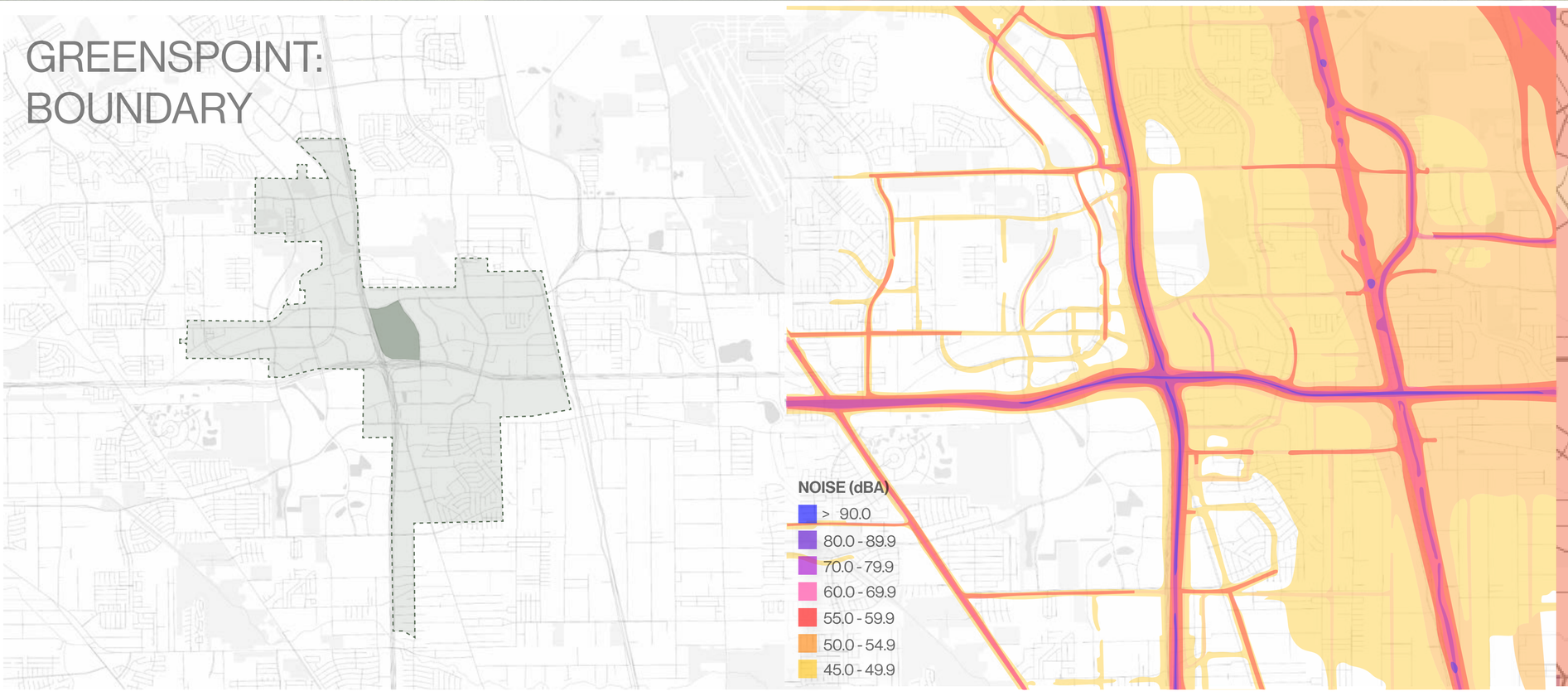
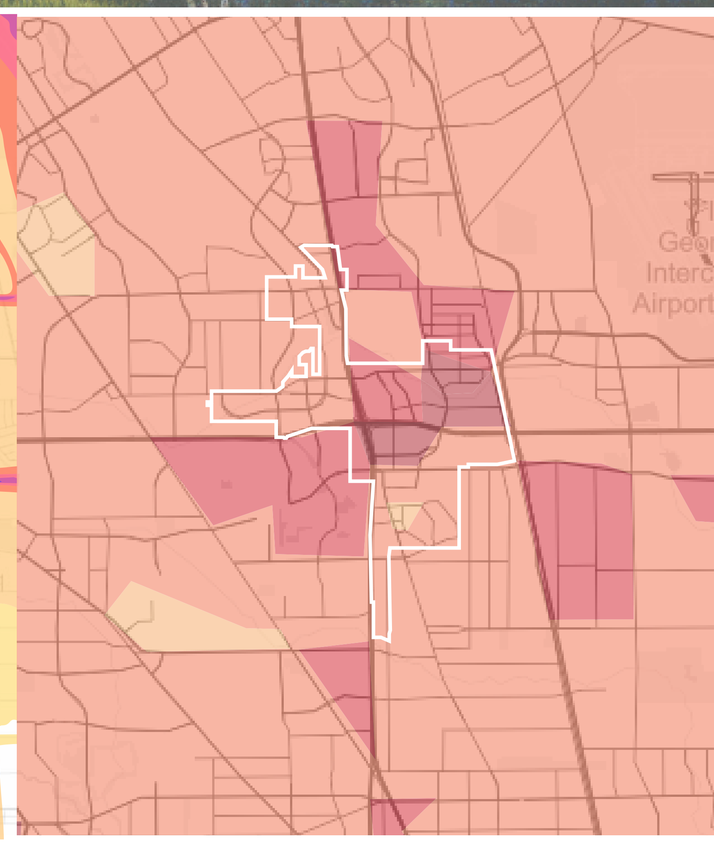
POINTING TO A GREENER FUTURE

FELIPE, ROBERTO, NANCY, ETHAN, ESTHER, MERVE, RUDY

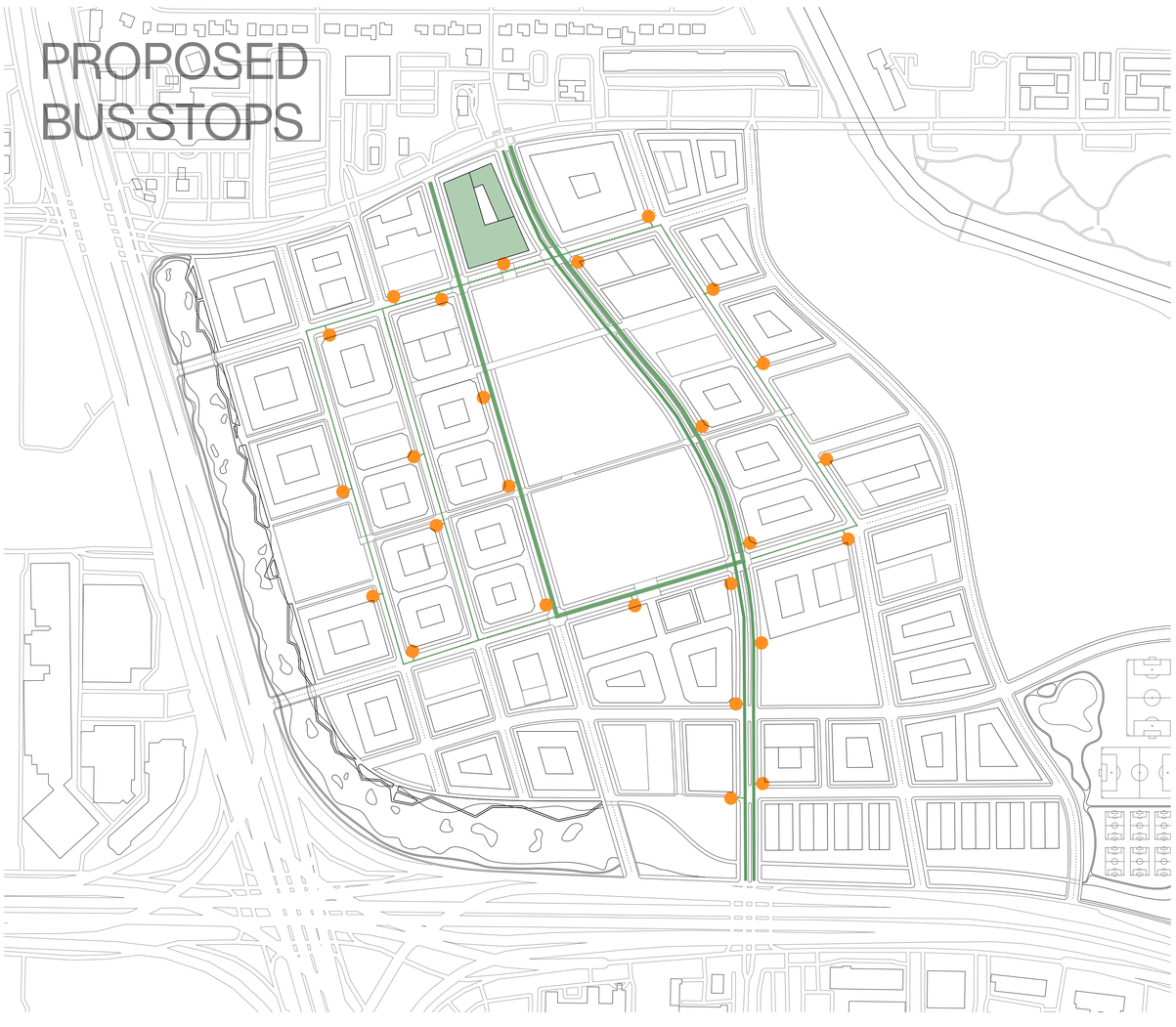
GREENSPOINT: BOUNDARY



NOISE (dBA)



PROPOSED BUS STOPS

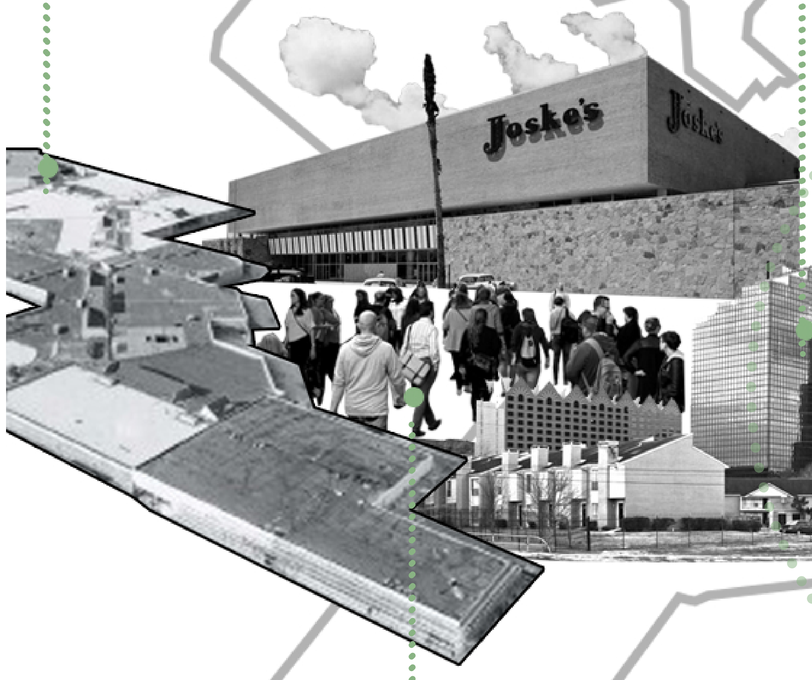


THE MAKINGS OF A DEAD MALL

UNRAVELING THE DECLINE OF GREENSPOINT MALL

1976

Opened July 1976 making it Friendswood Development Corp's new project where they only planned to basics but none for services which they relied on the City of Houston for but they annexed the land right after opening creating a "jurisdictional enclave" with the nearest HPD station being 10 miles away.



