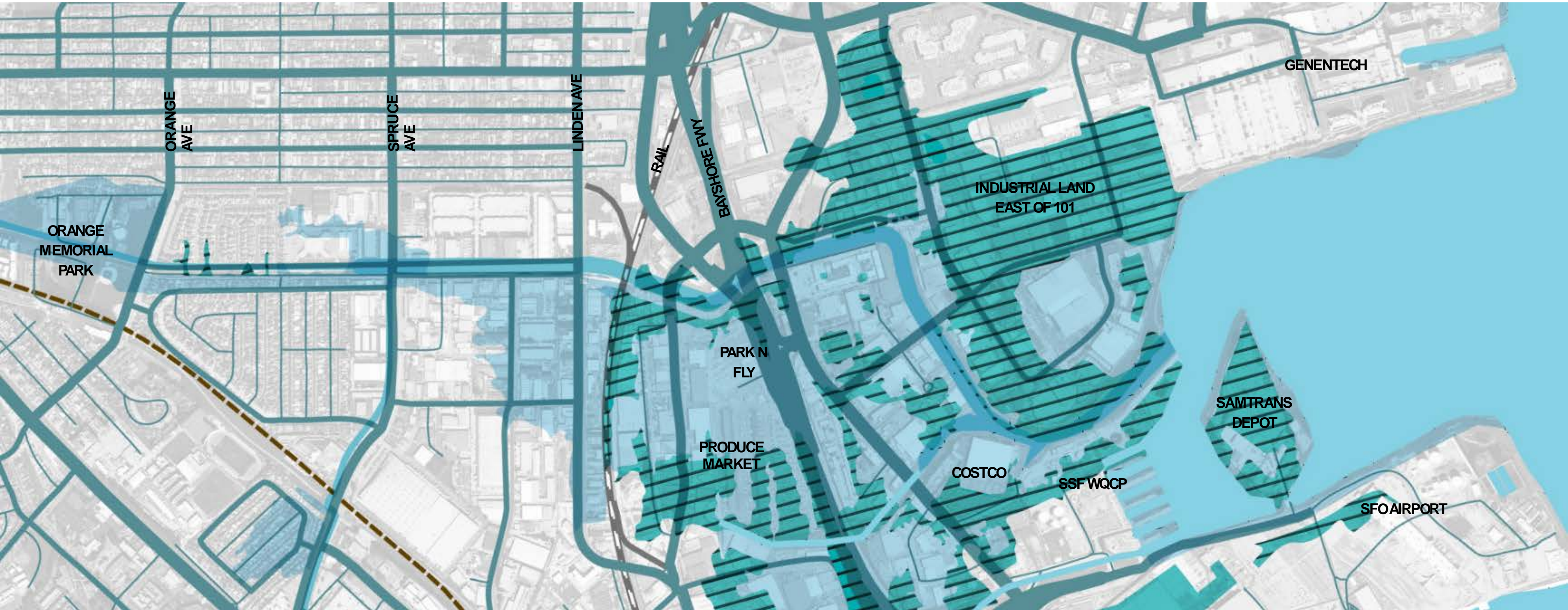


5,924 people reached [Boost Again](#)

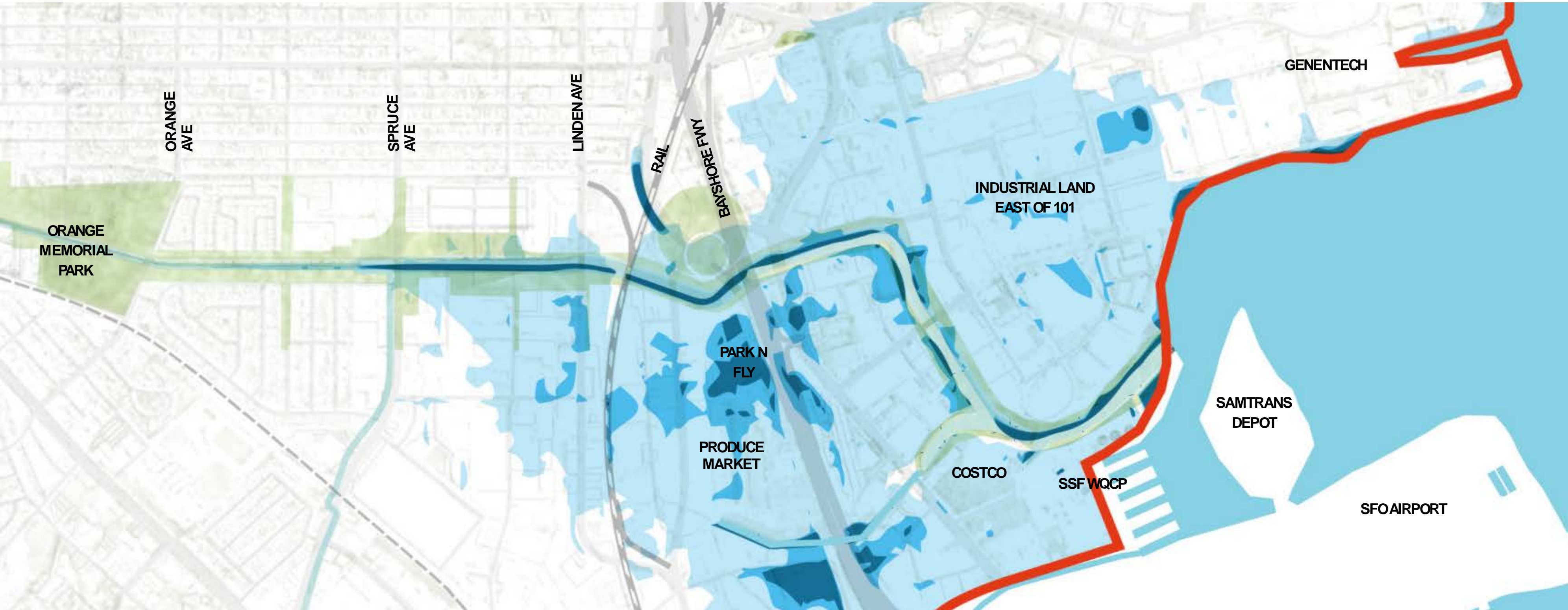
- Wendy Sinclair-Smith if the water gets to the height of this mock photo then those neighborhoods I mentioned above will be in very serious trouble.
[Like](#) [Reply](#) [Message](#) 1w Edited
- Nancy Kehle I remember in the late 50's or early 60's my Dad worked on Linden when it flooded real bad and he and a co-worker where going up and down Linden in a row boat.
[Like](#) [Reply](#) [Message](#) 1w
- Resilient South City Incredible! Do you have any photos of when this happened? We are always looking for photos and stories about the creek from back in the day!
[Like](#) [Reply](#) Commented on by Jenny Gonzalez [?] · 2d
[View more replies](#)
- Sal Lopez Man that's a trip looks so real. You never know what can happen. I remember when it flooded a couple years back the entrances of the freeway on airport we couldn't leave.
[Like](#) [Reply](#) [Message](#) 6d
- Aaron Marks Get us off fossil fuels!
[Like](#) [Reply](#) [Message](#) 6d
- Alfonso Murillo San Francisco is seeking millions to repair the seawall along the Embarcadero...if I was you, I'd be getting in line for possible funds.
[Like](#) [Reply](#) [Message](#) 4d
- Write a comment...



