

Conrad Sauer Detention Basin Park / Mathewson Lane Streetscape

Houston, TX

Situated north of the Katy Freeway and adjacent to Memorial City, the Conrad Sauer Detention Basin was a prominent eyesore along the freeway heading West.

In the past, this detention facility served only a single function and it was realized that it had the potential to offer so much more to the community, both aesthetically and practically.

OJB was hired to re-purpose the 156,015 sf concrete-lined basin into a park-lined water feature that not only improves its existing functional detention capacity, but also creates a new resilient accessible public green space in an area currently undergoing revitalization. In conjunction with the civil engineer, OJB designed the surrounding streetscape adjacent to the property, extending the stormwater capture capacity and addressing pedestrian safety and street beautification.

The project parameters stipulated that the design had to include an expansion of the detention capacity by adding detention both in the basin and beneath the new streetscape development, and that all additional design be installed on top of the working basin structure. Additionally, the design had to be able to withstand the seasonal inundations typical of the Houston area and ease drainage woes along North Gessner Road. Thorough coordination efforts with structural and civil engineers were required to make this project a success.

Pedestrian sidewalks wrap around the basin park, planted with Overcup oaks, Redbuds and Montezuma cypress, and the paths connect to circuitous elevated walkways that descend into the basin itself. Shade arbors, vegetated structural decks and a rich planting palette of native plants create a lush user experience and engaging view from nearby high-rises.