The mall was 94% occupied, making it the mall with the fourth highest percentage of occupied space in the Houston area at this time.

Early 1980s

Mid 1980s

Greenspoint would see a large number of luxury apartments being developed for the oil and gas crowd who lived in that area but with the 1986 oil crash, a lot of them were laid off leaving the apartments with vacant spots

Crime spiked throughout Houston with jurisdictional enclaves like Greenspoint being famous spots because they are a nice part of town with no nearby enforcement, This makes towns like this a magnet for violent crimes due to its popularity and lack of security to compensate

Late 1980s

1990s

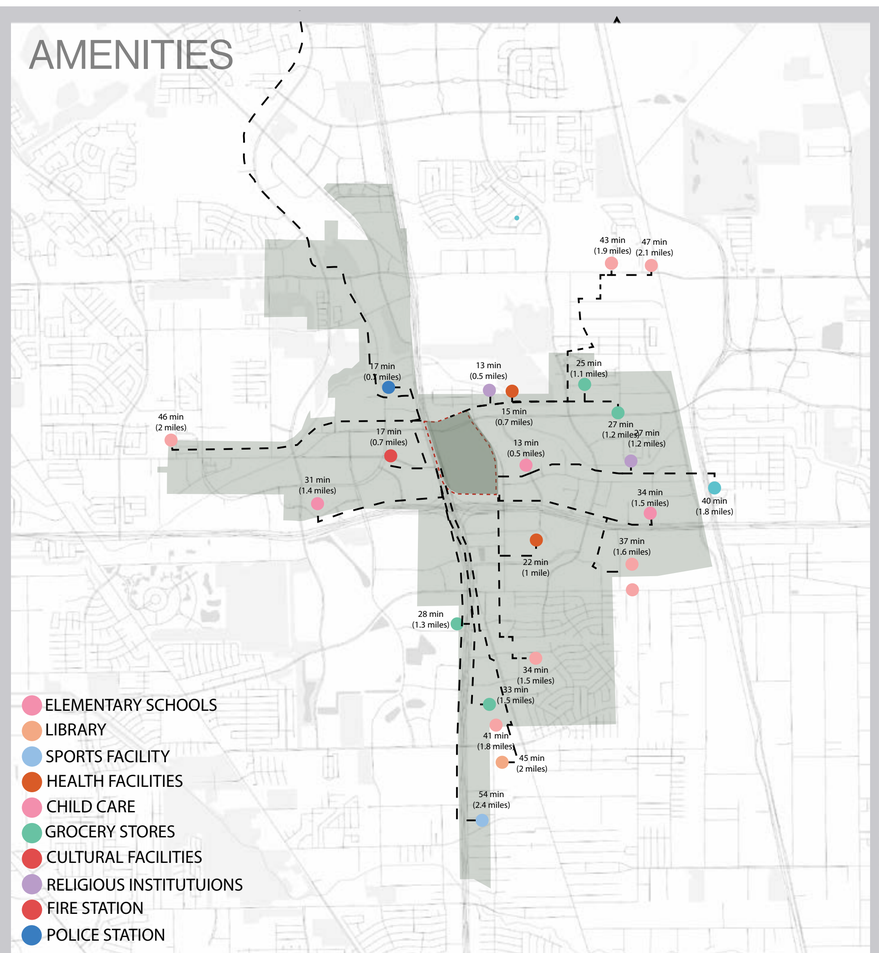
Many of the high-end apartments got converted to government-sponsored housing and more was developed.

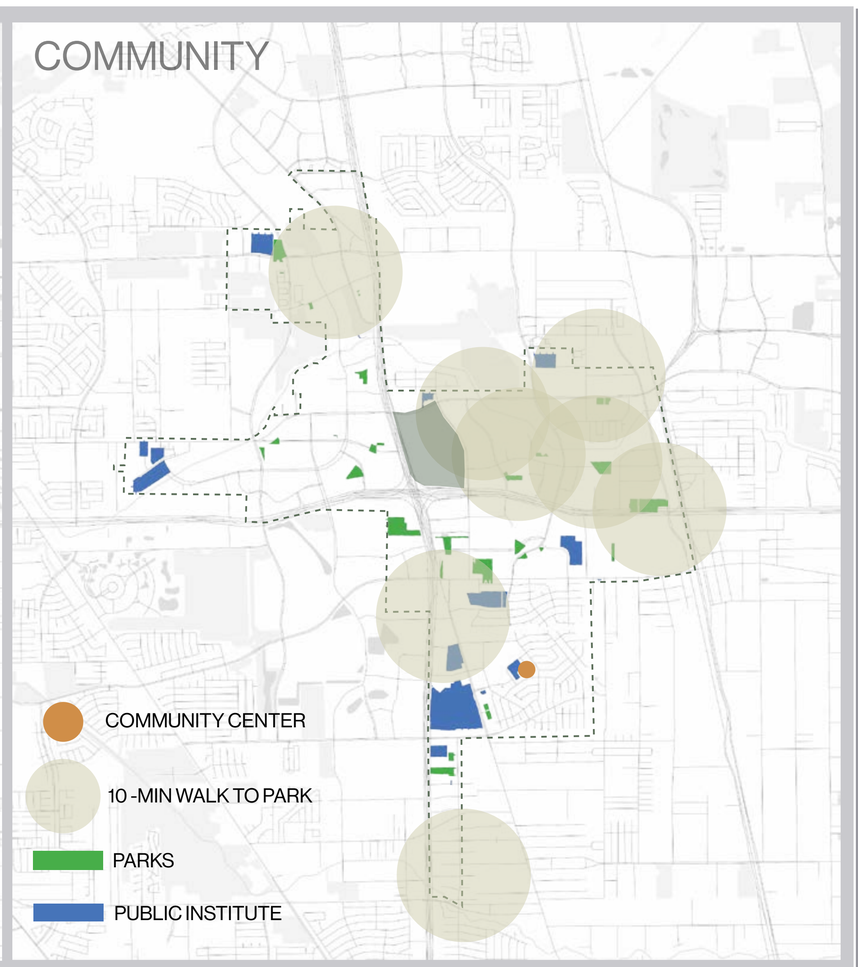
2000s - Present

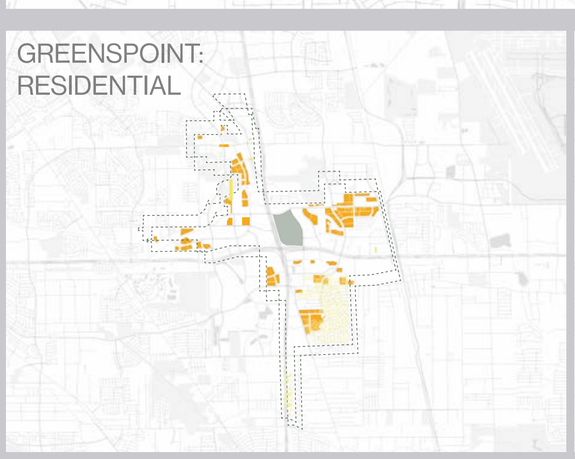
Many stores have been closing including Macy's and Sears as well as other anchor points, and the only business operating right now is Fitness Connection as well as local stores inside the mall.

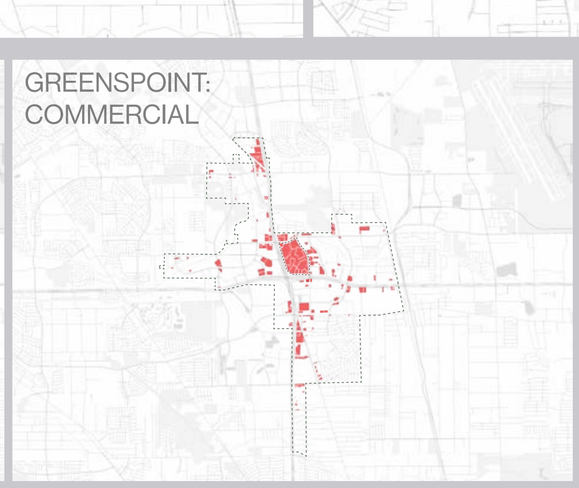
In September 1991, off-duty sheriff's deputy Roxyann Allee was murdered which started the nickname of "Gunspoint."

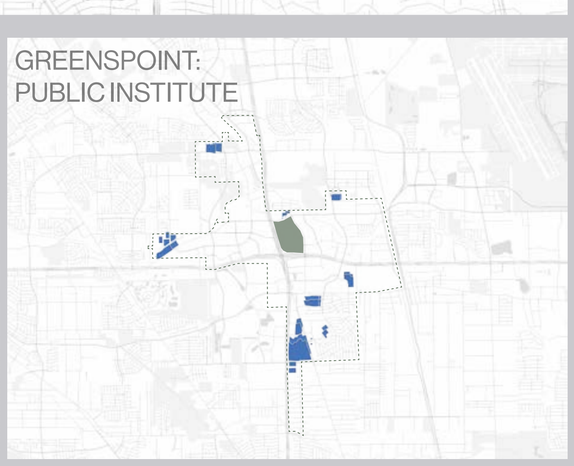
1991

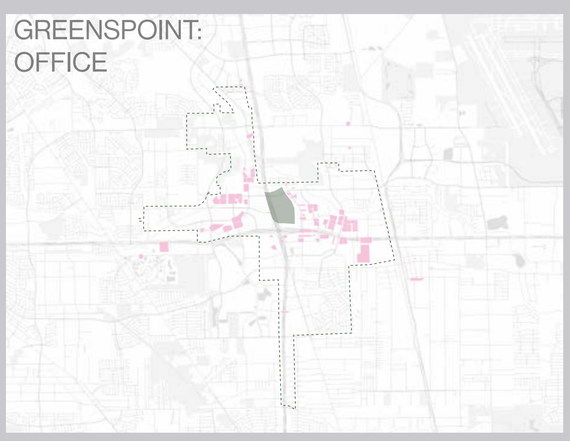


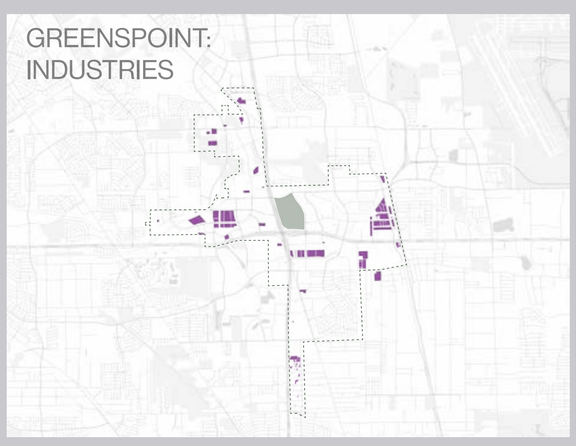


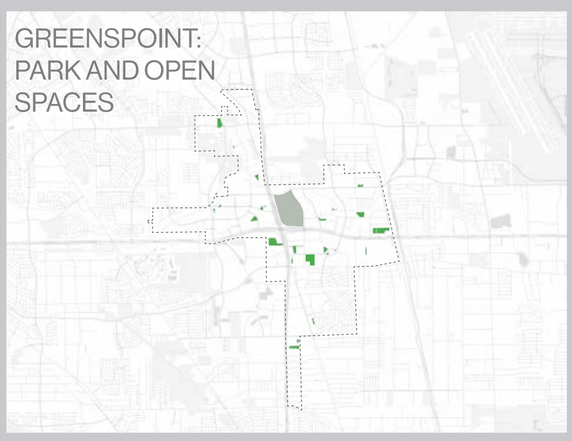










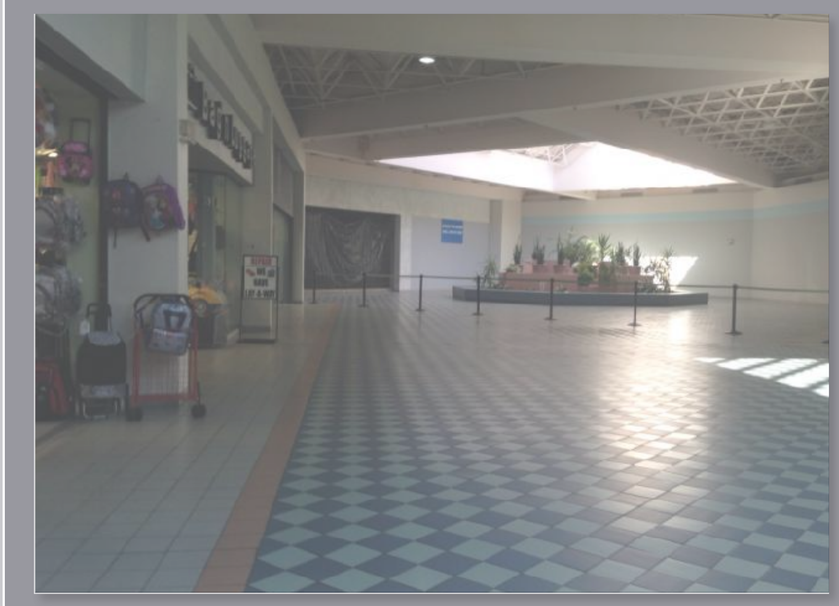


WHAT IS A DEAD MALL?

