# Oak Park

## Stormwater Management and Flood Mitigation Project

City of New Orleans – Hazard Mitigation Grant Program
Draft 90% Design Report

Community Meeting – January 8, 2018

Resilient NEW ORLEANS

ROADWORK.NOLA.GOV

# AGENDA

PROJECT OVERVIEW AND PURPOSE

EXISTING CONDITIONS

PROPOSED DESIGN

PROJECT BENEFITS

NEXT STEPS

CONCLUSION

# PROJECT OVERVIEW AND PURPOSE

# PROJECT OVERVIEW: LOCATION, PURPOSE, STATUS


Project Site : 27,720 square feet or .64 acres

Transforms five vacant NORA-owned parcels on Perlita Street, and nearby planting strips along the street, into a **stormwater management feature that reduces flood risk**

**Location:** Perlita Street, adjacent to Lake Area H.S.

**Status:** 90% design under Benefit-Cost Analysis review

# PROJECT SITE

Five contiguous vacant parcels behind Lake Area High School

# PROJECT CONTEXT

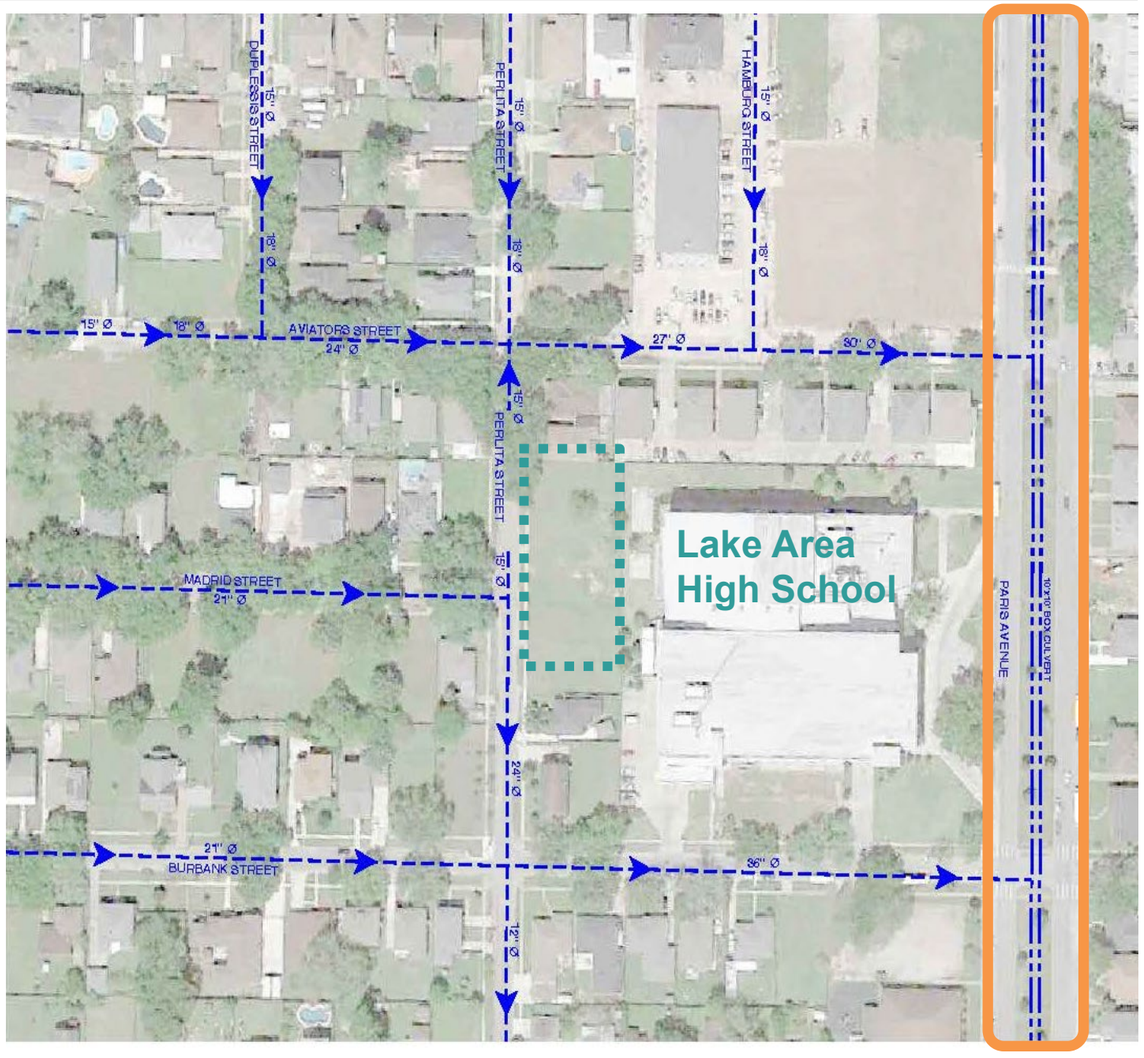

Source: New Orleans Office of Resilience and Sustainability

- The Oak Park project is part of the City's work to create the Gentilly Resilience District. Other projects the City is undertaking in Gentilly can be seen on the map to the left. **Oak Park is #9** on the map.

# EXISTING CONDITIONS

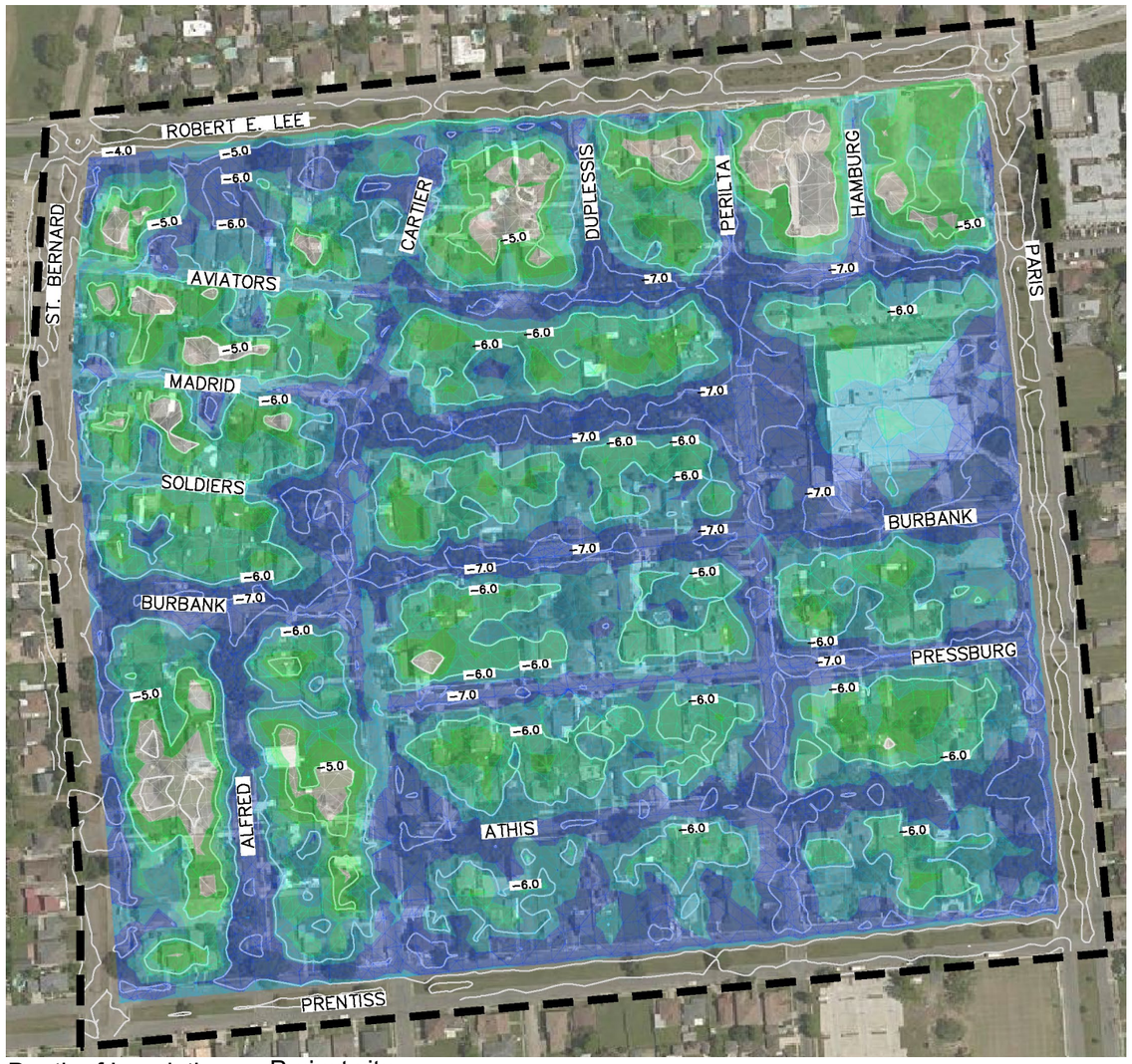
# EXISTING DRAINAGE

- Currently, the entire project area drains toward a **large culvert under Paris Avenue** (circled).
- We found that the existing system can only accommodate the 100% annual chance (1 year) flood. This means that **even normal rainfall events that happen every year** will overflow the stormwater system and flood the streets.
- Our goal with this project is to decrease neighborhood flooding during a much more severe 10-year, 24-hour storm event (8.5 inches of rain).