Client

MetroNational

Size

5.2 acres

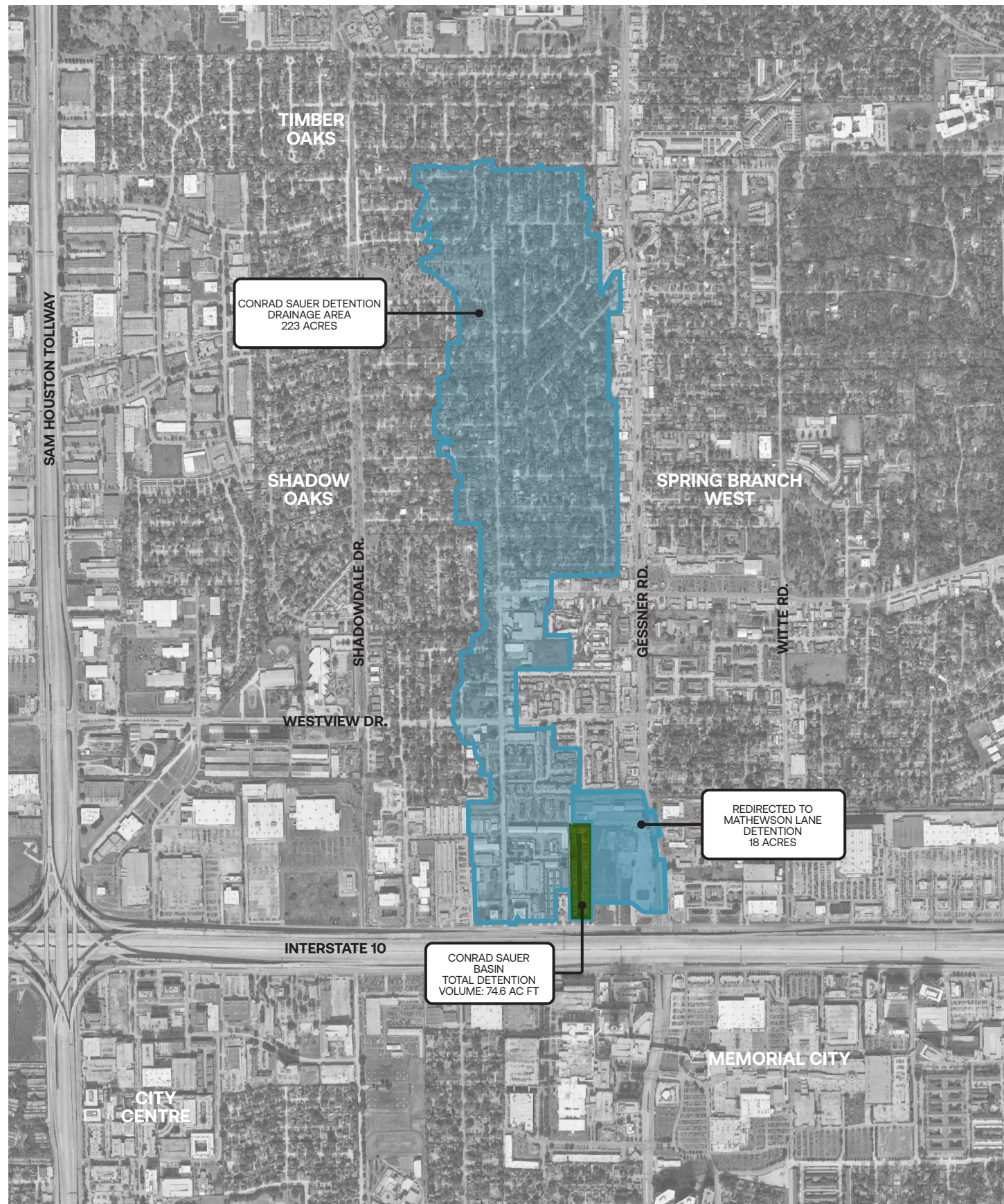
Dates

2013 - 2018

Team

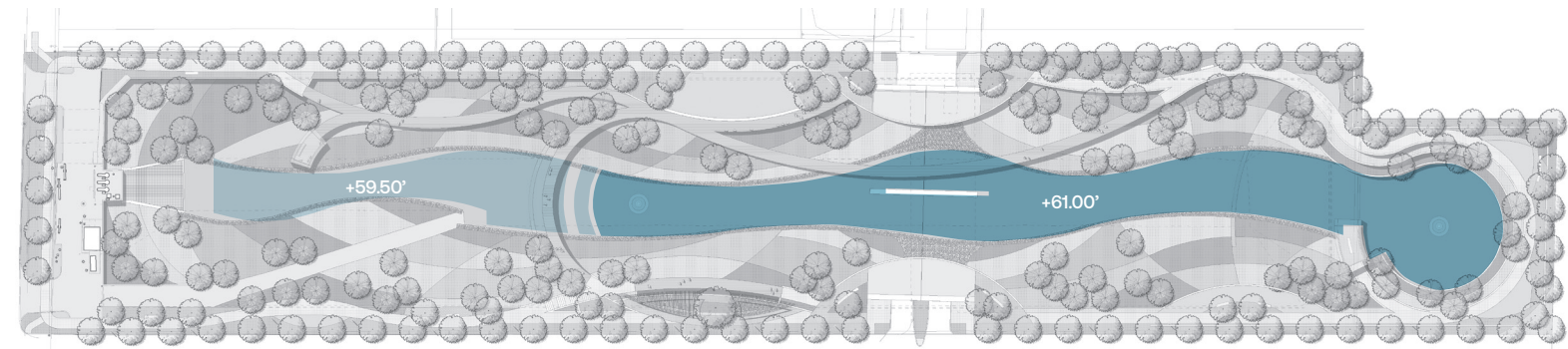
RPS Group
Texas Sterling
Brightview



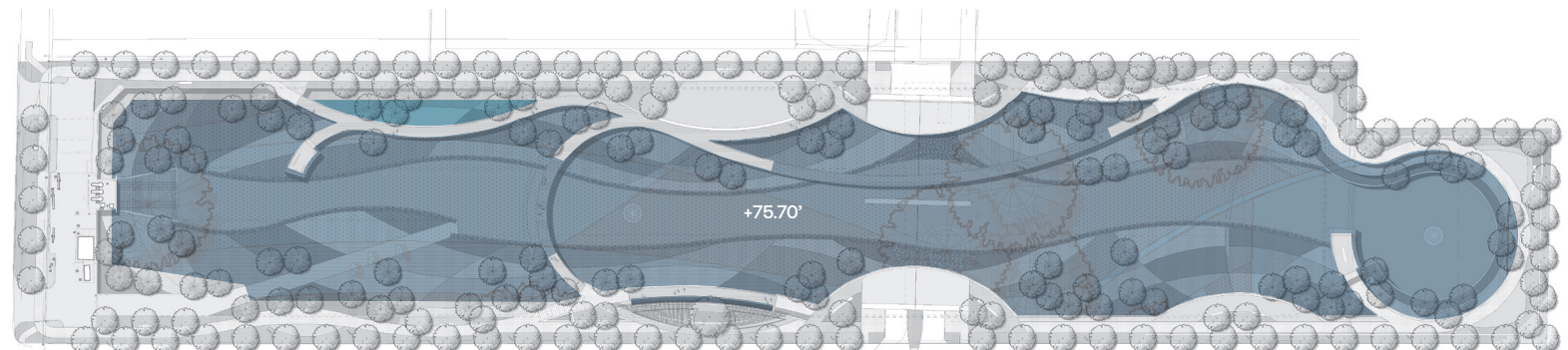


DURING A 10-YEAR STORM EVENT THE DETENTION BASIN HOLDS 68-ACRE FEET OF WATER. THIS KEEPS THE NEIGHBORHOOD FROM SITTING IN ALMOST 4-INCHES OF STANDING WATER. THAT IS ENOUGH WATER TO FILL 34 OLYMPIC SIZED SWIMMING POOLS.