A "dead mall" refers to a shopping center that has significantly declined in terms of foot traffic, tenant occupancy, and economic viability. It often results from changing consumer habits, competition from newer retail centers, or a deteriorating neighborhood. Dead malls typically feature vacant storefronts, diminished retail activity, and a general lack of vibrancy. These spaces serve as a symbol of economic and social changes within a community.

HOW DID IT GET TO THIS?

Greenspoint's transformation into a "dead mall" can be attributed to a combination of factors. In the 1990s, the opening of newer, more attractive shopping centers nearby drew consumers away from Greenspoint Mall. Additionally, the area faced escalating crime rates, which negatively impacted the mall's reputation. These challenges, coupled with changing consumer preferences, contributed to declining foot traffic, tenant vacancies, and the mall's eventual fall from prominence as a vibrant retail hub.



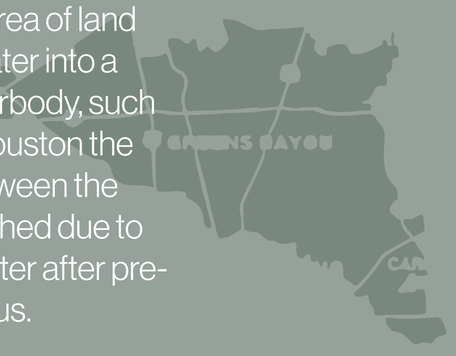
Interior of Greenspoint Mall in Present Day

WATERSHED WOES

HOW THE CITY HAS FAILED THE RESIDENTS OF THE GREENS BAYOU WATERSHED

WHAT IS A WATERSHED?

The watershed is the area of land that drains or sheds water into a specific receiving waterbody, such as a lake or a river. In Houston the slopes in the areas between the bayous act as a watershed due to directing the flow of water after precipitation into the bayous.



WHAT IS A FLOODPLAIN?

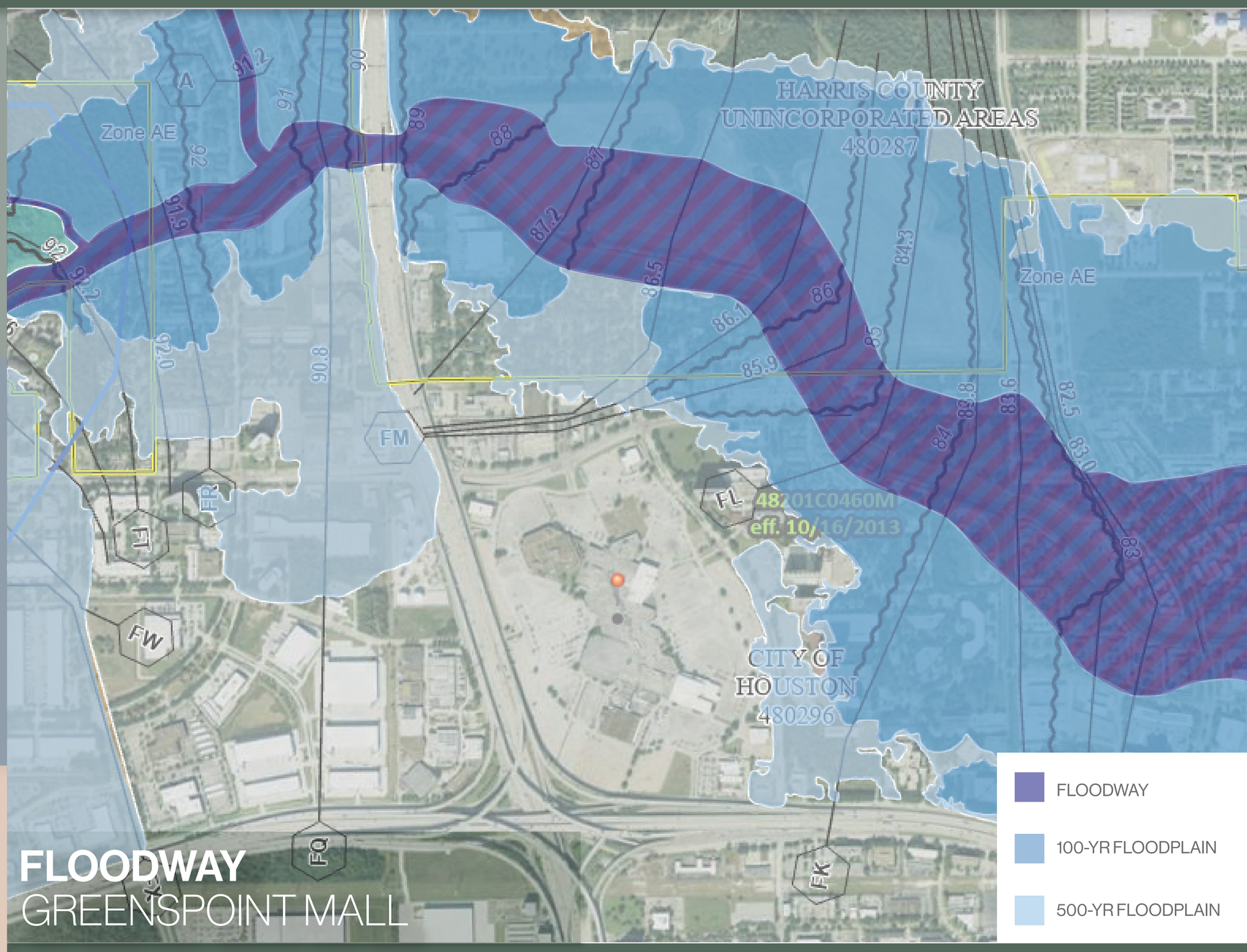
Although topically similar to the concept of a watershed, it is a different idea. A floodplain is the low-lying areas directly adjacent to the bodies of water (mainly bayous and creeks in the Greater Houston Area). In addition, there is the concepts of 100-year and 500-year floodplains.

WHAT IS A FAMILY WORTH?

Inequity in the area is due to federal cost-benefit formula that regulates flood mitigation project funding. The formula requires that mitigation projects yield a profit, therefore, working on projects in areas of lower property values is not "beneficial". The GHFMC (Greater Houston Flood Mitigation Consortium) "privileges economics over human safety, defining a family displaces from a [$1M home as being ten times as valuable as a family displaced from a [$100K] home."

LACK OF ATTENTION

In Houston, the Greens and Brays Bayous' floods have been almost equally devastating to the residents of their respective watersheds, being the two watersheds most affected after Hurricane Harvey. However, according the GHFMC's report, $350 million had been injected into flood mitigation projects along the Brays Bayou up until 2016, whereas only $19 million had been spent on projects along the Greens Bayou. This means that Brays Bayou has received almost 20 times more funding than the Greens Bayou.



FLOODWAY
GREENSPOINT MALL

GREENSPOINT NEIGHBORHOOD

AREA
7.46
SQ. MILES

POPULATION
33,549
RESIDENTS

AVERAGE AGE
29.0
YEARS

Greenspoint

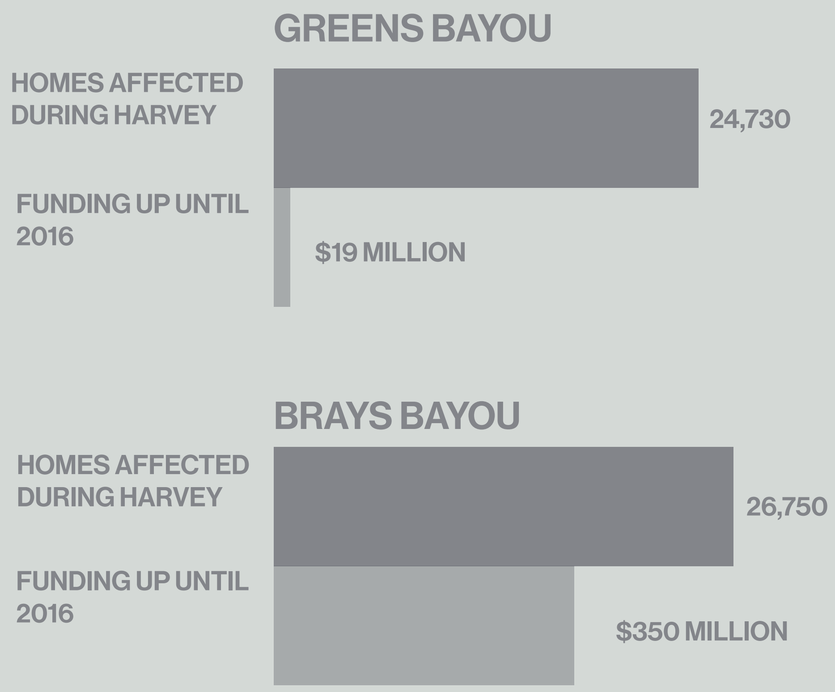
Almeda

PlazAmericas

NW Mall

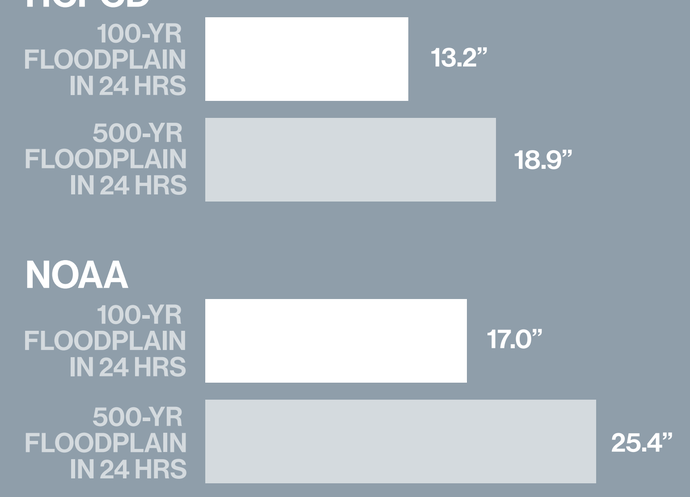
Intersection of I-45 and Greens Rd after Hurricane Harvey

THE NUMBERS BEHIND GREENS' UNDERFUNDING



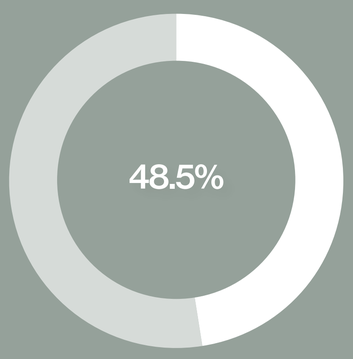
FLOOD HAZARD ANALYSIS

The existing 100-year and 500-year rainfall published by the Harris County Flood Control District (HCFCD) for Greens Bayou watershed are 13.2 inches and 18.9 inches in 24 hours, respectively. In late 2018, the National Oceanic and Atmospheric Administration (NOAA) published updated rainfall statistics. In Harris County, both the 100 and 500-year rainfall magnitude and intensity increased by approximately 30%. For Greens Bayou, the new 100-year and 500-year rainfall are now 17.0 and 25.4 inches in 24 hours.