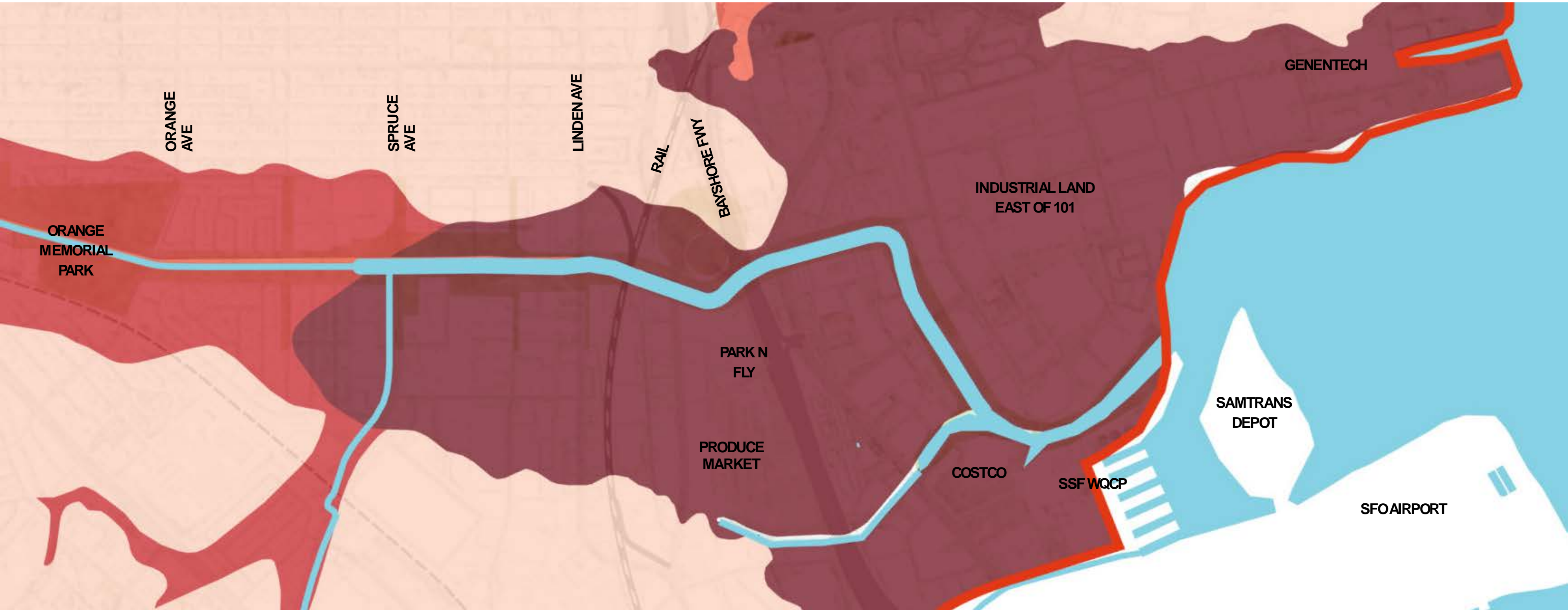
ANALYSIS: COLMA CREEK FEMA FLOOD ZONE



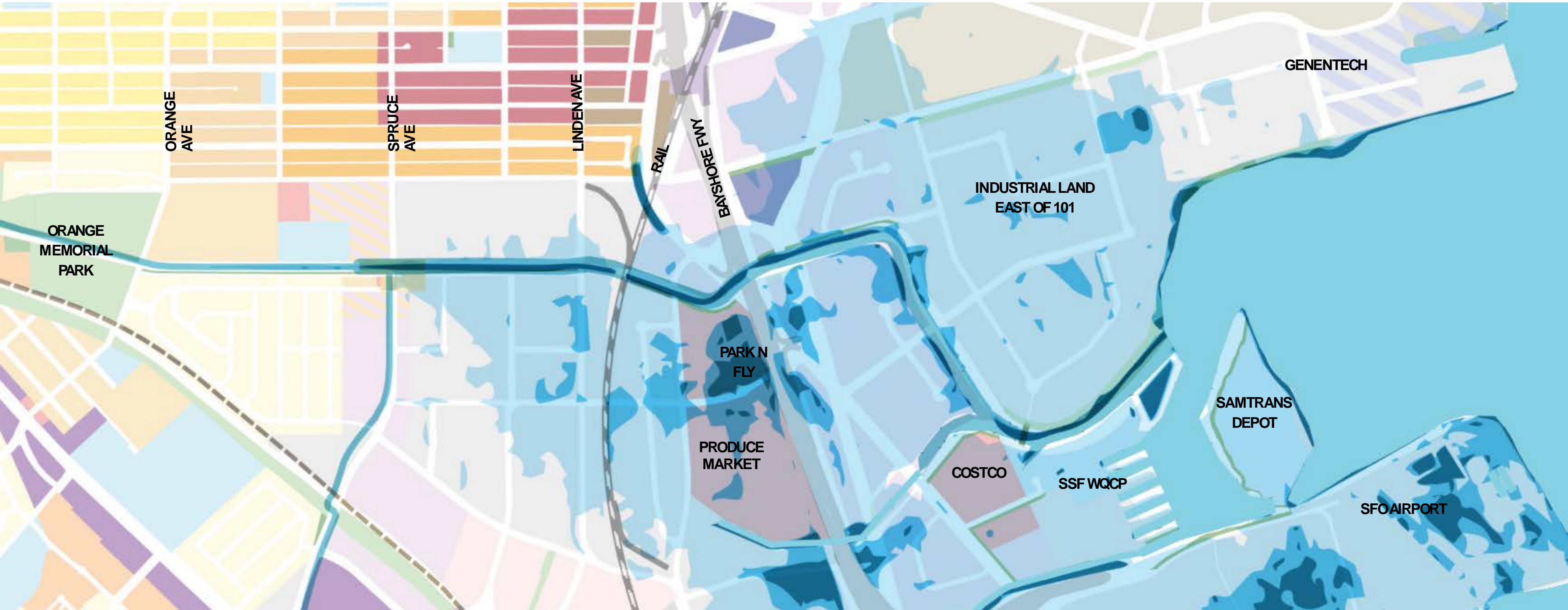
ANALYSIS: 60" SEA-LEVEL RISE + 100YR EVENT



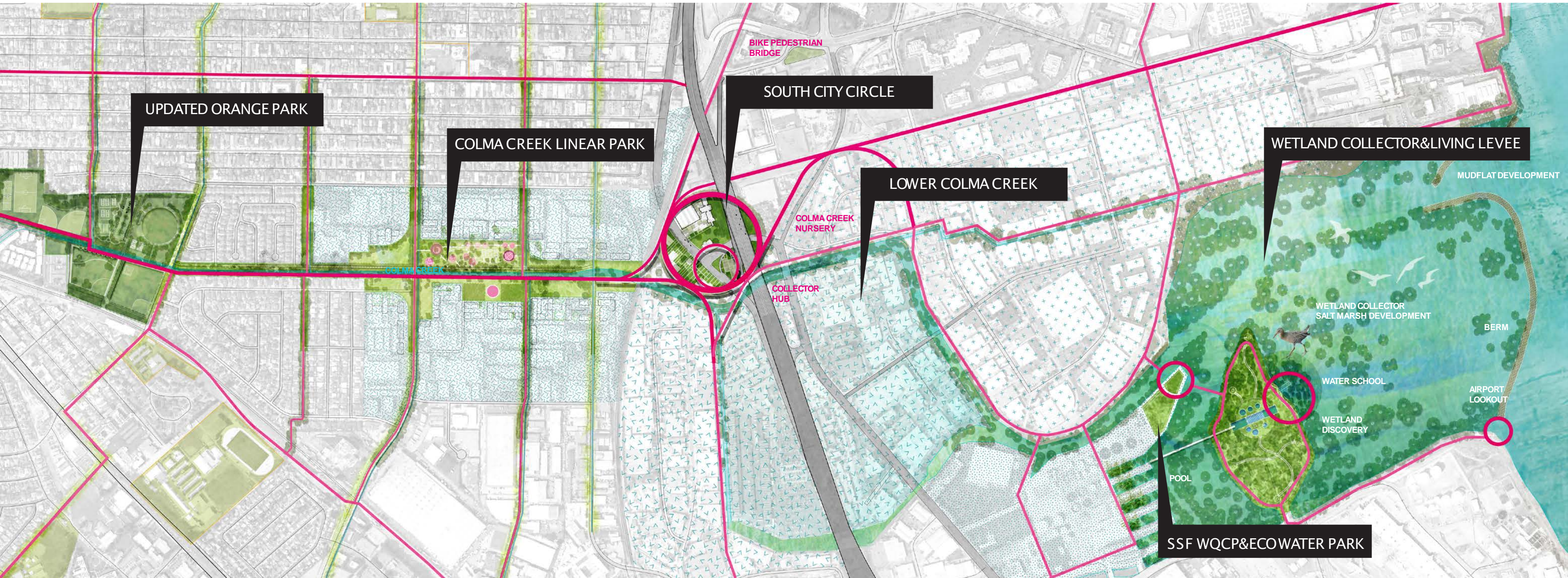
ANALYSIS: LIQUIFACTION HAZARD



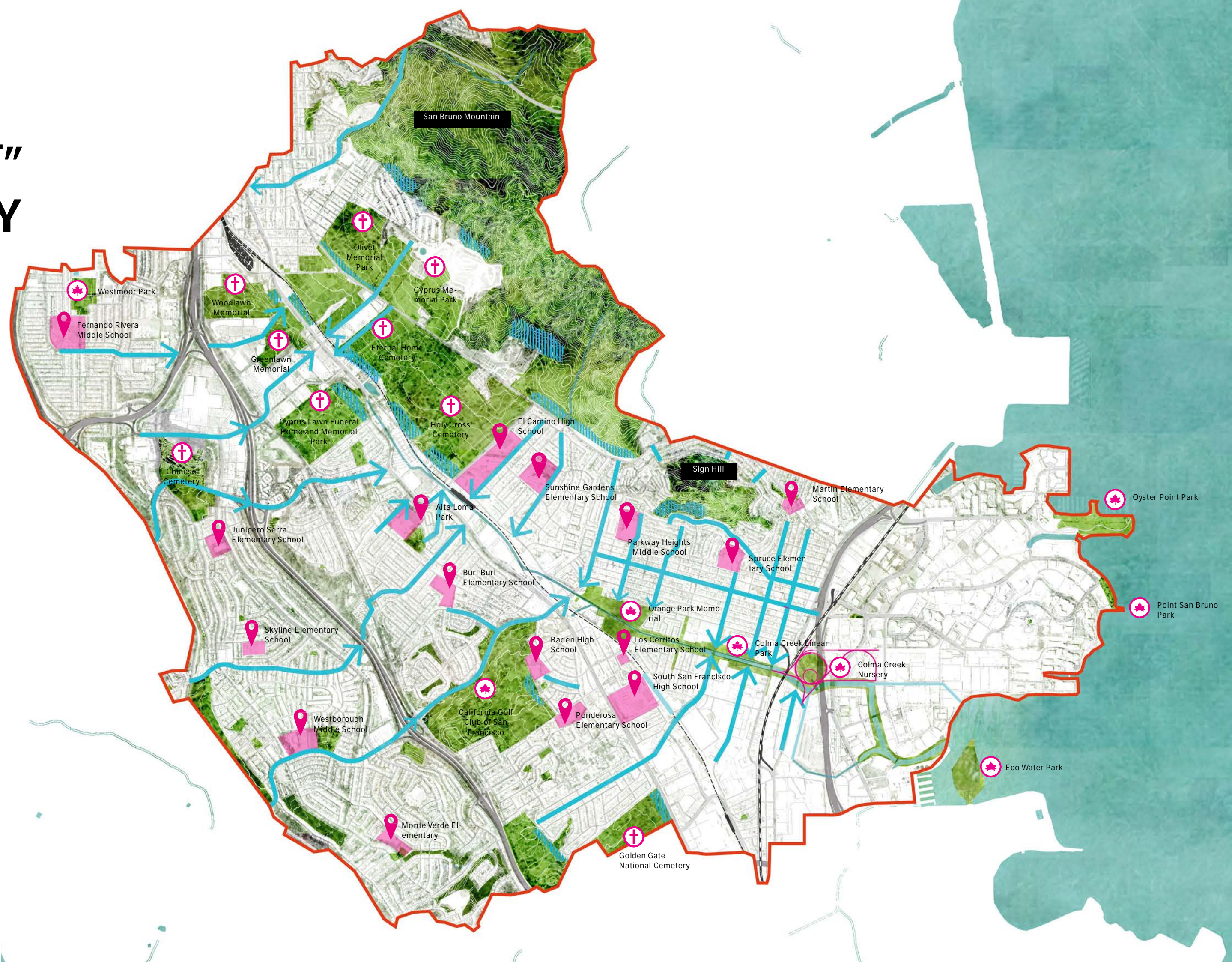
ANALYSIS - COLMA CREEK: LAND USE AT RISK