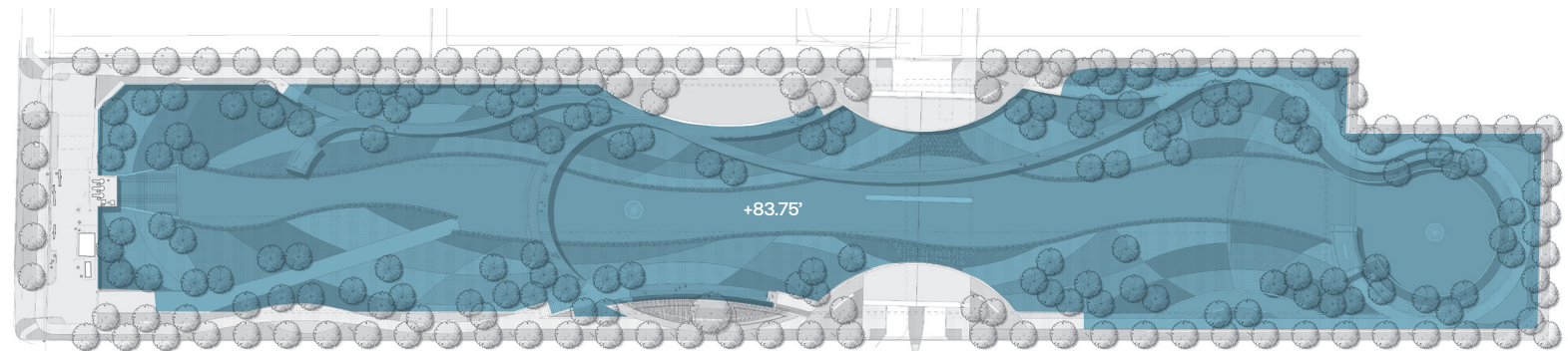
DRAINAGE BASIN WATERSHED



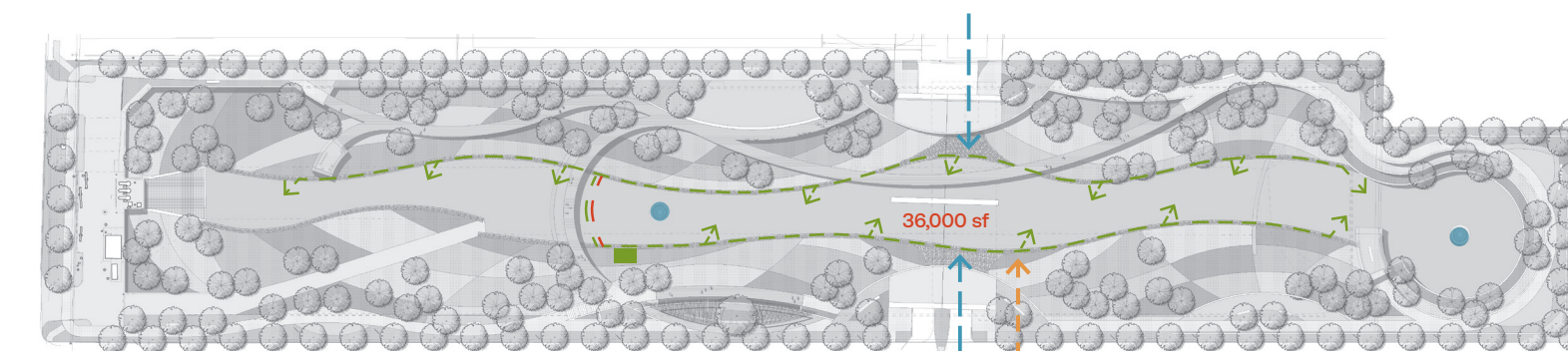
STANDING WATER LEVELS - ELEVATION VARIES