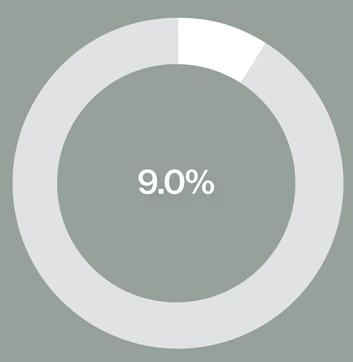


FRAMEWORK FOR SUCCESS

STRATEGIES TO IMPROVE GREENSPOINT



HOUSEHOLDS WITH CHILDREN



UNEMPLOYED

74.0

LIFE EXPECTANCY

4.5 YEARS LESS THAN TEXAS AVERAGE

41.1

VIOLENT CRIMES PER 1,000 RESIDENTS

10X THE STATE AVERAGE

10.1

MICROGRAMS OF PM2.5 PER CUBIC METER

30% ABOVE NATIONAL AVG.

50%

OF NATIONAL AVERAGE HOUSEHOLD INCOME

$34,018 / $69,021

90%

OF POPULATION IS MINORITY GROUP

HOMES FLOODED DURING HARVEY **66%**

LAND AREA IN FLOODPLAIN **46%**

STREETS FLOODED IN 100-YR EVENT **52%**

RAINFALL MAGNITUDE INCREASE IN 2018 **30%**

HOUSEHOLDS WITH NO VEHICLE **16%**

POP. WITHIN 1/4 MI. OF BUS STOP **50%**

AREA SERVED BY SIDEWALK **55%**

WORKERS RIDING TRANSIT **7%**

LIVE IN POVERTY **43%**

NO HIGHSCHOOL DIPLOMA **45%**

MEDIAN HH INCOME, IN RELATION TO CITY **56%**

UNDER 18 YEARS OLD **37%**

FLOODING

In the Greenspoint neighborhood, a majority of the residential buildings sit alongside the Greens Bayou, meaning they sit on the floodplain. With Houston's coastal location, the area floods frequently and with devastating effect.

METRICS OF SUCCESS

Integrating marshlands into the site's surroundings in a thoughtful manner

Adding further vegetation through out the development to absorb water passively

MOBILITY

In the Greenspoint neighborhood:

Half the population is not within a quater mile of a bus stop

45% do not have sidewalks servicing them

Over half the roads flooded in a 100-yr rainfall event

METRICS OF SUCCESS

Establishing a transit hub that will cater to the transportation needs of both residents and visitors

Providing pedestrian friendly neighborhood

Incorporating dedicated bike lanes into the neighborhood's design

RESILIENCE

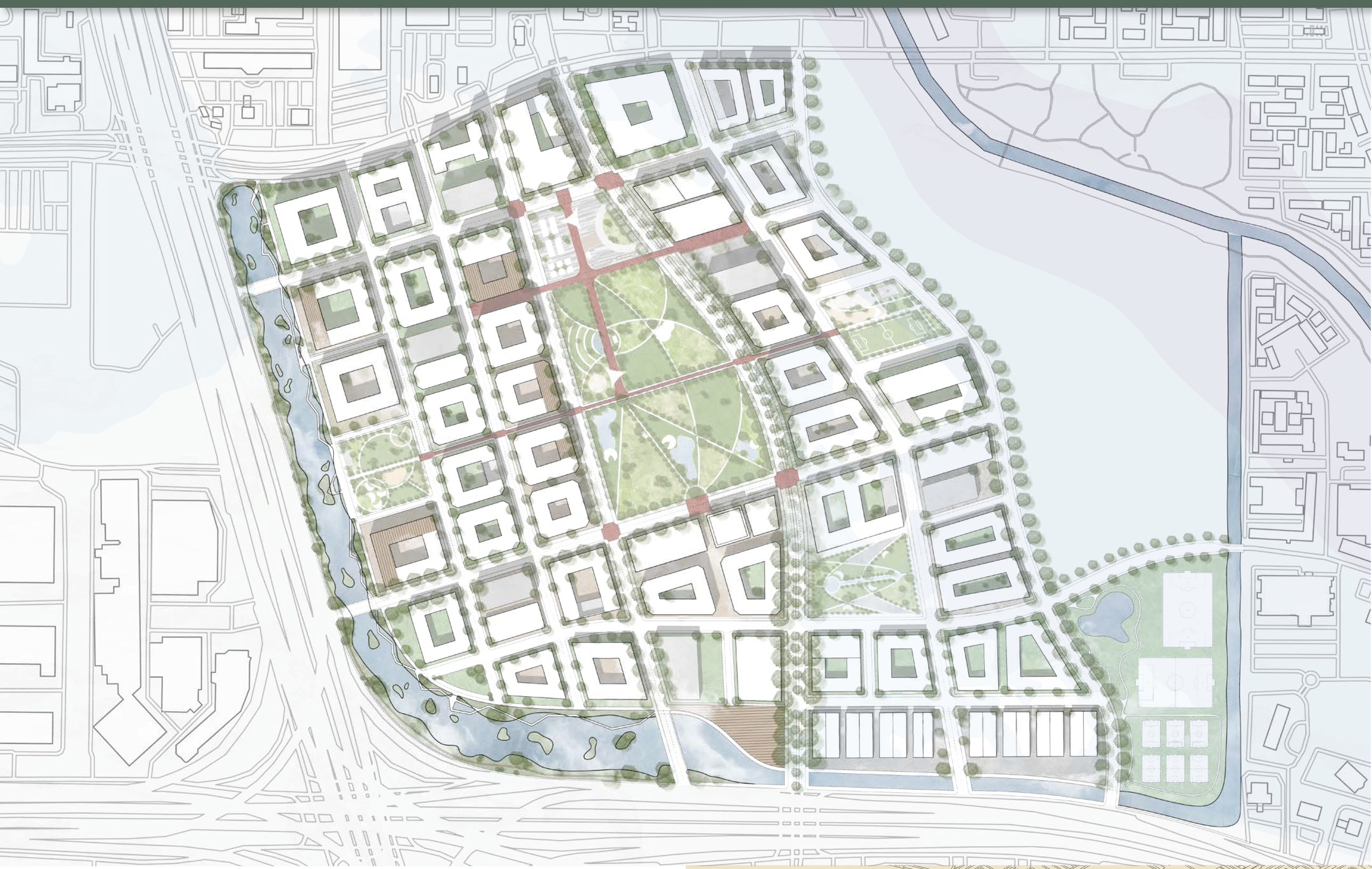
Greenspoint contends with health disparities and educational challenges. Limited access to quality healthcare facilities contributes to health inequalities, and underfunded schools struggle to provide quality education. Addressing these issues necessitates improved healthcare access and equitable funding for schools in Greenspoint.

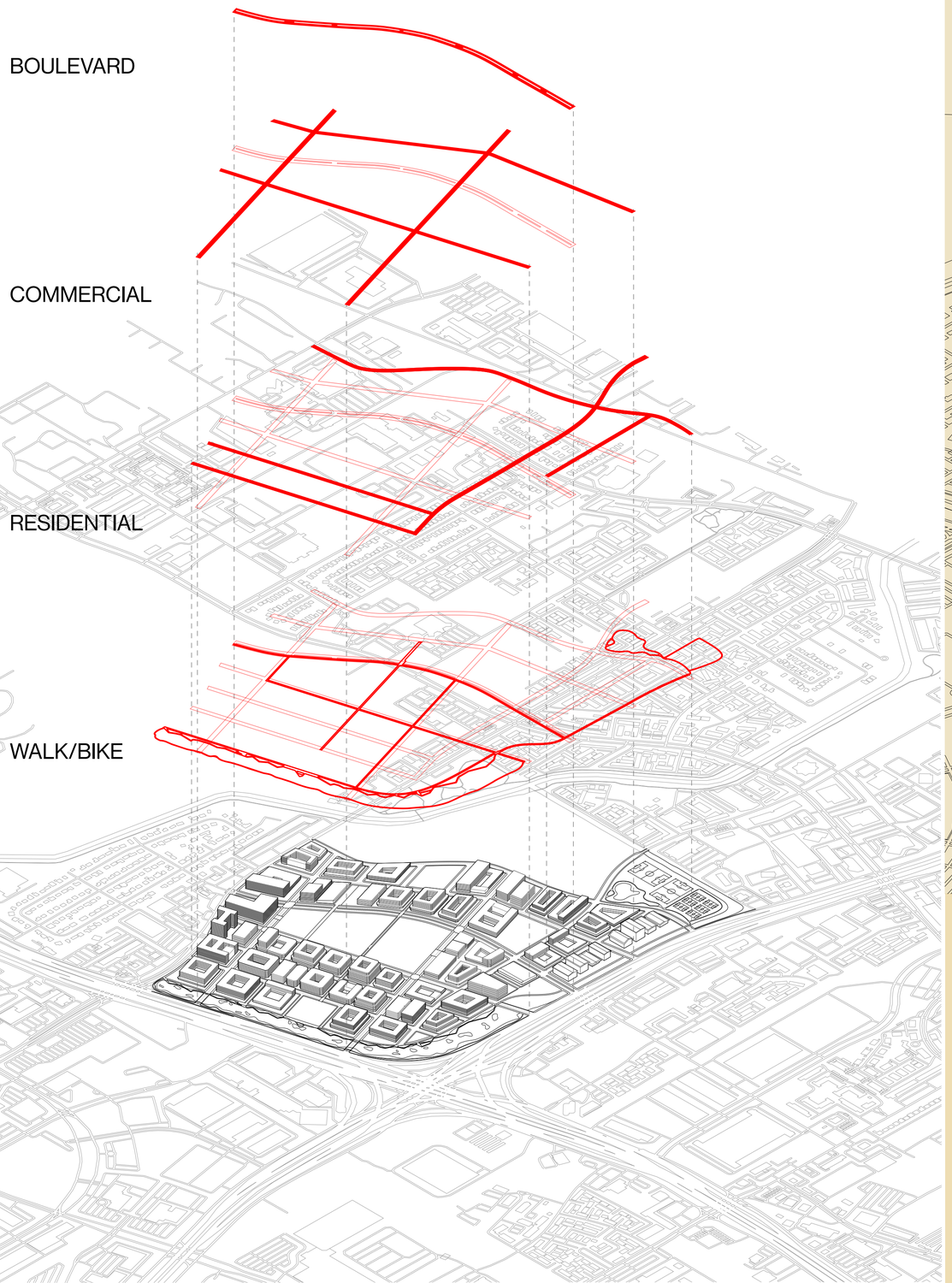
METRICS OF SUCCESS

Developing a high-density, mixed-use neighborhood that is not only highly accessible but also offers a diverse range of amenities and functions