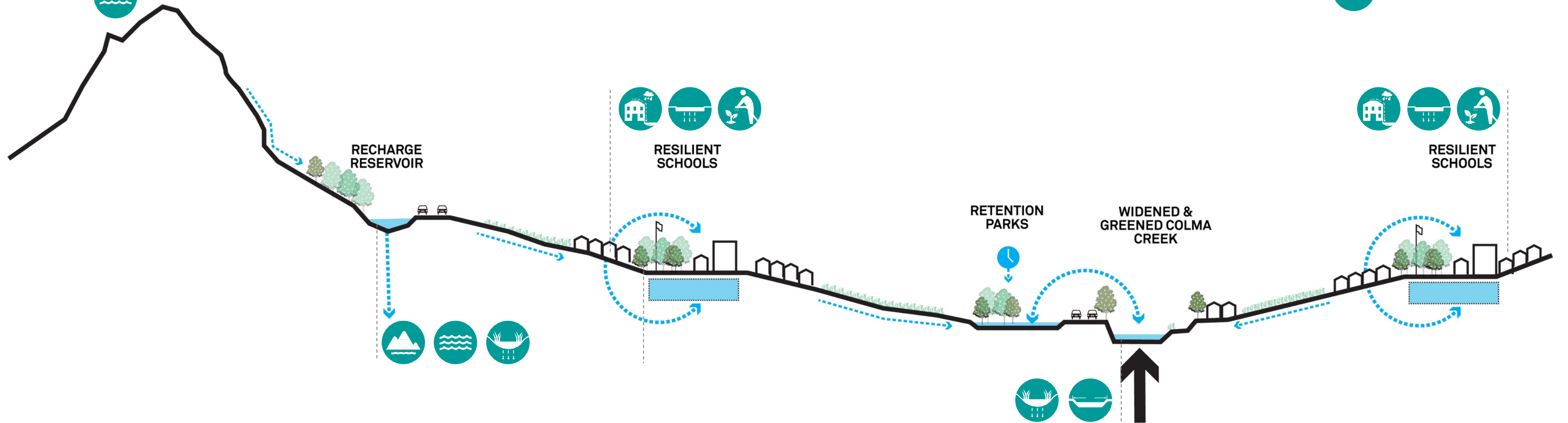
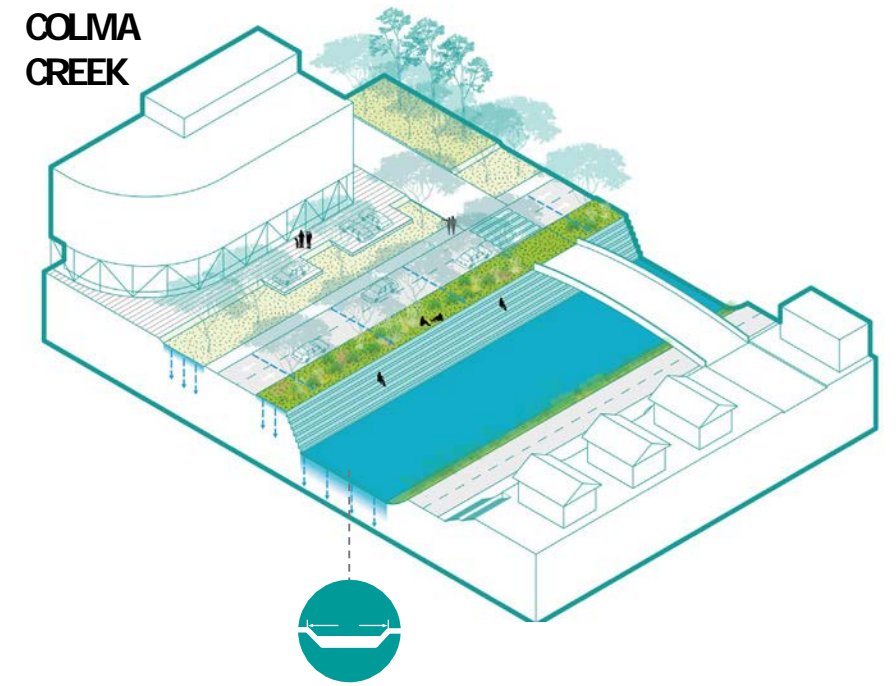
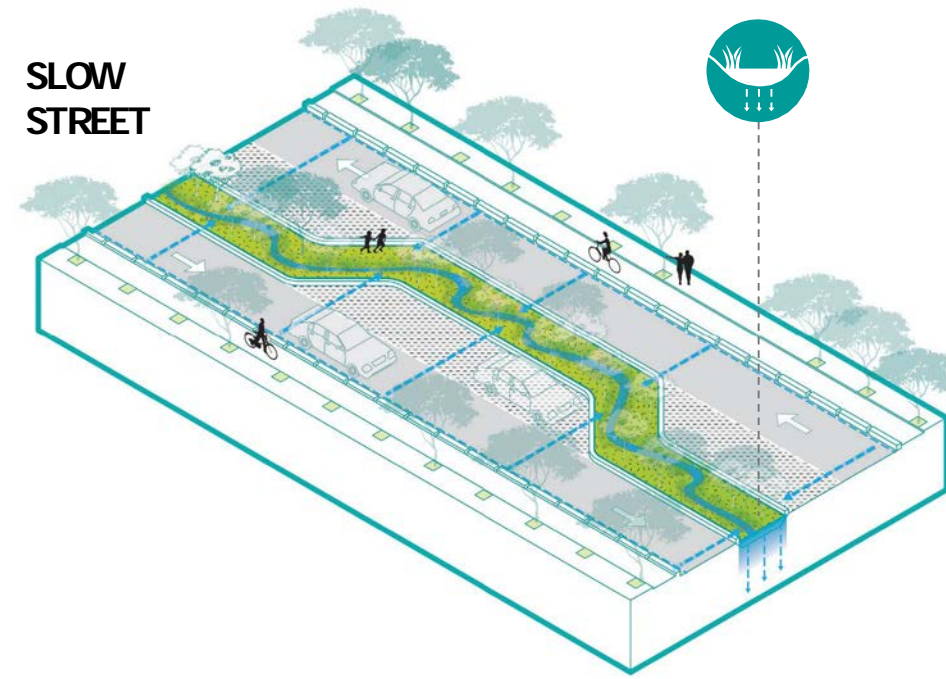
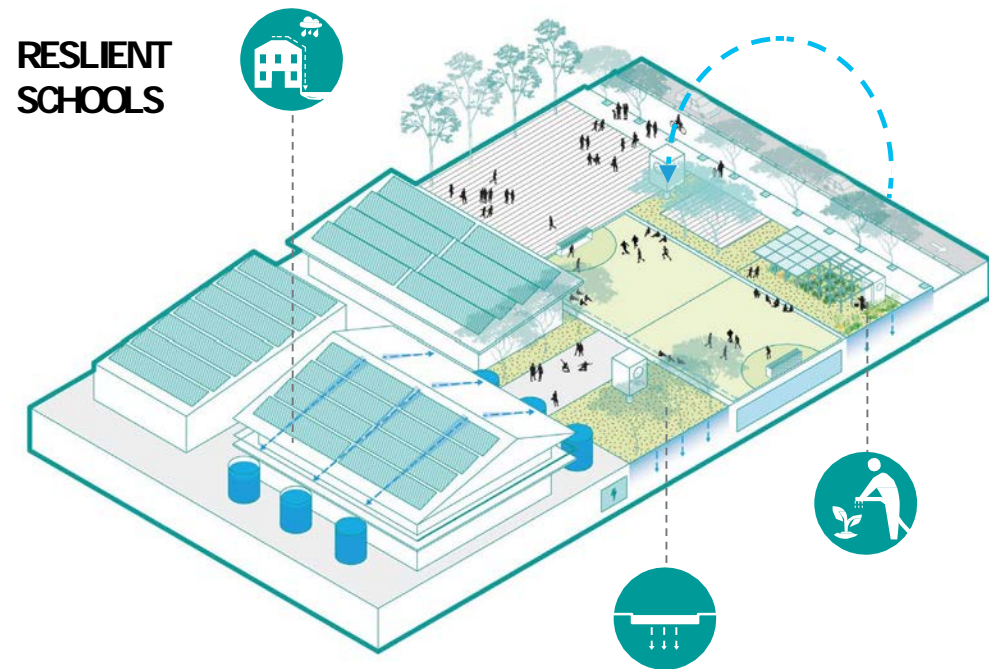
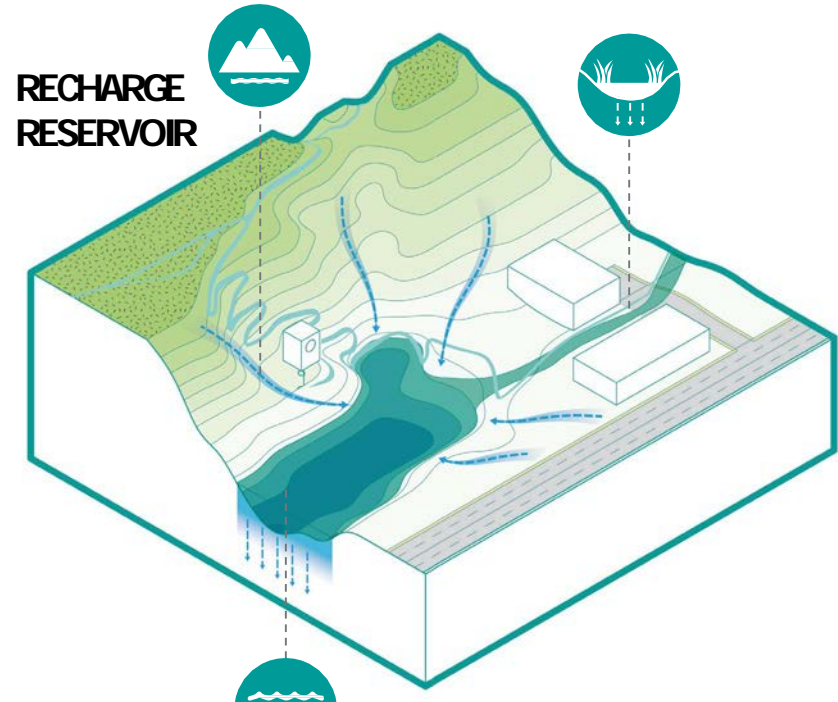
COLMA CREEK MASTER PLAN