2-YEAR STORM EVENT - 75.70' ELEVATION - PARTIAL CAPACITY



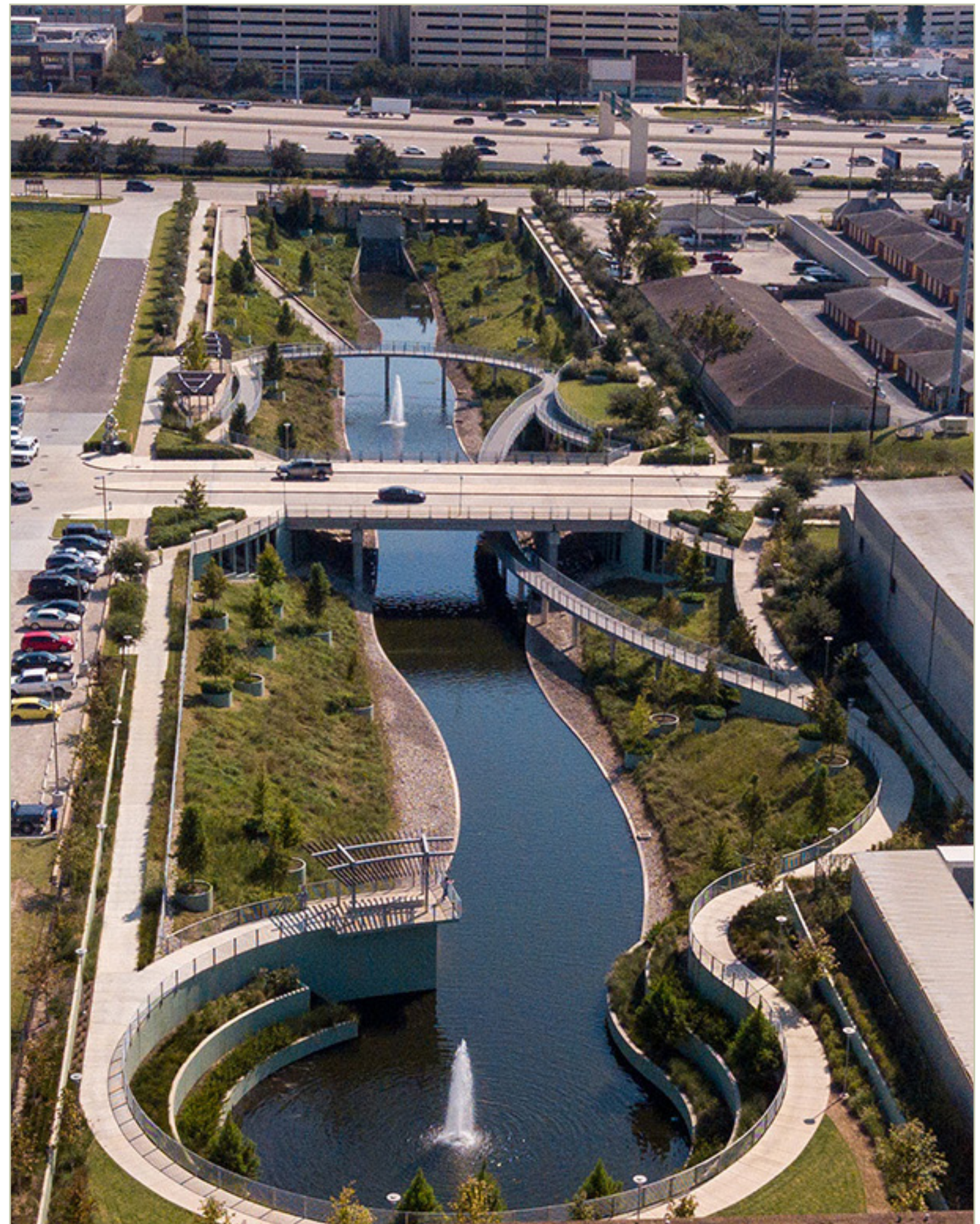
10-YEAR STORM EVENT - 83.75' ELEVATION - FULL CAPACITY



DRAINAGE BASIN - INFRASTRUCTURE

- STORM DRAINAGE INFLOW
- SUPPLEMENTAL WATER W/ DOMESTIC WATER P.O.C.
- SUBMERSIBLE PUMP - GENERAL LOCATION
- - - PUMP INTAKE ZONE
- PUMP DIRECTION/ OUTFLOW POINTS
- AERATOR JET FOUNTAINS