NORTHGREENS

A NEW COMMUNITY





ENERGY CENTRE

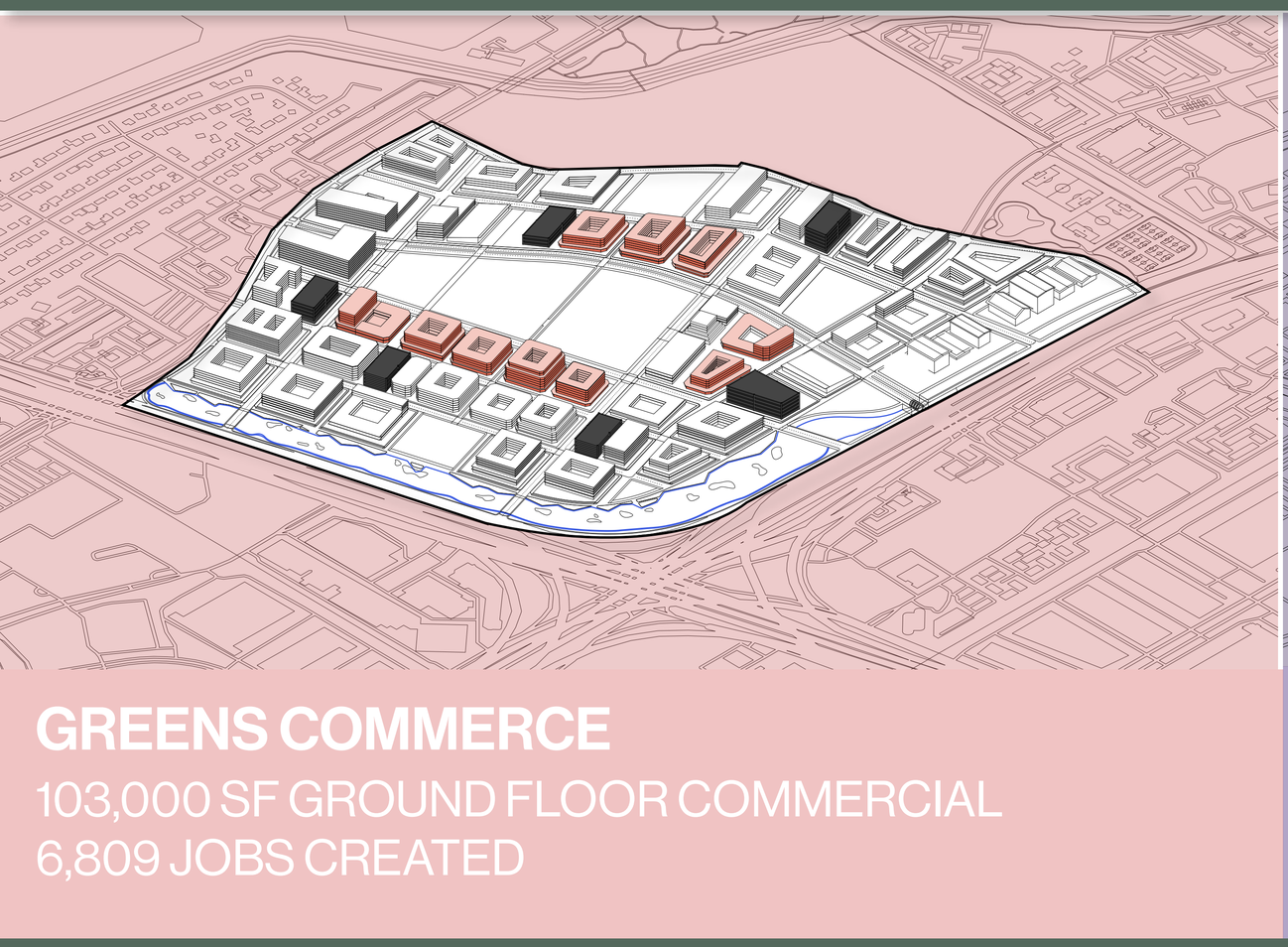
817,000 SF (LOW-RISE, MID-RISE, TOWERS)

4,638 DWELLING UNITS

14,842 RESIDENTS

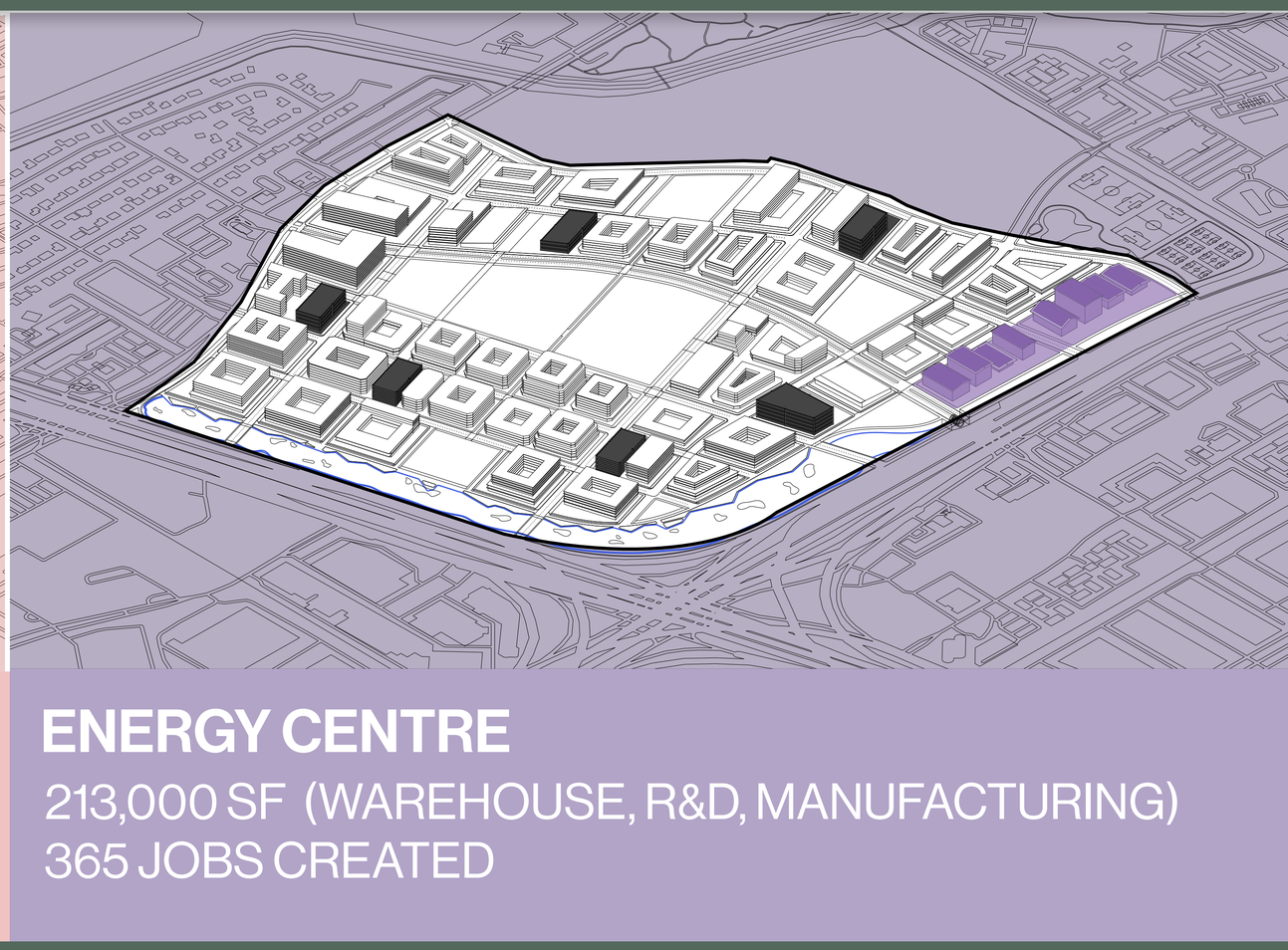
TAKING A CLOSER LOOK

DISTRICTS OF NORTHGREENS



GREENS COMMERCE

103,000 SF GROUND FLOOR COMMERCIAL
6,809 JOBS CREATED



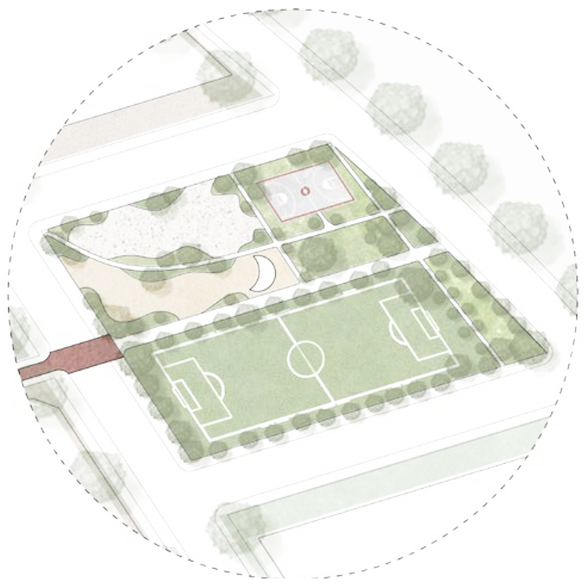
ENERGY CENTRE

213,000 SF (WAREHOUSE, R&D, MANUFACTURING)
365 JOBS CREATED

GARDENS PARK

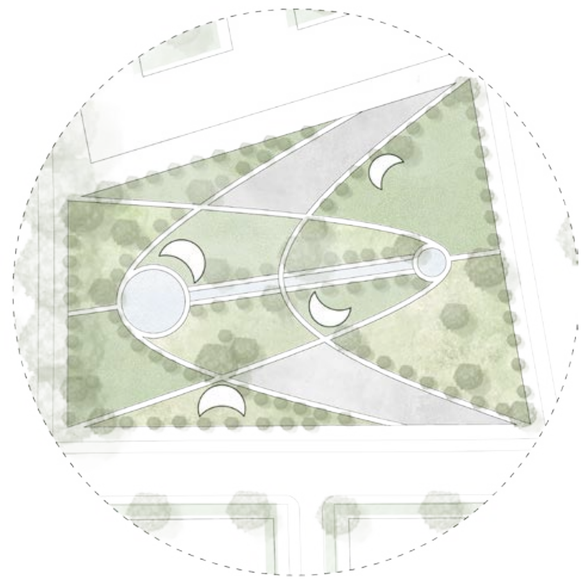
A. Pavillion Area
B. Outdoor Exercise
C. Dog Park
D. Community Garden
E. Big Lawn
F. Car Charging Station
G. Bike Park