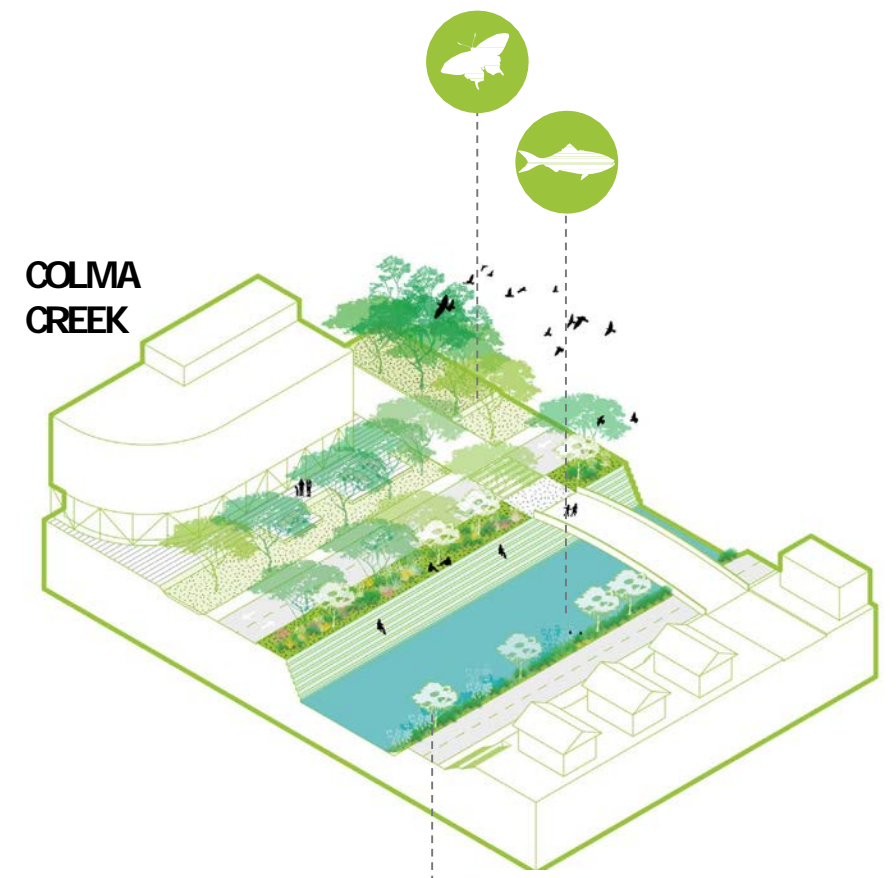
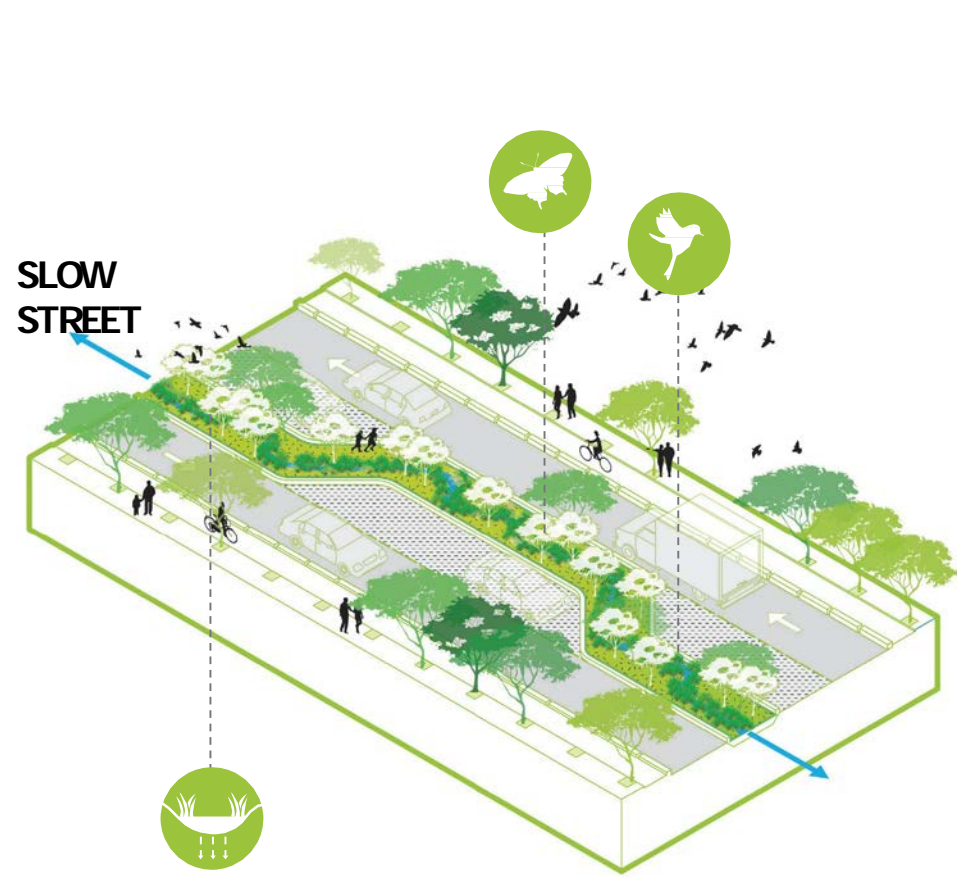
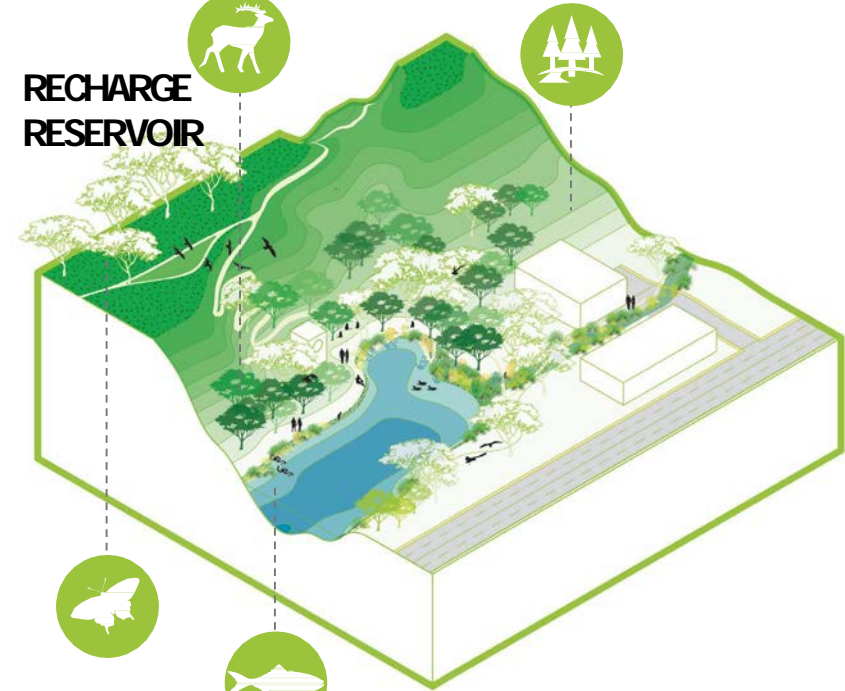
"COLLECT & CONNECT" RESILIENT SOUTH CITY