DRAINAGE BASIN WATER LEVELS







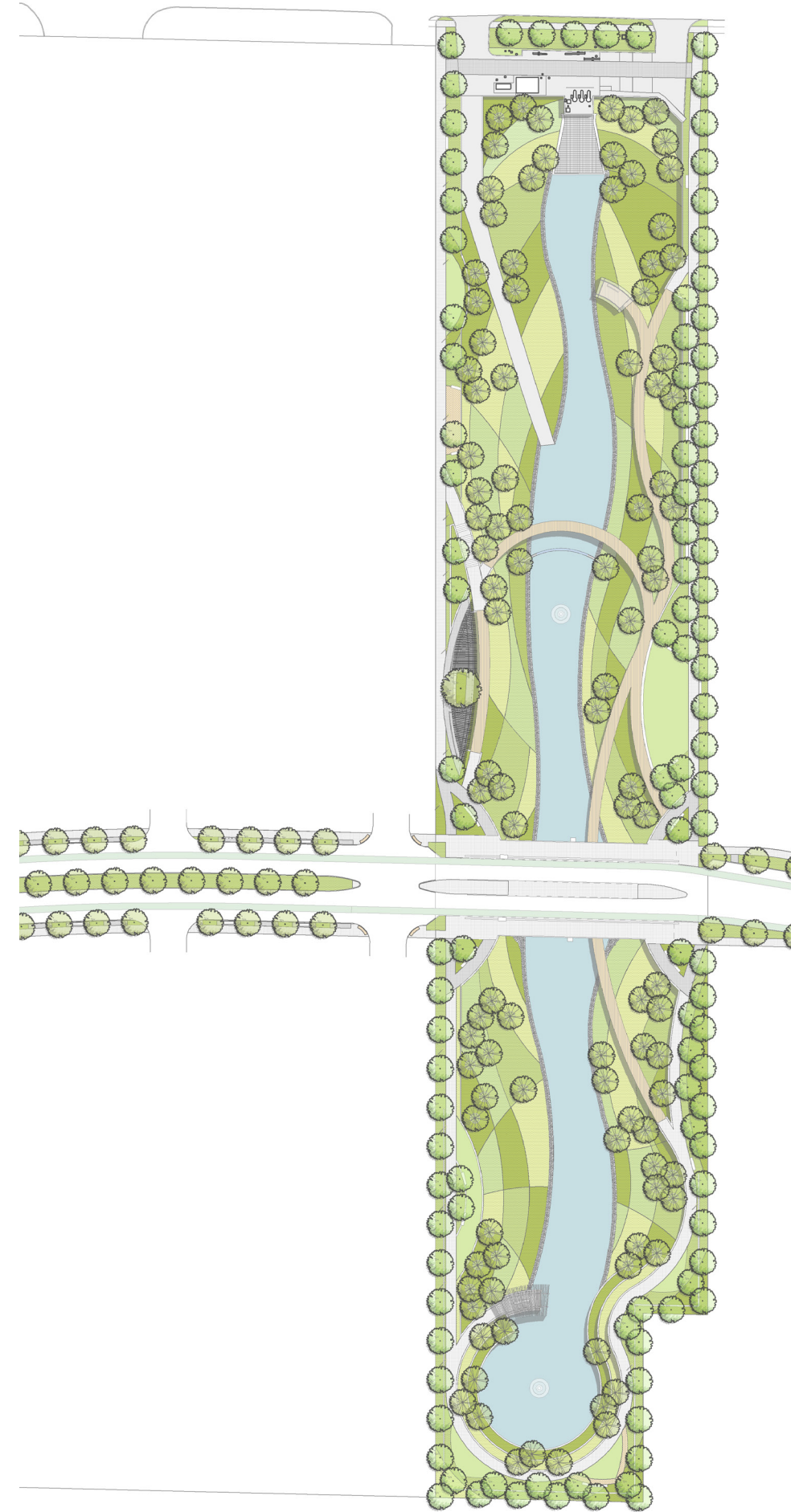
BEFORE IMAGE

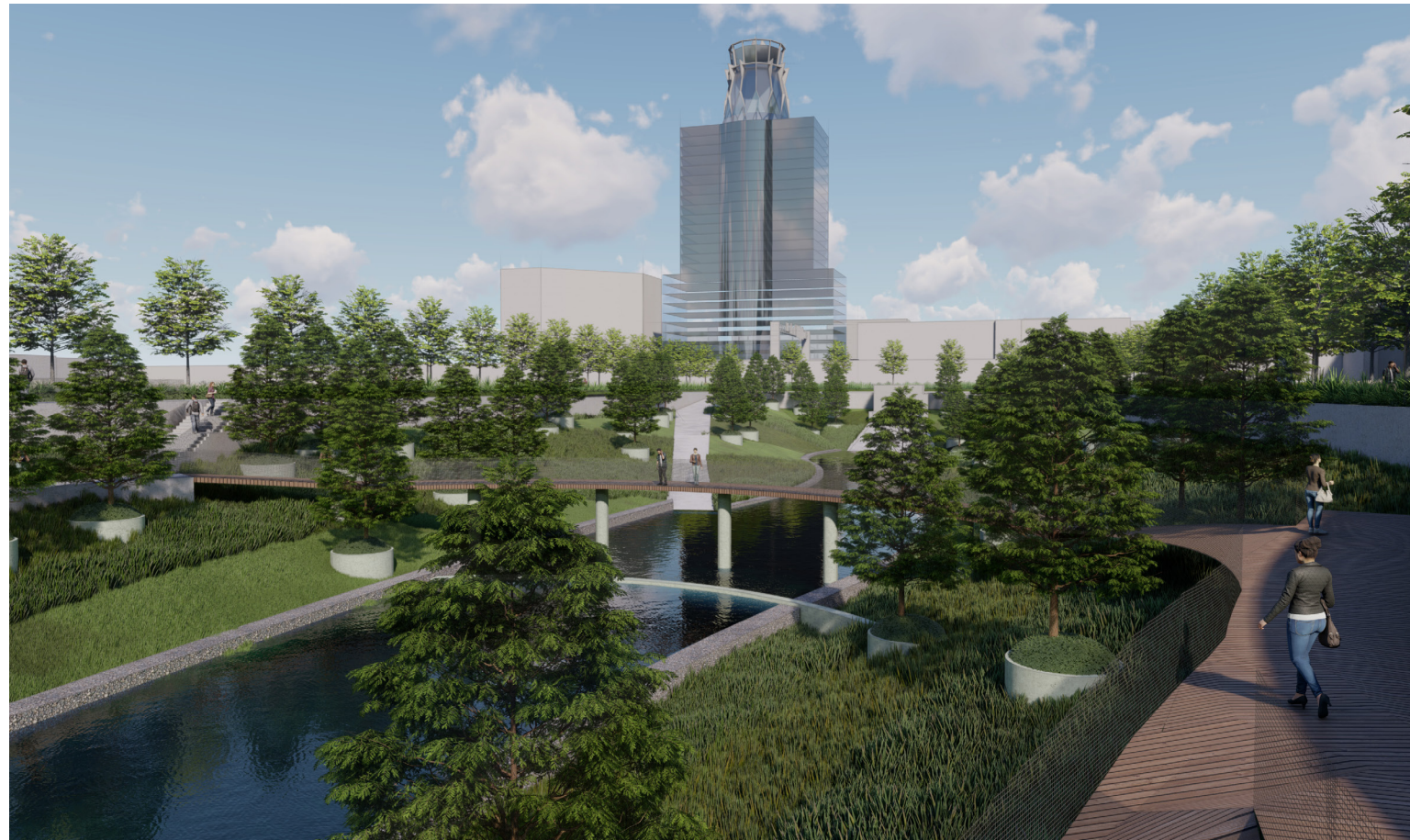


AFTER IMAGE



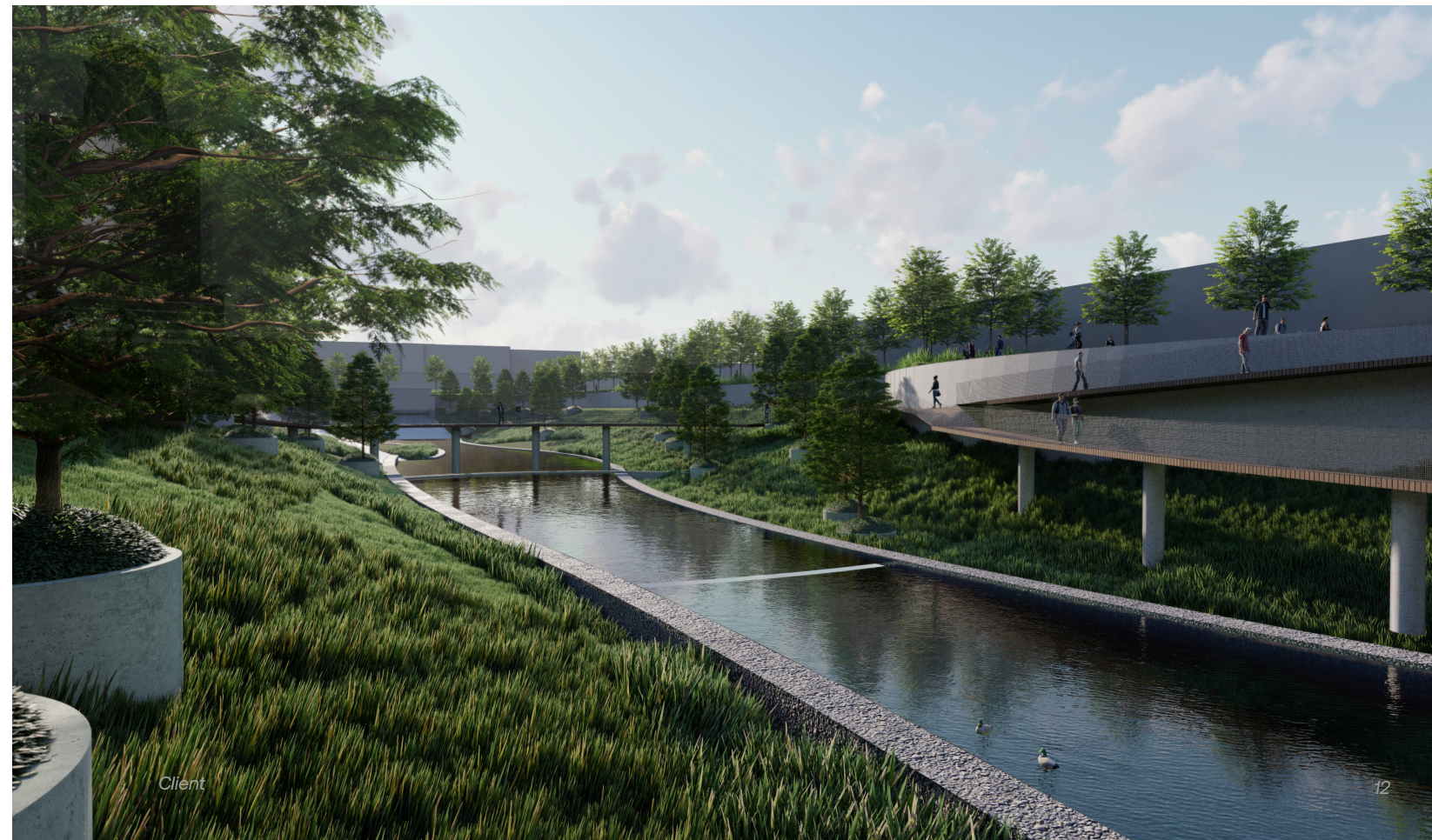
RAIN EVENT MAY 2019





DETENTION BASIN METRICS

	BEFORE	AFTER
<i>Green Space</i>	6,000 SF	132,000 SF