GREENS PLAYGROUND

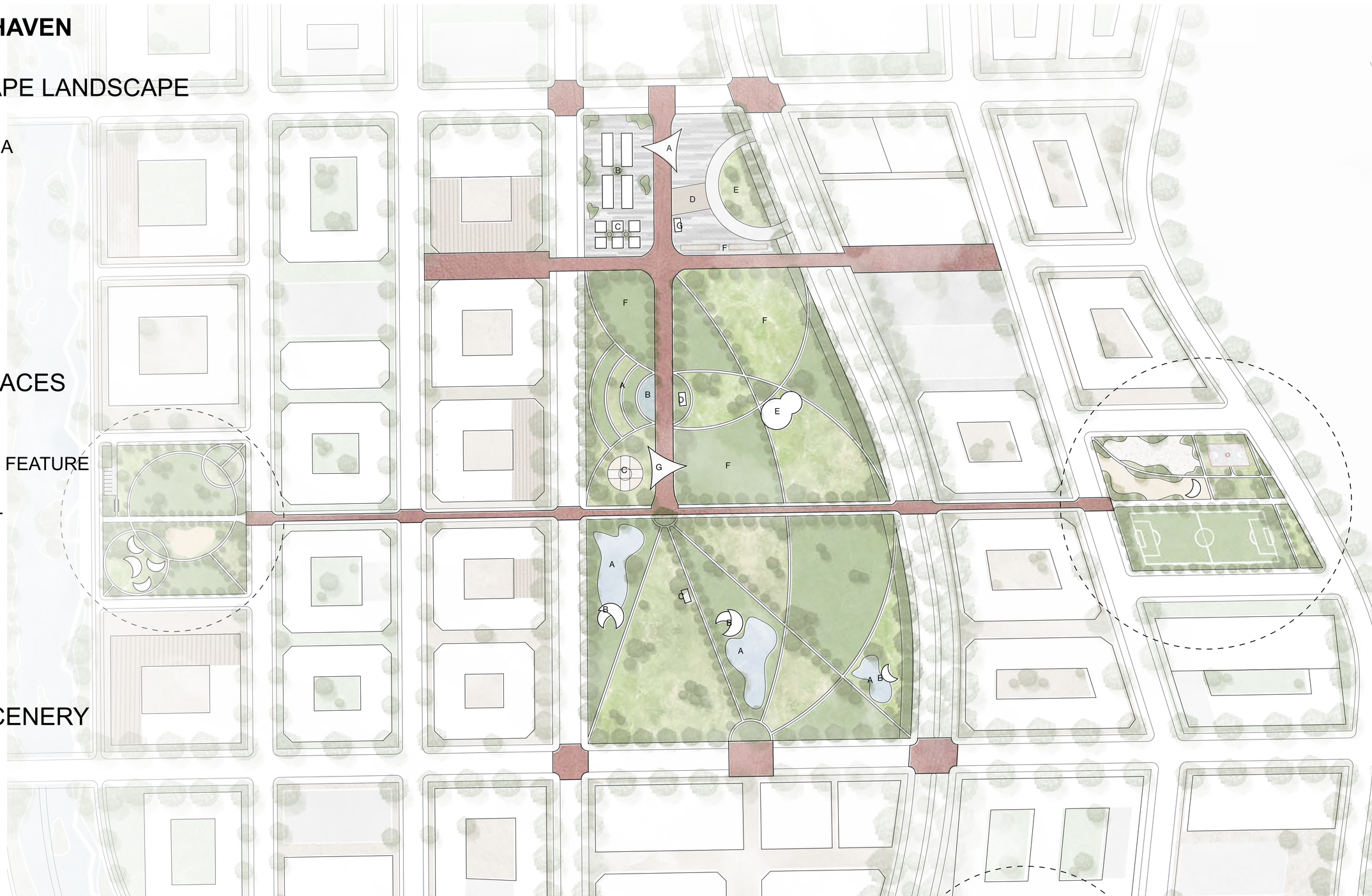


H. Playground
J. Basketball Court
K. Picnic
L. Soccer Field
M. Pavillions
N. Water Fountain
O. Interactive
P. Water Stream

OASIS PARK



GREEN CENTRAL HAVEN



ZONE 1 - HARDSCAPE LANDSCAPE

A. GATEWAY PAVILLION
B. OPEN COVERED AREA
C. COVERED SEATING
D. OPEN SEATING
E. LAWN SPACE
F. BOCCE
G. CAFE

ZONE 2 - EVENT SPACES

A. GARDEN
B. WATER FOUNTAIN
C. INTERACTIVE WATER FEATURE
D. PUBLIC RESTROOM
E. PERFORMANCE HALL
F. PICNICE AREA
G. GATEWAY PAVILLION

ZONE 3 - RELAX SCENERY

A. LAKES
B. PAVILLIONS
C. PUBLIC RESTROOM

CONNECTING COMMUNITIES

UNDERSTANDING STREET SECTIONS

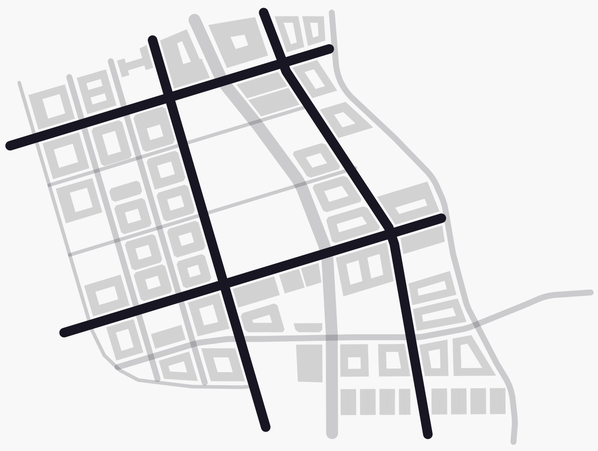
BOULEVARD

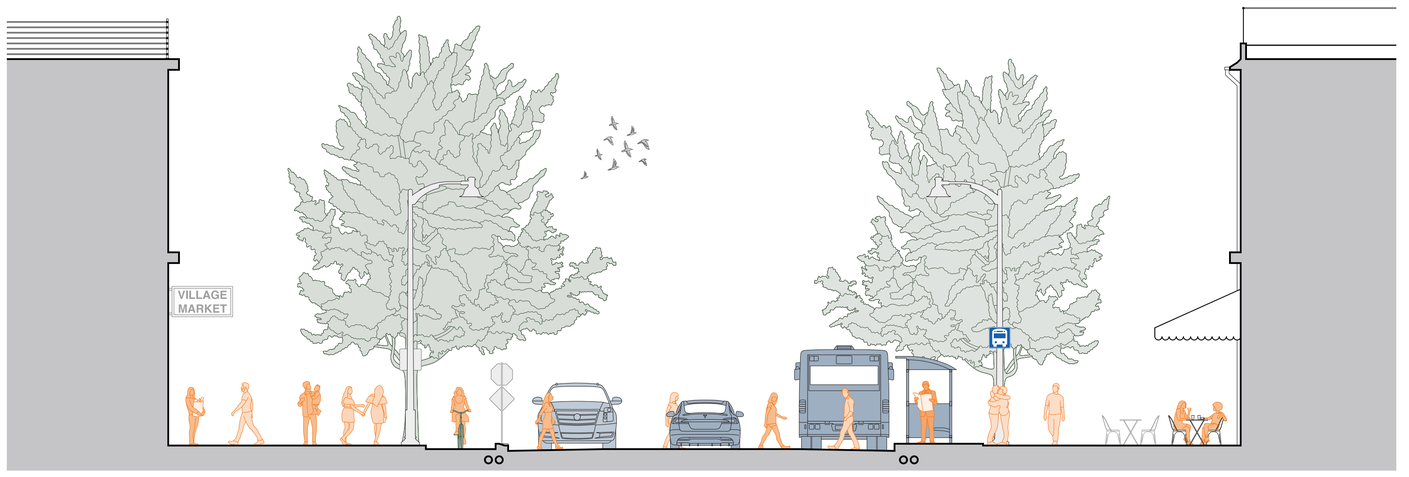
NORTH GREENS BLVD.