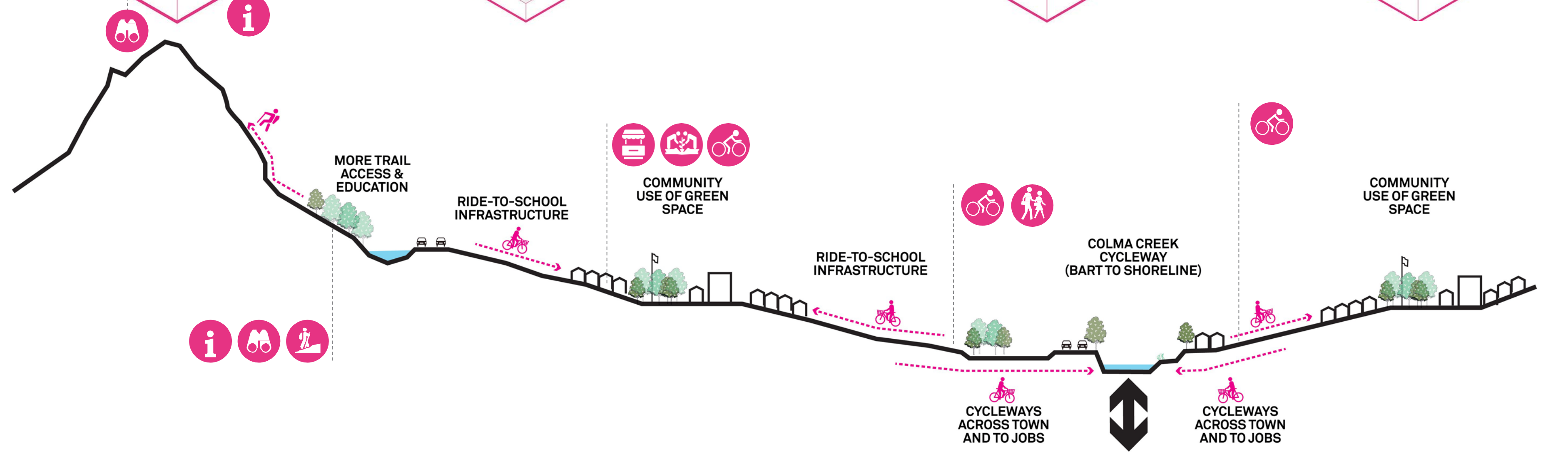
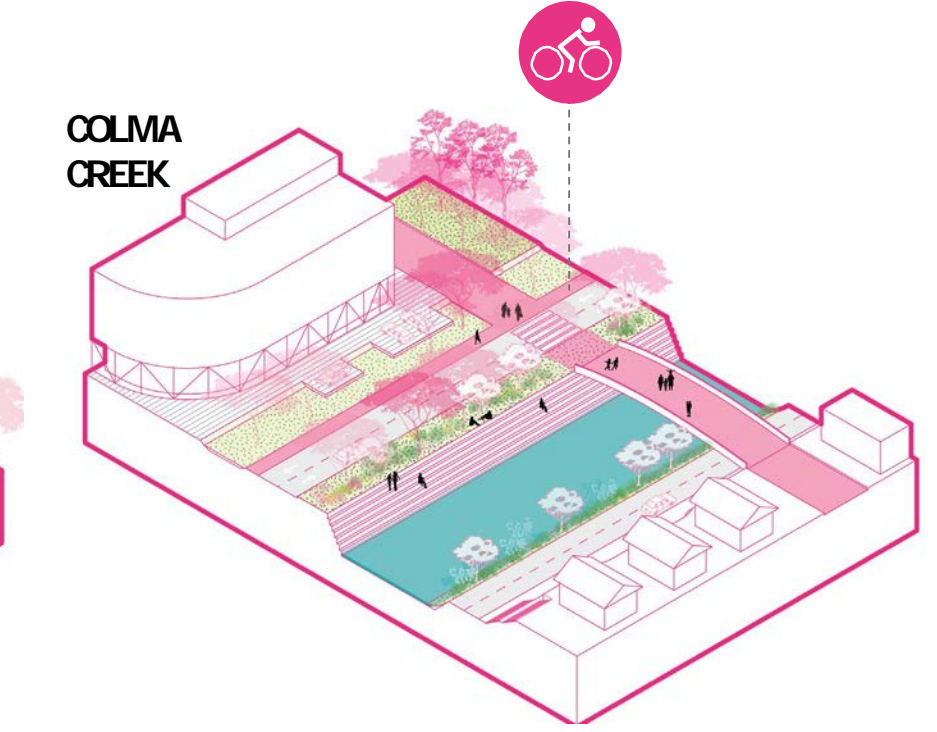
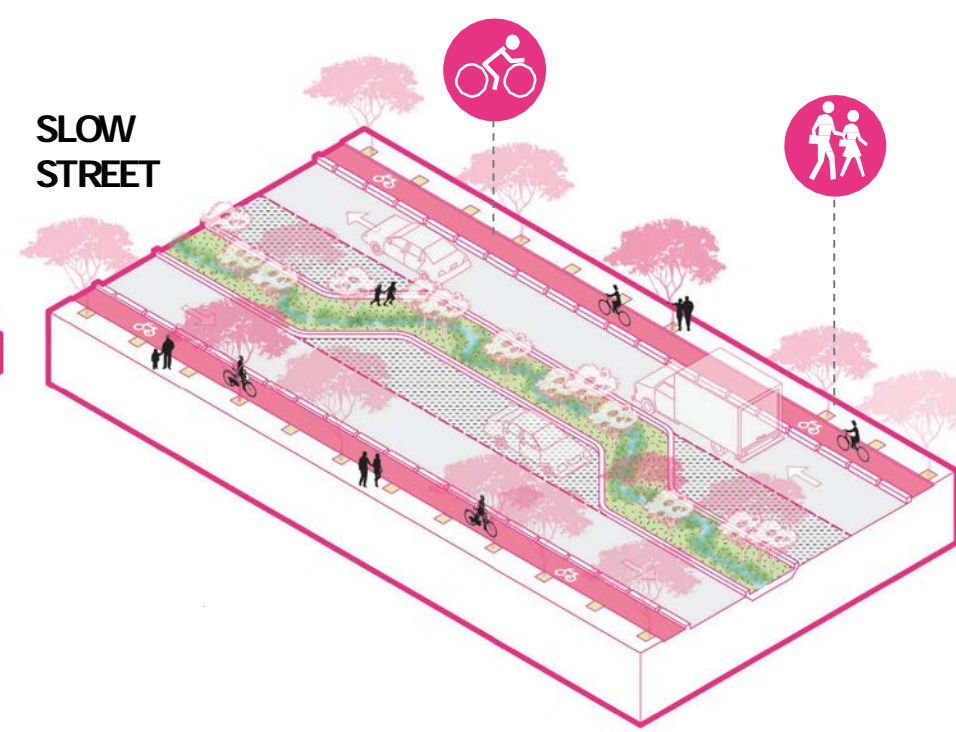
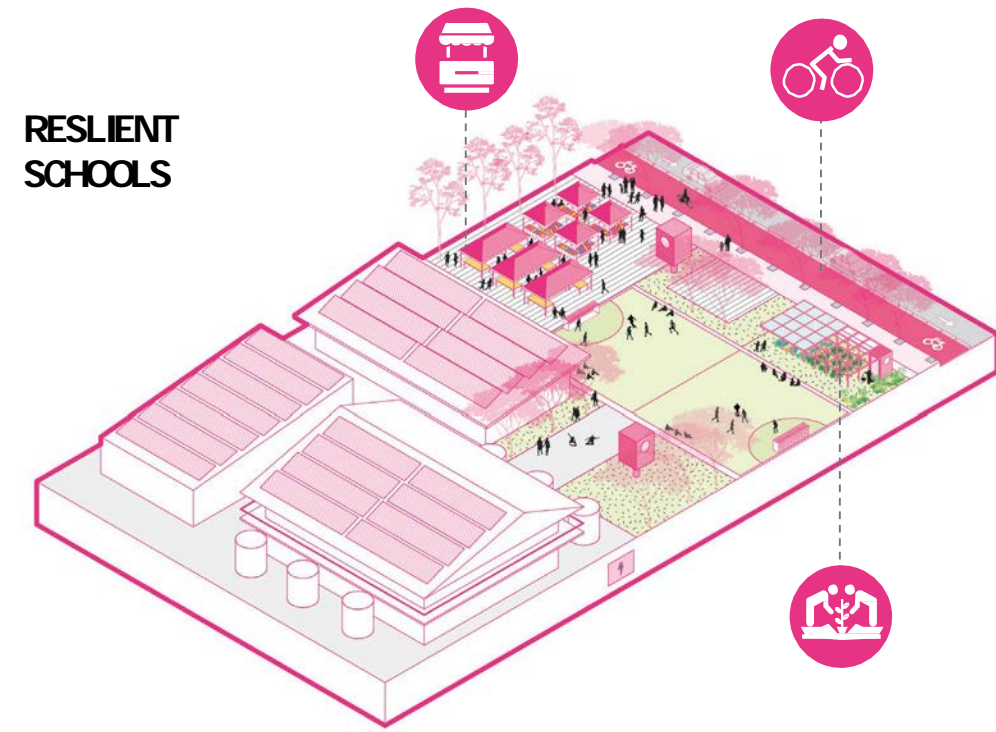
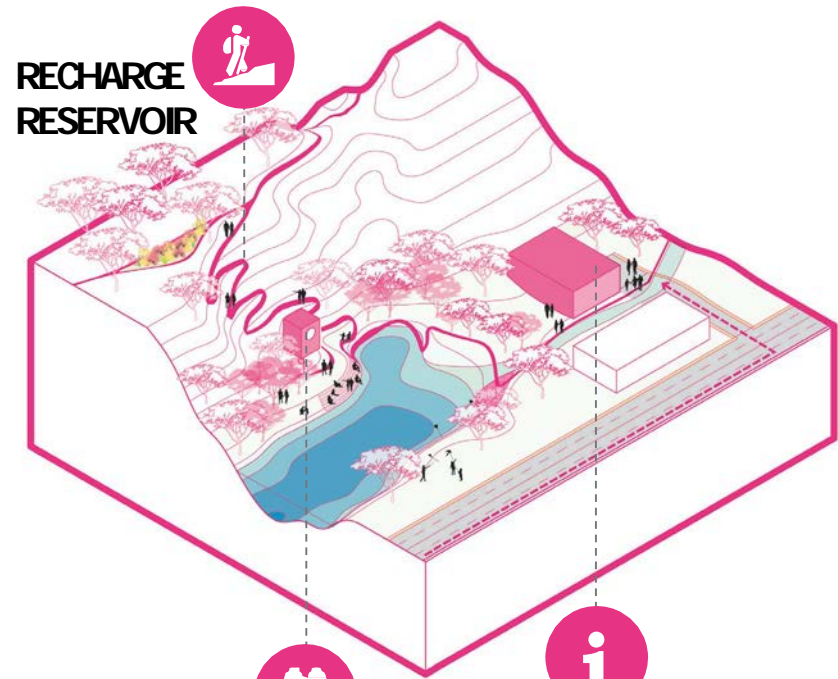
WATER