<i>Trees</i>	9	149
<i>Basin Detention</i>	62 acres	68 acres
<i>Street Detention</i>	0-acres	12.5 acres
<i>Sidewalks / Walkways</i>	250 linear ft	6,500-linear ft
<i>Bike Paths</i>	0 ft	6,300 linear ft



PROJECT NAME

WELCOMING, ACCESSIBLE, + SAFE CORRIDOR ENVIRONMENT

Strategy: Provide open space connectivity, pedestrian pathways and bicycle facilities.



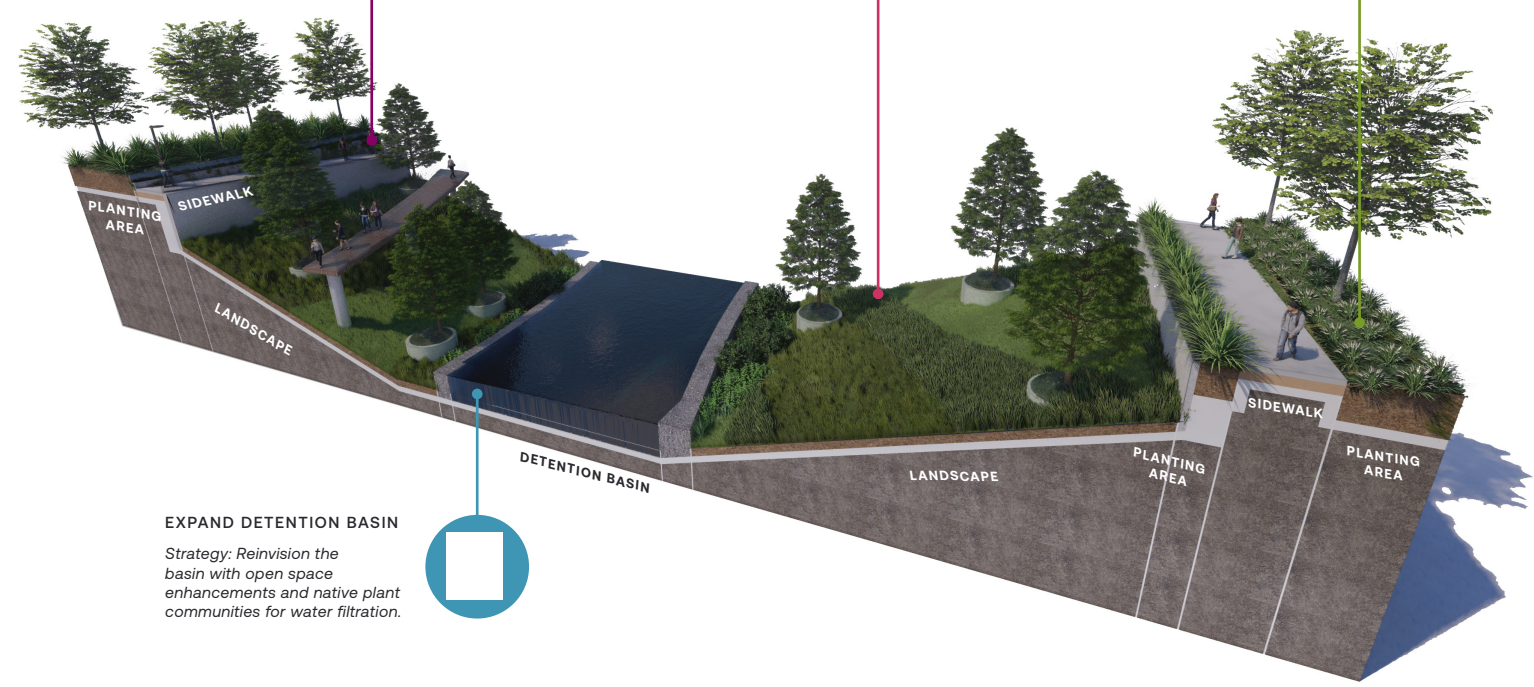
HEALING POWER OF NATURE

Climate positive infrastructure to increase open space and connect the community with a nature centered infrastructure solution.