RESIDENTIAL STREET

PARK AVENUE

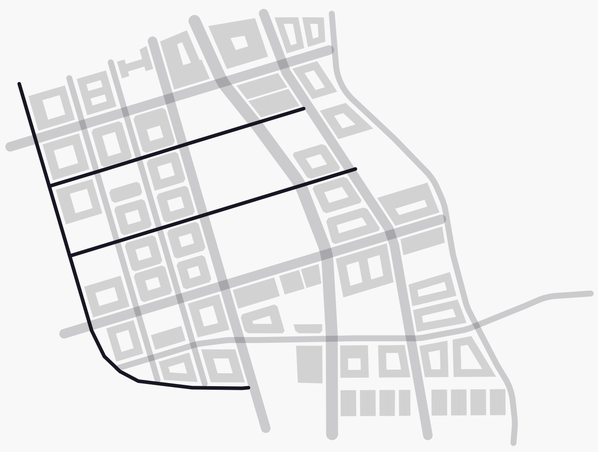
COMMERCIAL



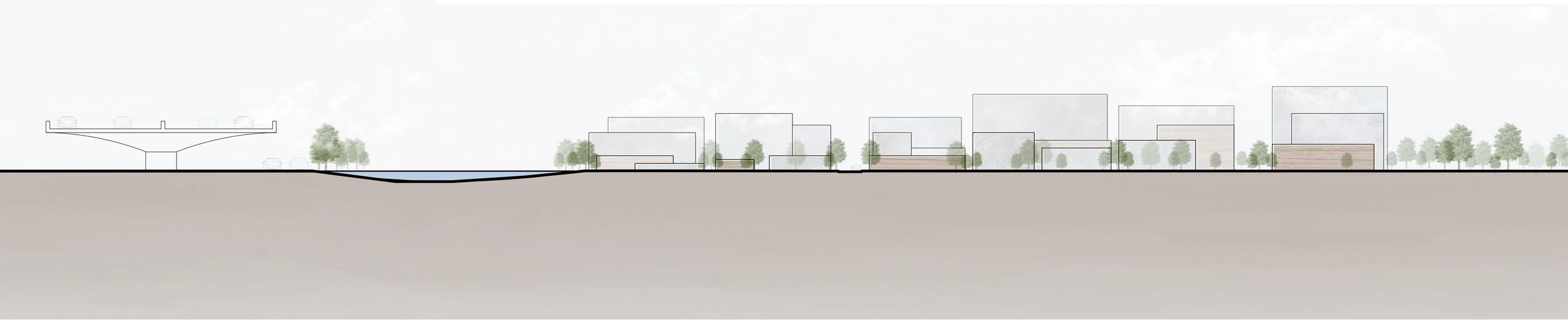


N. GREENS SHOPPING DISTRICT

PEDESTRIAN PATHS/TRAILS

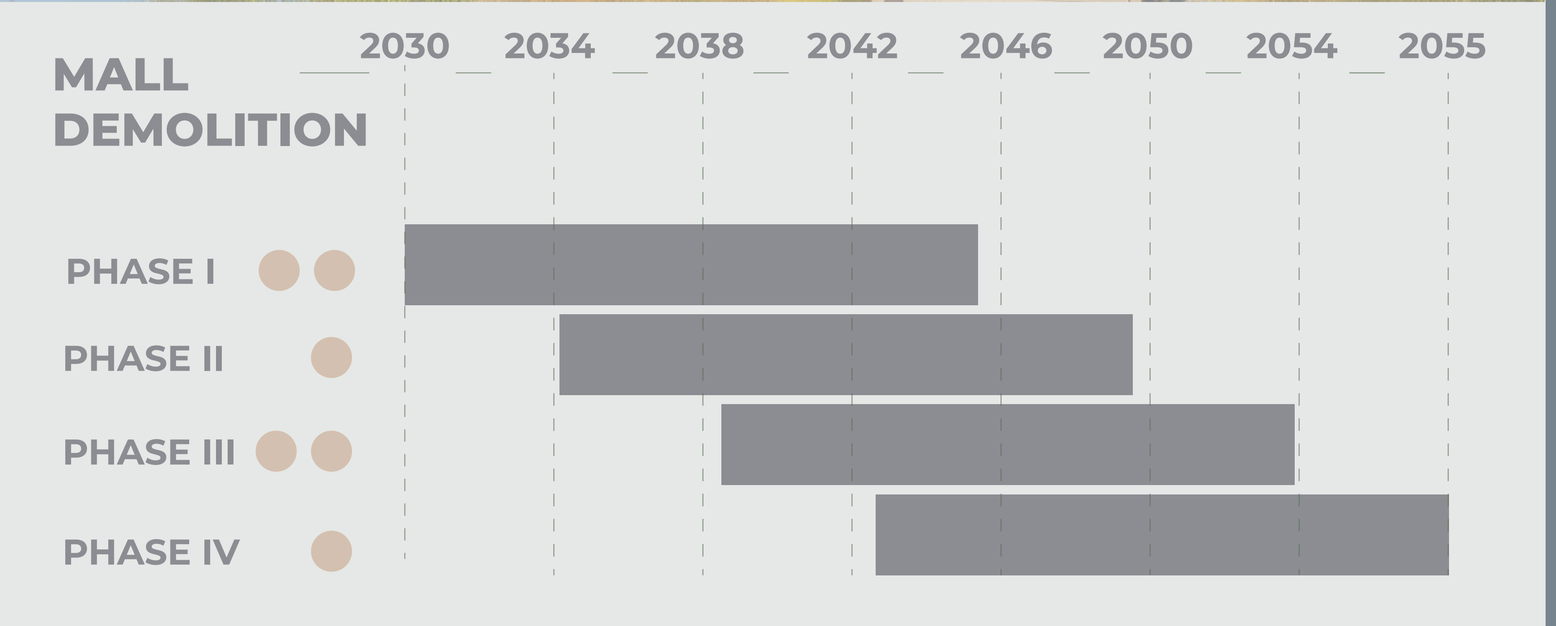


THE MARSHLANDS



RESURRECTING GREENSPOINT

PHASING OF NORTHGREENS



1. ENEERGY

This phase will focus on building the infrastructure necessary to provide reliable and sustainable energy sources for the entire development area.

The development team will need to prioritize the construction of renewable energy facilities such as solar, wind, and geothermal power plants, as well as transmission and distribution infrastructure to deliver this energy to the rest of the site.

This phase may also include the construction of energy storage facilities, such as batteries or pumped hydro storage, to help balance energy demand and supply.

Finally, this phase will involve designing and implementing a smart grid system to optimize energy distribution and ensure the energy infrastructure is flexible and adaptable to future needs.

2. P EOPLE

The focus of this phase will be on developing the high-density residential district to provide housing for the growing population.

The development team will need to work closely with architects and urban planners to design the residential district in a way that promotes sustainability and a high quality of life.

This will include incorporating energy-efficient building design, green infrastructure, and sustainable transportation options such as bike paths and pedestrian walkways.

The development team will also need to prioritize the construction of community amenities such as parks, community centers, and schools to ensure that the residential district is a vibrant and thriving community.

3. SUPPORT

This phase will focus on developing the medical district, commercial district, and transit center to provide essential services to the growing community.

The medical district will need to provide access to quality healthcare services, while incorporating sustainable design practices and green infrastructure.

The commercial district will provide job opportunities and support economic growth, while being designed to be walkable, bikeable, and accessible by public transportation.

The transit center will be designed to connect the development area to the rest of Houston, reducing reliance on private cars and promoting sustainability.

4. GROWTH

The final phase of the development plan will focus on developing the research and development campus and parks.

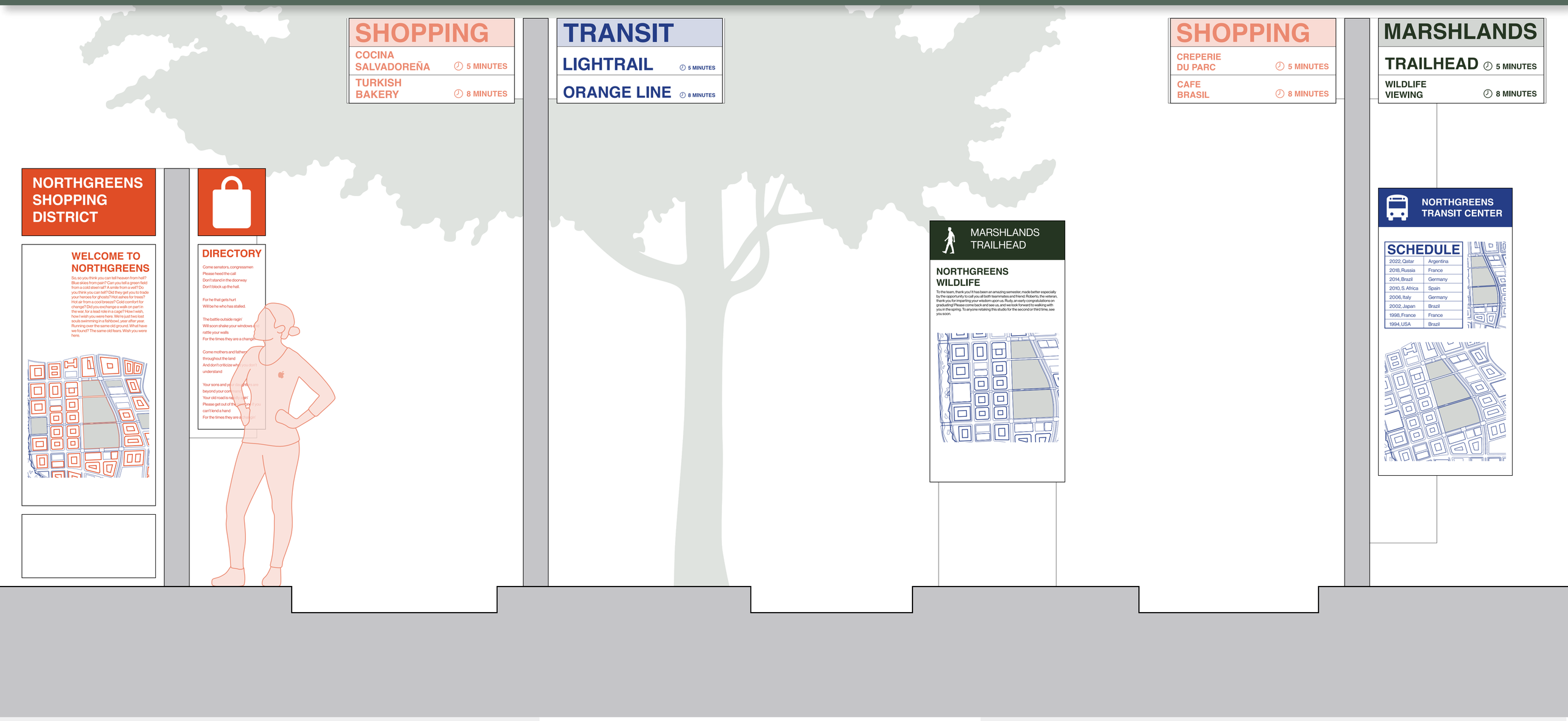
The research and development campus will provide a hub for innovation and economic growth, while incorporating sustainable design practices and green infrastructure.

The development team will also prioritize the development of parks and green spaces to promote recreation, health, and wellbeing for the community.

This phase will also involve finalizing the development of any remaining infrastructure necessary to support the entire site, such as roadways, sidewalks, and utility connections.

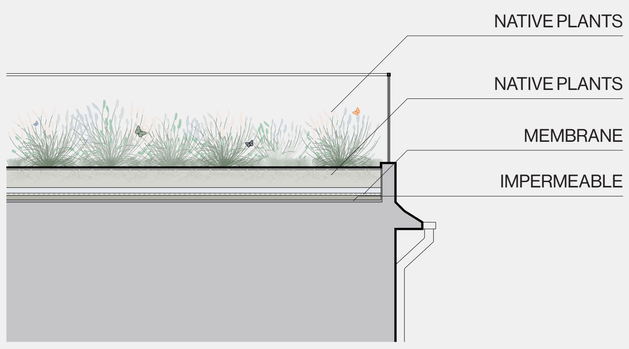
RISING ABOVE

HYDROLOGY SOLUTIONS FOR THE GREENSPOINT



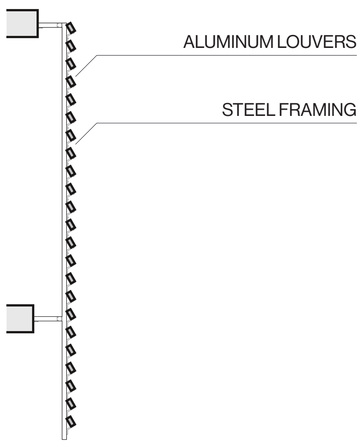
SUSTAINABILITY STRATEGIES

ECOLOGY



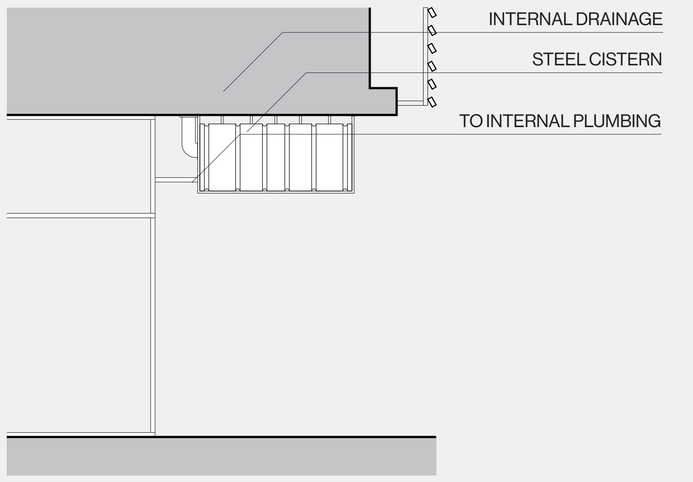
GREEN ROOFS

0' 1 4 8 16'



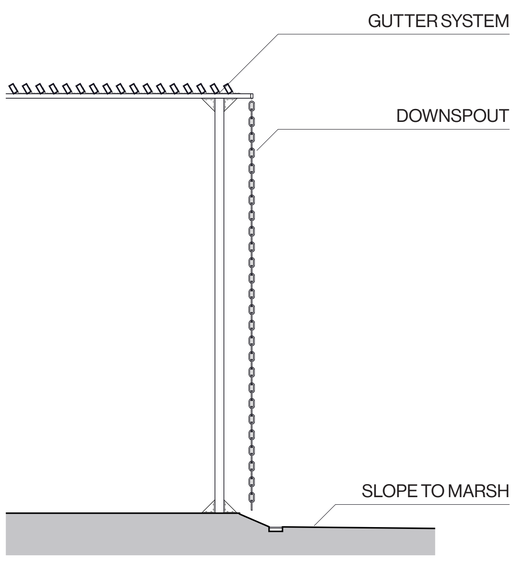
SUNLIGHT

0' 1 4 8 16'



RAINWATER COLLECTION

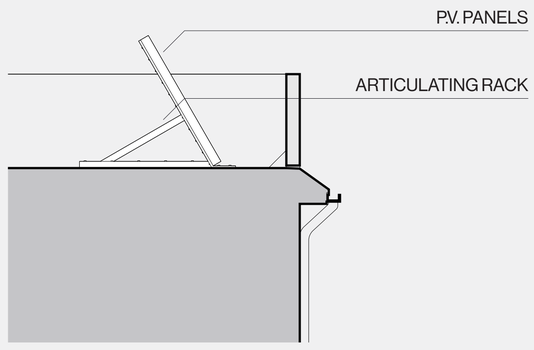
0' 1 4 8 16'