ECOLOGY

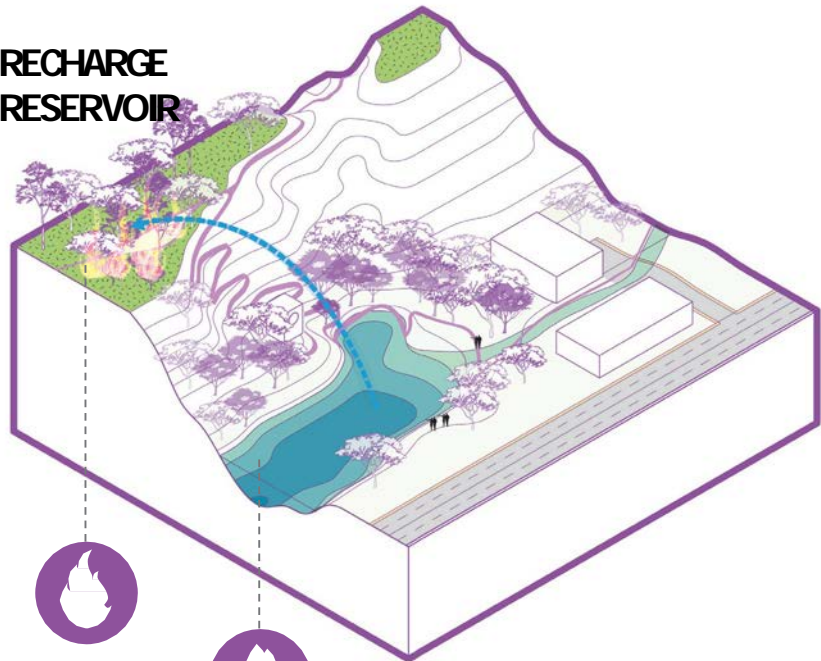


COMMUNITY

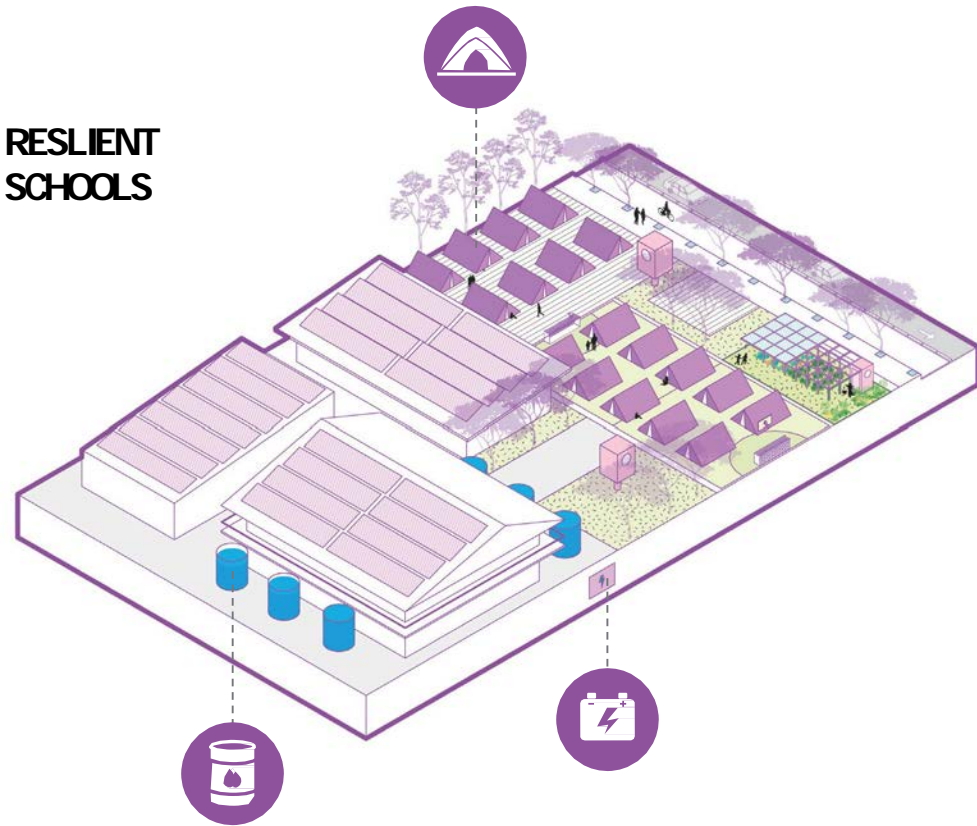


EMERGENCY

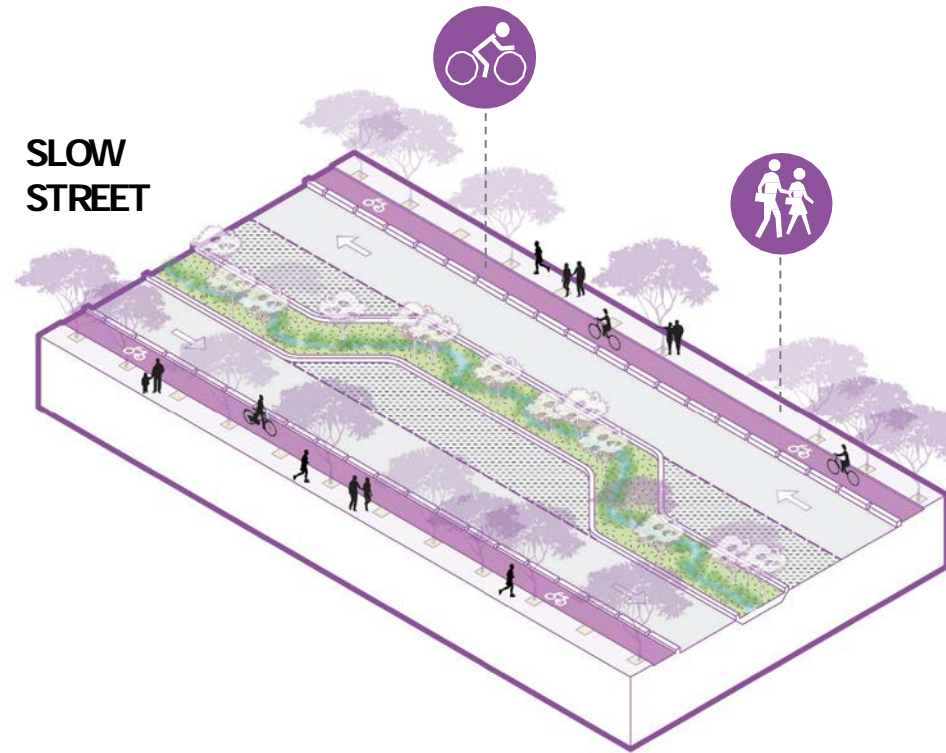
RECHARGE
RESERVOIR



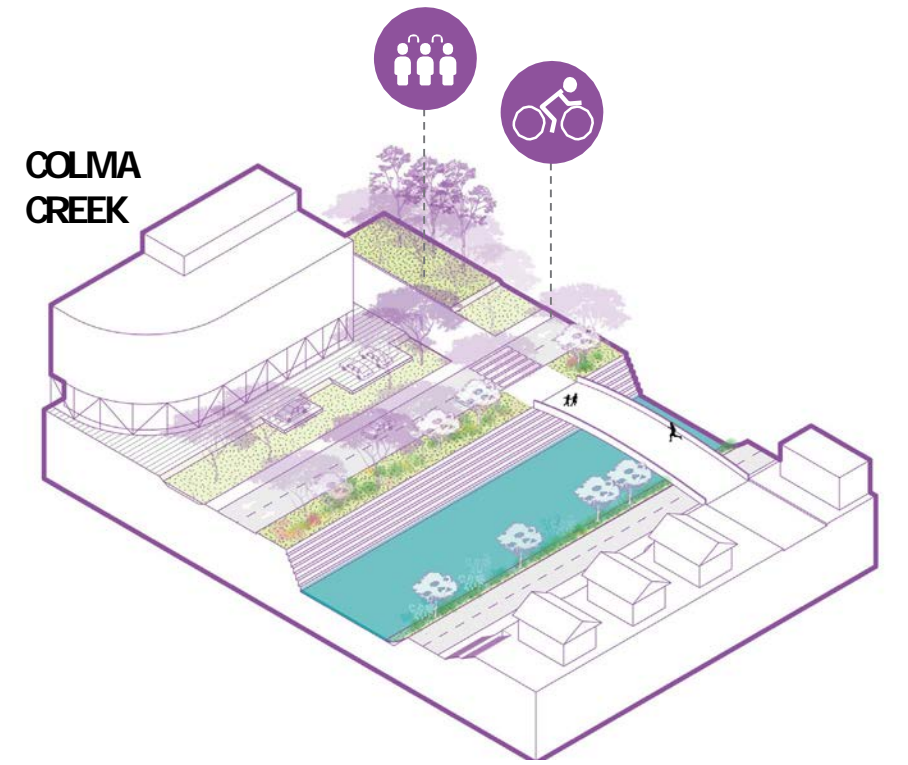
RESILIENT
SCHOOLS



SLOW
STREET



COLMA
CREEK



RESILIENT SOUTH CITY RESILIENT SCHOOL



RESILIENT SOUTH CITY RECHARGE RESERVOIR



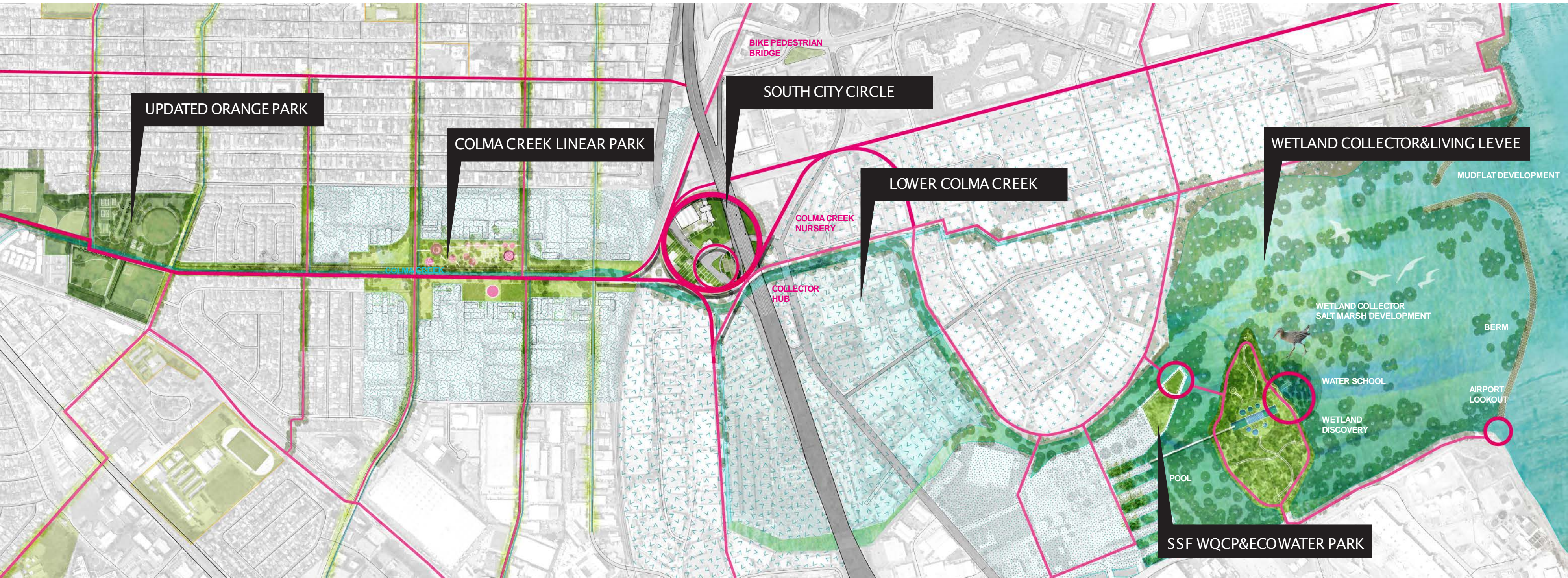