PROMOTE A DIVERSE HABITAT

Strategy: Select plant varieties, tree and plant species within the planting areas to encourage biodiversity, pollination and wildlife communities.



EXPAND DETENTION BASIN

Strategy: Reinvision the basin with open space enhancements and native plant communities for water filtration.



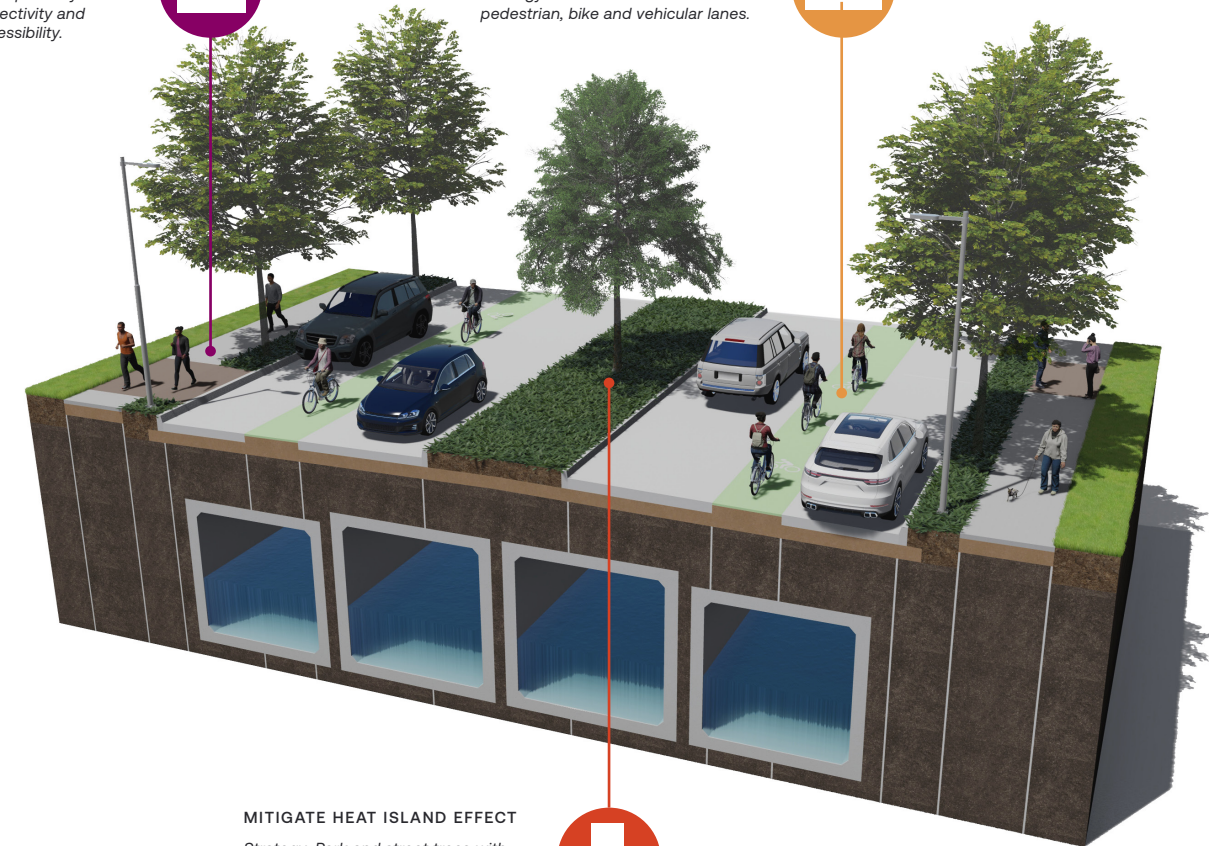
WELCOMING, ACCESSIBLE, + SAFE CORRIDOR ENVIRONMENT

Strategy: Pedestrian pathways improve park connectivity and neighborhood accessibility.



IMPROVE MOBILITY, CONNECTIVITY, + ACCESSIBILITY

Strategy: Clear definition between pedestrian, bike and vehicular lanes.



MITIGATE HEAT ISLAND EFFECT

Strategy: Park and street trees with native and adaptive planting provide increased shade and habitat, reducing the heat of the surrounding hardscape.