DRAINAGE TO MARSH

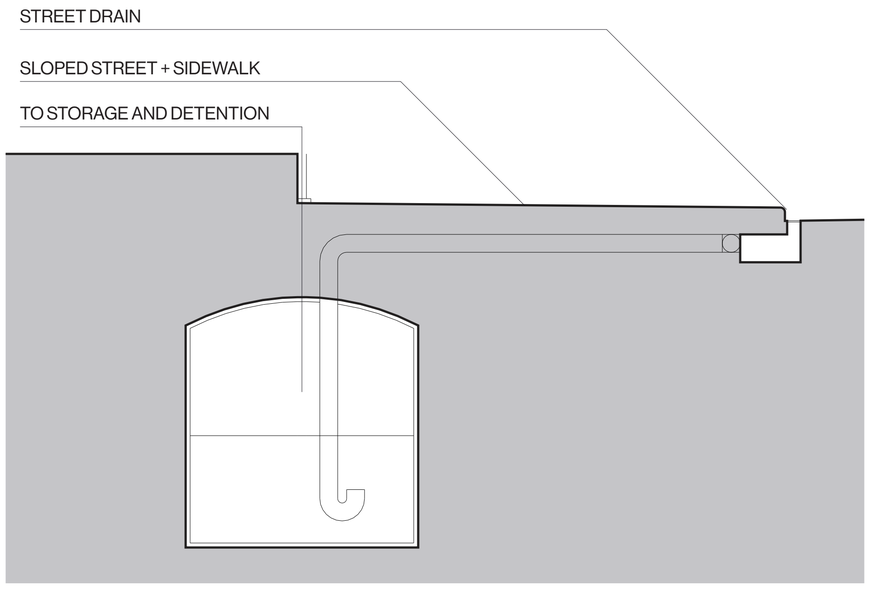
0' 1 4 8 16'

SUNLIGHT



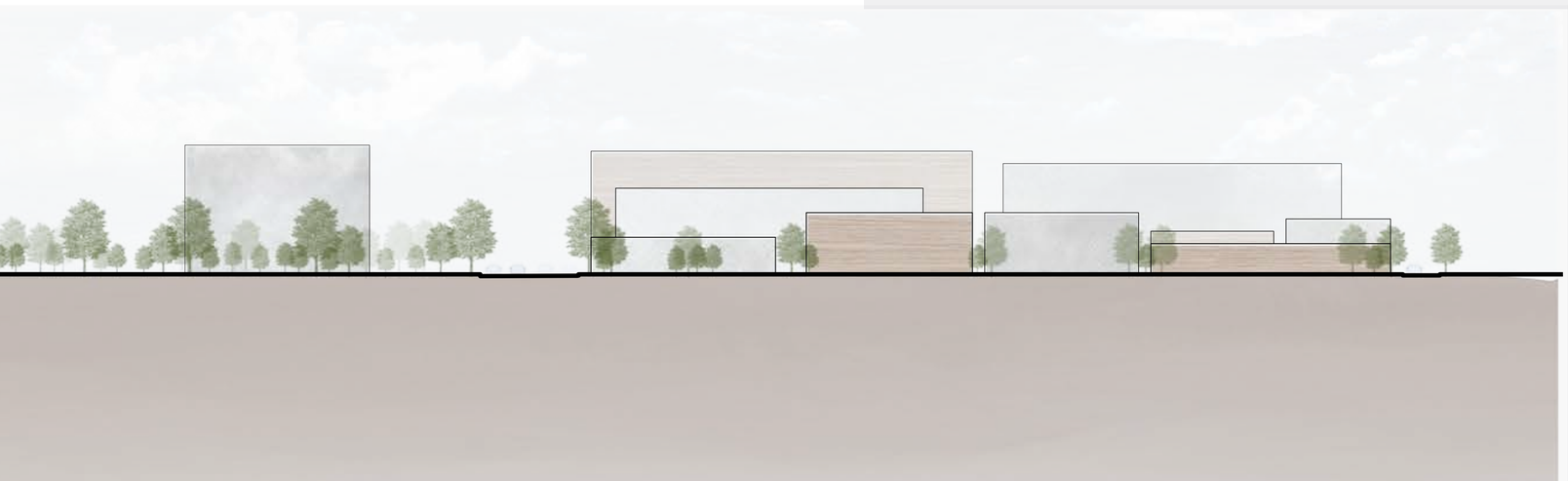
PHOTOVOLTAIC

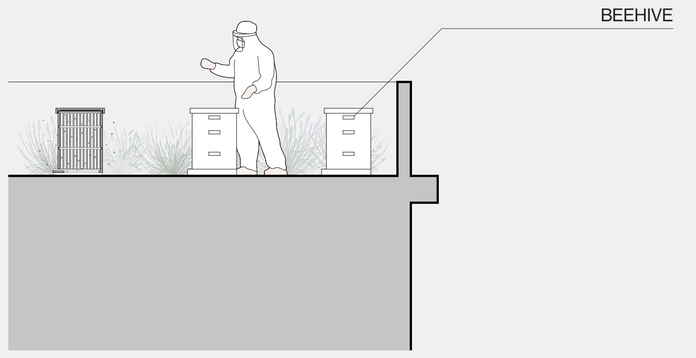
0' 1 4 8 16'



DRAINAGE COLLECTION

0' 1 4 8 16'



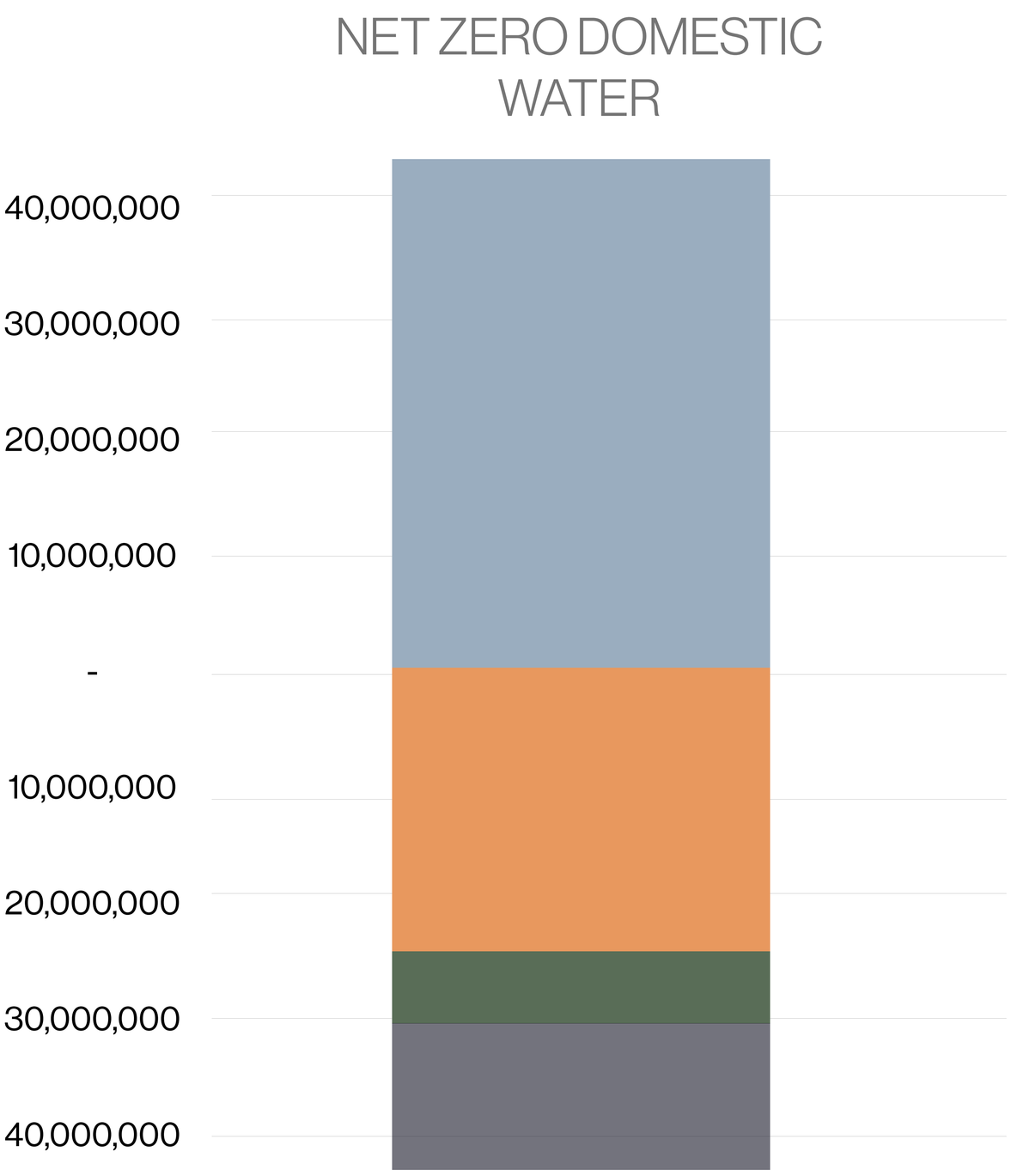


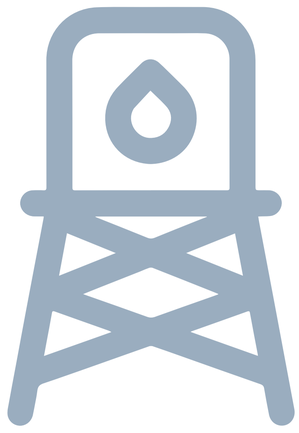
BEEKEEPING

0' 1 4 8 16'

POWERING PROGRESS

GREENING THE GRID: ENERGY, WATER, AND WASTE





	Population	#/person/day (TCEQ, 2014)	TOTAL DAILY	TOTAL ANNUAL
	14,842	6.60	**97,957.20**	**35,754,378.00**
	3.2 per household			
	GSF	Baseline	**TOTAL DAILY BASELINE**	Target
		DEMAND		ZERO
	1000s of SF	Gals/Year/SF (EIA, 2012)	Gals/year	
Office	450	15.00	6,750,000	
Food Prep	5	60.00	300,000	
Residential	817	40.00	32,680,000	
Commercial	120	25.00	3,000,000	
	Population	Per Capita (TWDB, 2015)		
Residential	-	77.00	-	
TOTAL			**42,730,000**	

	Gallons H2O	
Baseline	42,730,000	
Conservation	(24,738,000)	-58%
Grey Water	(5,607,600)	-13%
Roof Rain Water	(12,384,400)	-29%

PROPERTY TYPE	SITE EUI	KWH/MO/ 1,000 GSF	1,000's SF	TOTAL KWH/MO	TOTAL KWH/YR	ENERGY REDUCTION	NEW ENERGY DEMAND/ YEAR
K-12 SCHOOL	48.5	1,185	500	592,272	7,107,269	46%	3,810,084
GROCERY STORE	196	4,787	103	493,064	5,916,764	80%	1,183,356
MULTI-FAMILY	59.6	1,253	4,103	5,401,032	64,812,379	68%	12,962,475
HOTEL	63	1,539	260	400,059	4,800,703	44%	2,688,393
OFFICE	52.9	1,292	400	516,803	6,201,641	60%	2,480,656
RETAIL STORE	103.5	2,528	10	25,278	303,341	75%	76,200
ENERGY STATION	40.1	979	160	156,702	1,880,422	80%	376,080
PARKING	9.0	219	576	126,148	1,513,773	80%	302,760

BASELINE DEMAND **92.57 GWh**

NEW DEMAND **31.55 GWh**