RESILIENT SOUTH CITY SLOW STREET



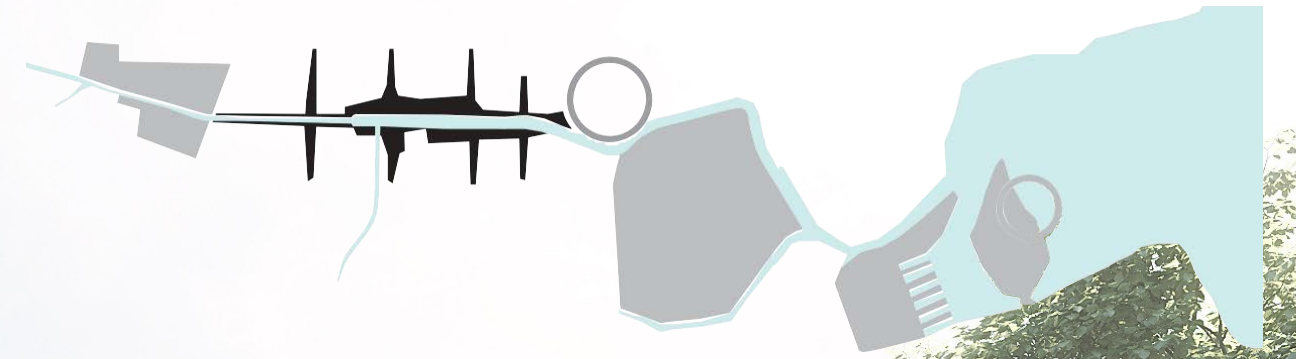
COLMA CREEK



COLMA CREEK MASTER PLAN



"COLLECT & CONNECT" NEW COLMA CREEK & CREEK-SIDE PARKS



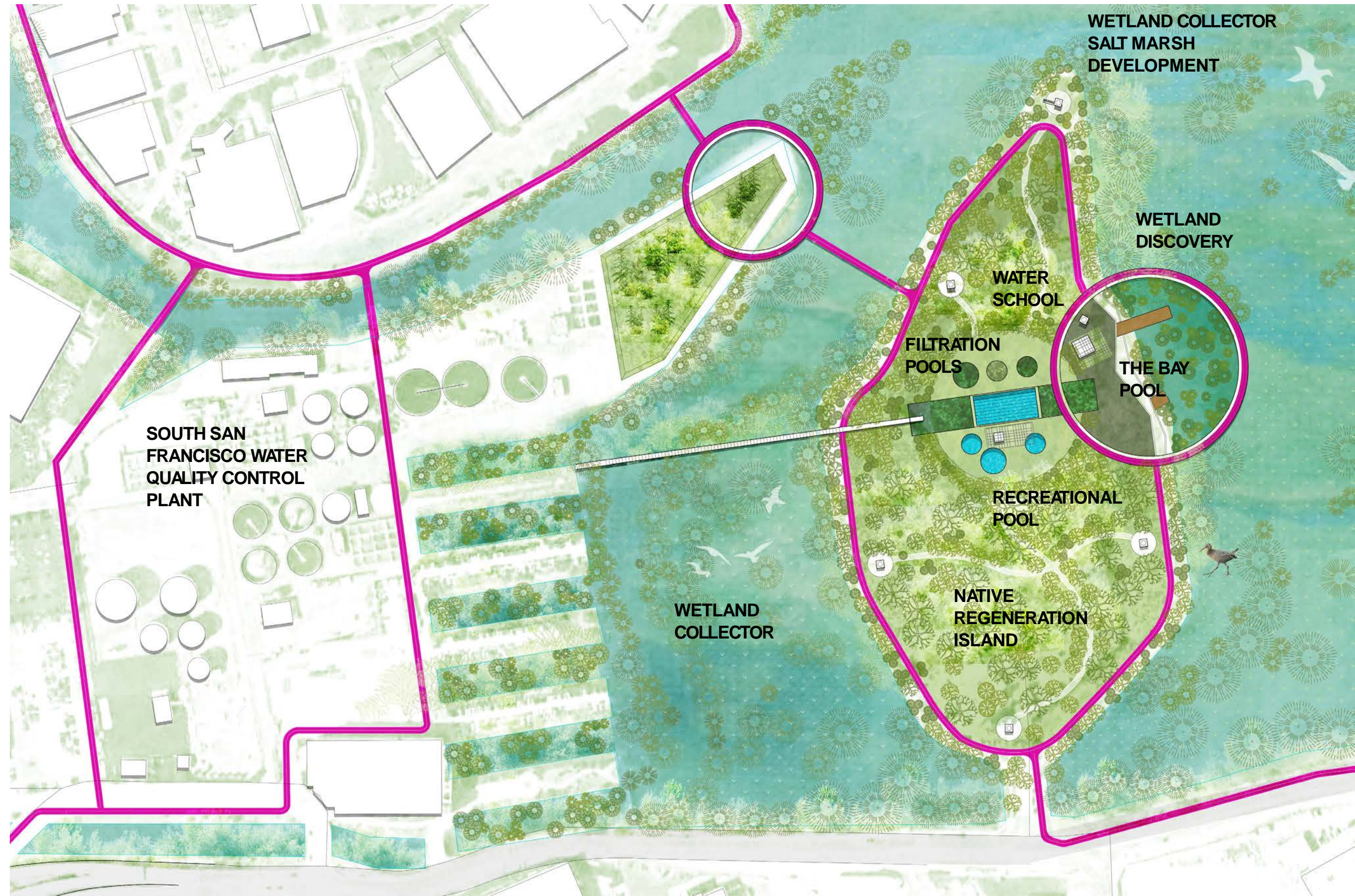
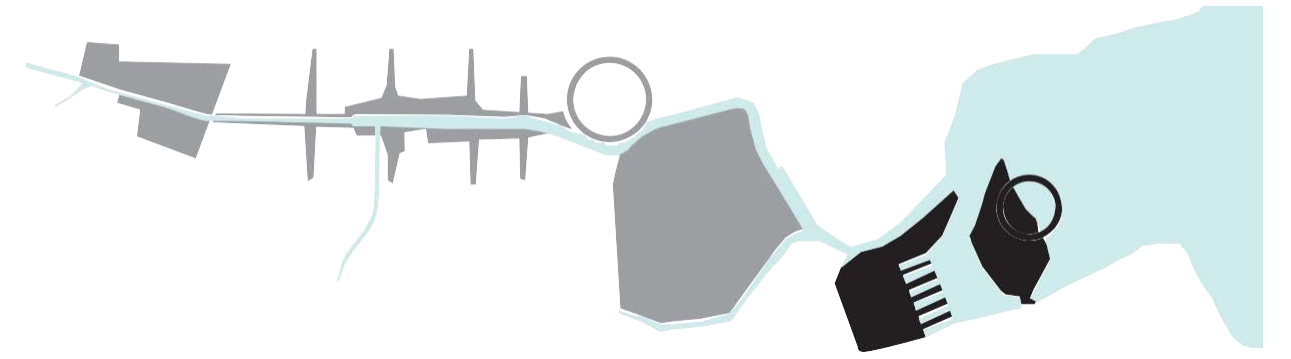
**“COLLECT & CONNECT”
SOUTH CITY CIRCLE**



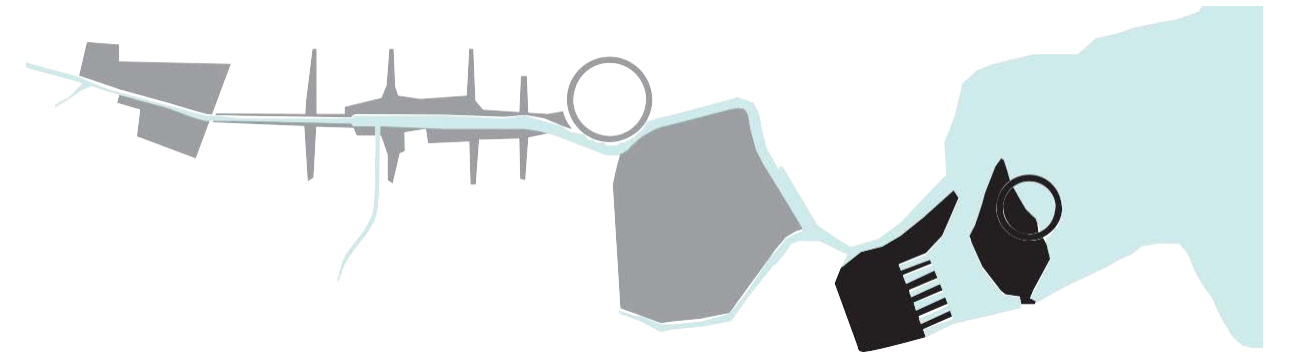
**"COLLECT & CONNECT"
SOUTH CITY CIRCLE**



"COLLECT & CONNECT" ECO WATER PARK



"COLLECT & CONNECT" ECO WATER PARK



SOUTH CITY RESILIENT MARKERS

ECOWATER
PARK



NATURAL FILTRATION
POND



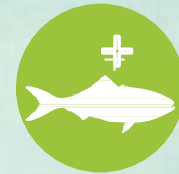
WETLAND POOL



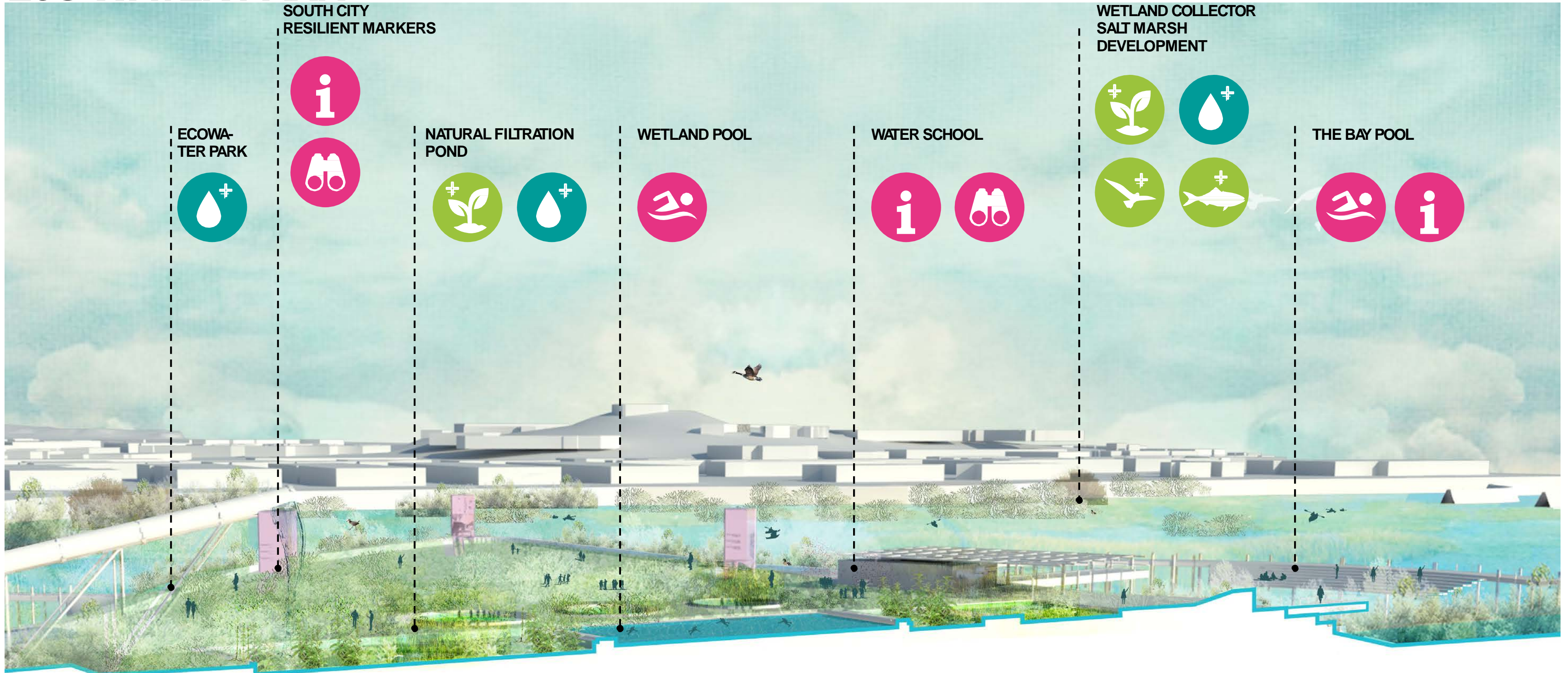
WATER SCHOOL



WETLAND COLLECTOR SALT MARSH DEVELOPMENT



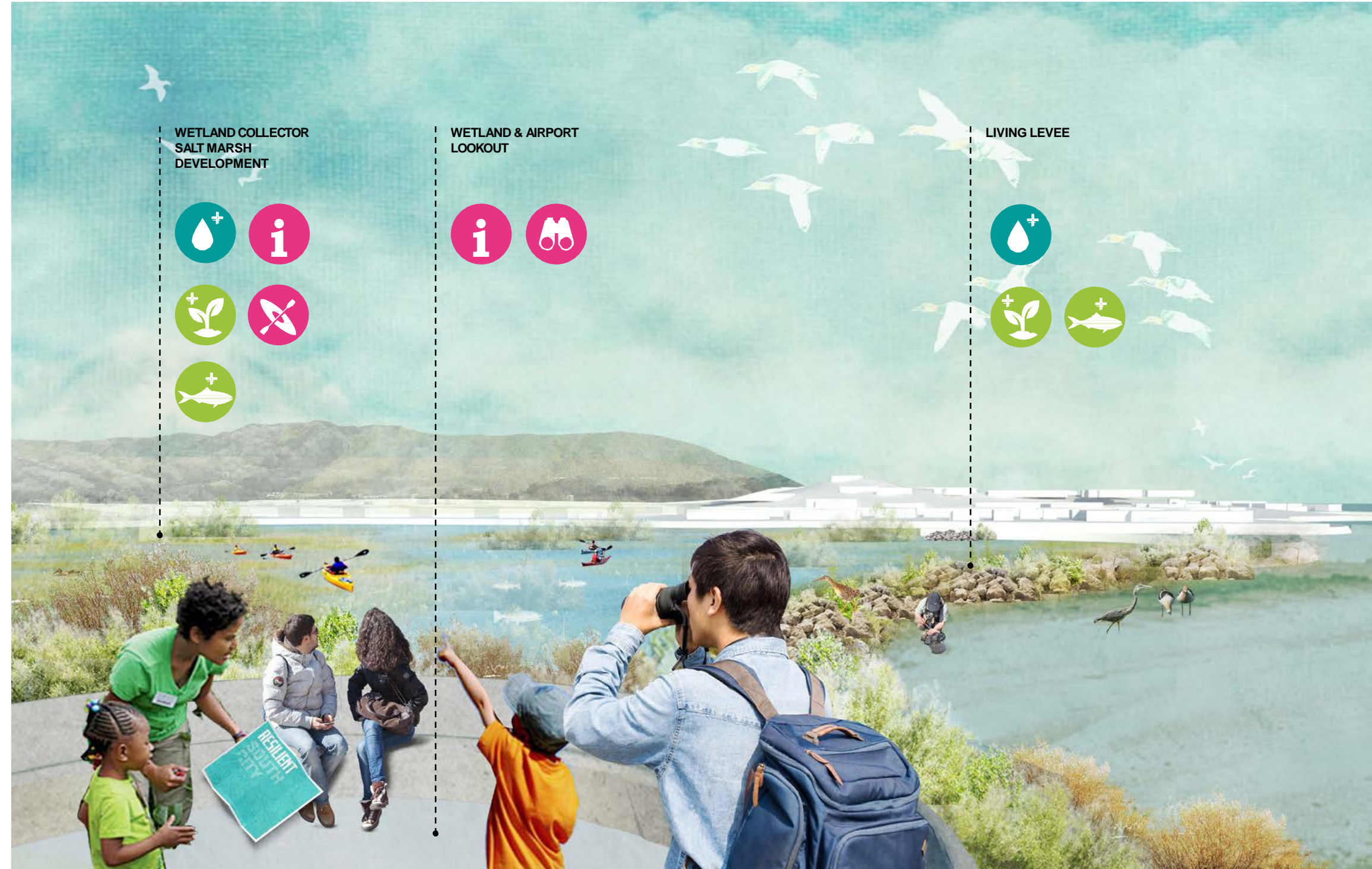
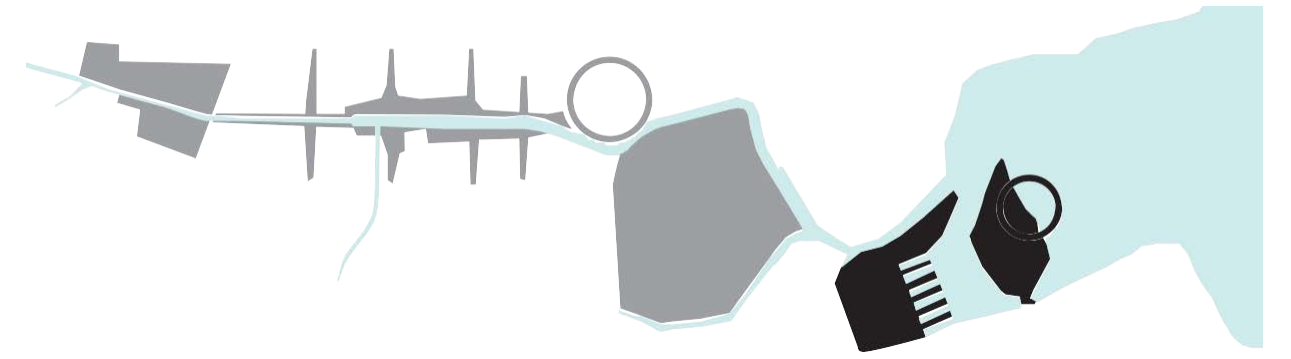
THE BAY POOL



THE BAY POOL



"COLLECT & CONNECT" STORM COLLECTOR



"COLLECT & CONNECT" WETLAND COLLECTOR



a successful funding strategy will combine tried-and-true methods with newer approaches

Below we discuss five innovative funding mechanisms that can help bring South San Francisco closer to its resiliency funding goals.

Funding mechanism	Community Resiliency Facilities District	In Lieu Fee Mitigation and Managed Retreat Finance Policies	Environmental Performance Bonds	Green Bonds	Public-Private Partnerships
Scale	District	District	Project	Project	Project
Purpose	Finance District level SLR and Flooding Infrastructure Investments	Finance manage retreat through densification/development	Finance environmental infrastructure paid entirely through the performance of the asset	Finance infrastructure investments that also provide environmental benefits	Finance infrastructure investments that provide ongoing annual revenue after completion.
What it could fund	Lower Creek Restoration & Public Access SLR 'Living Levee' & Wetland Collector	SLR 'Living Levee' & Wetland Collector	WQCP Upgrades & Eco Water Park SLR 'Living Levee' & Wetland Collector	The Circle Lower Creek Restoration & Public Access WQCP Upgrades & Eco Water Park SLR 'Living Levee' & Wetland Collector Watershed level projects	WQCP Upgrades & Eco Water Park
What it is	Property owners in a FEMA flood zone join together to fund resiliency improvements through lower insurance premiums.	Potential upzoning in certain developments in exchange for buyout assistance toward the buyout and managed retreat of chronically flooded areas.	A bond issued by a municipal agency, utility, transit authority. Bond proceeds go to the issuer in case of a natural disaster.	A bond issued by a private company or public entity designed to fund environmentally beneficial initiatives.	A partnership between a public entity and private investor aimed at the construction of public infrastructure.
How it could fund proposed resiliency project in South San Francisco	Property owners currently participating in the National Flood Insurance Program would instead purchase flood insurance from a Community Choice Flood Risk Financing pool. Payments above the cost of insurance but below the cost of FEMA insurance would go to resilient infrastructure.	Developers in the surrounding areas would receive density bonuses in exchange for contributing toward a buyout fund. Property owners (residential or commercial) in chronically flooded areas would have the choice of selling their property to the fund. The fund could further fund the retirement of existing building and restoration of wetlands in flooded zones.	Flood prevention infrastructure would reduce insurance premiums for landowners, municipal agencies and transit authorities. A performance bond would bundle up those savings into an investment of infrastructure that prevents flood damage.	A bond issued by a municipal agency, utility, transit authority. Bond proceeds go to the issuer in case of a natural disaster.	A long-term investor, developer or operator of resiliency infrastructure would build, finance and potentially operate an infrastructure project. Investment entity would profit from future bond proceeds, future tolls or a combination of both.
Stakeholders who will benefit	Landowners within the district	Landowners in chronically flooded areas.	Residents protected by resiliency infrastructure.	Residents protected by resiliency infrastructure.	Residents protected by resiliency infrastructure.
Already used in South San Francisco?	New	New	New	New	New
Process required for adoption	If structured as a CFD, 2/3 of property owners must approve	State legislature and/or City Council Approval.	Ballot Measure	Ballot Measure/Board Approval	Request for proposal process and City Council Approval.
Example	San Francisquito Creek JPA	New Jersey Blue Acres Program	Texas Wind Insurance Association	Apple's \$1.5 Billion Green Bond	Ontario Place Disraeli Bridges Winnipeg