# EXISTING FLOODING CHALLENGES

- The team modeled street flooding under current conditions for a 2 year, 5 year, and 10 year storm.
- 2 year Storm Conditions: Flooding encroaches past the street onto surrounding properties in certain areas
- 10 year Storm Conditions: Most of the neighborhood experiences more severe flooding that encroaches onto properties and the high school




10 Year Storm Inundation Map – Existing Conditions

# PROPOSED DESIGN

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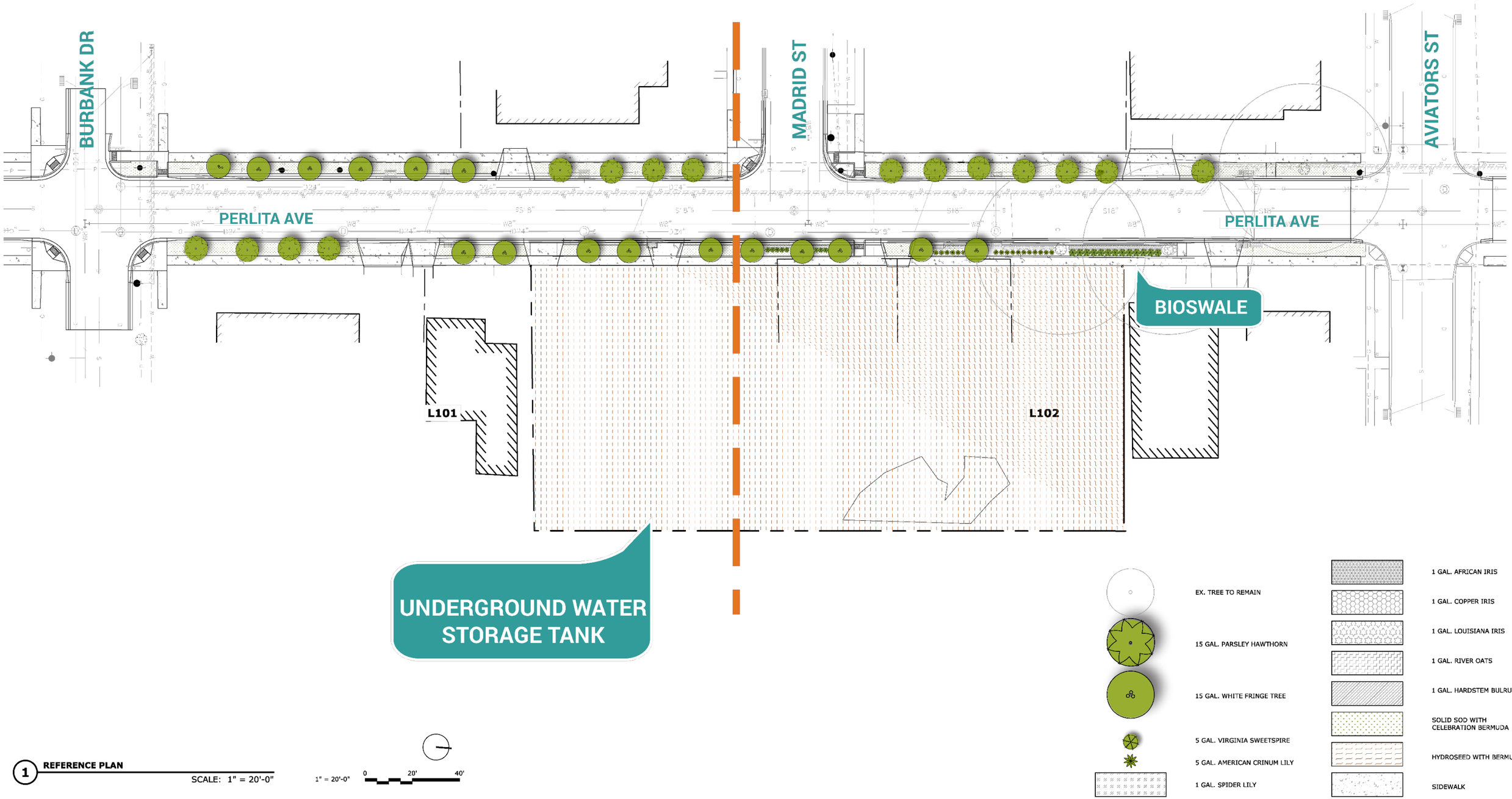
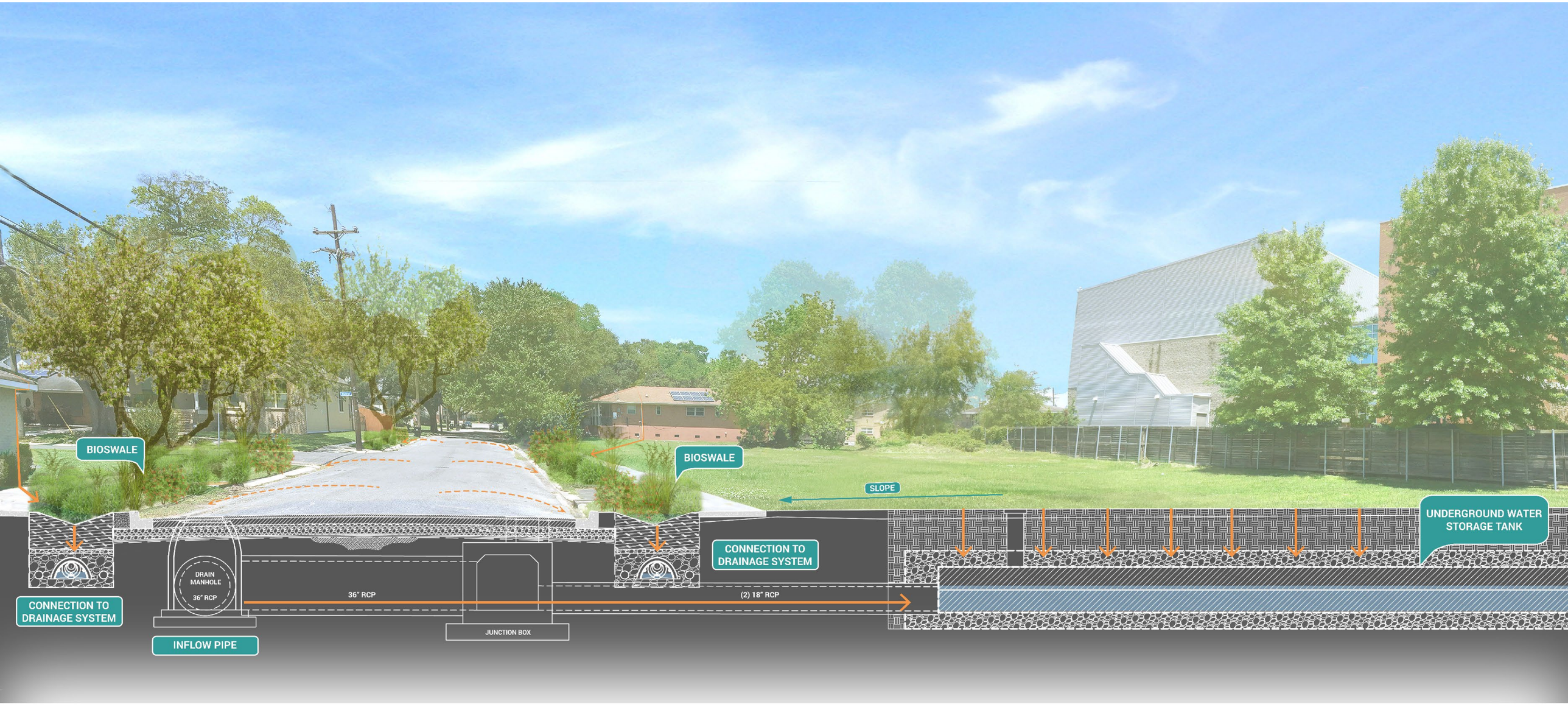



1 **REFERENCE PLAN**

SCALE: 1" = 20'-0"

1" = 20'-0" 0 20' 40'

# PROPOSED DESIGN



# NORA LOT PLANTINGS

- Additional plantings were included along the perimeter of the NORA lots. Plant roots will help water infiltrate the soils and slow and filter stormwater.
- Flowering plants will help enhance the beauty of the landscape and define the site’s boundaries.

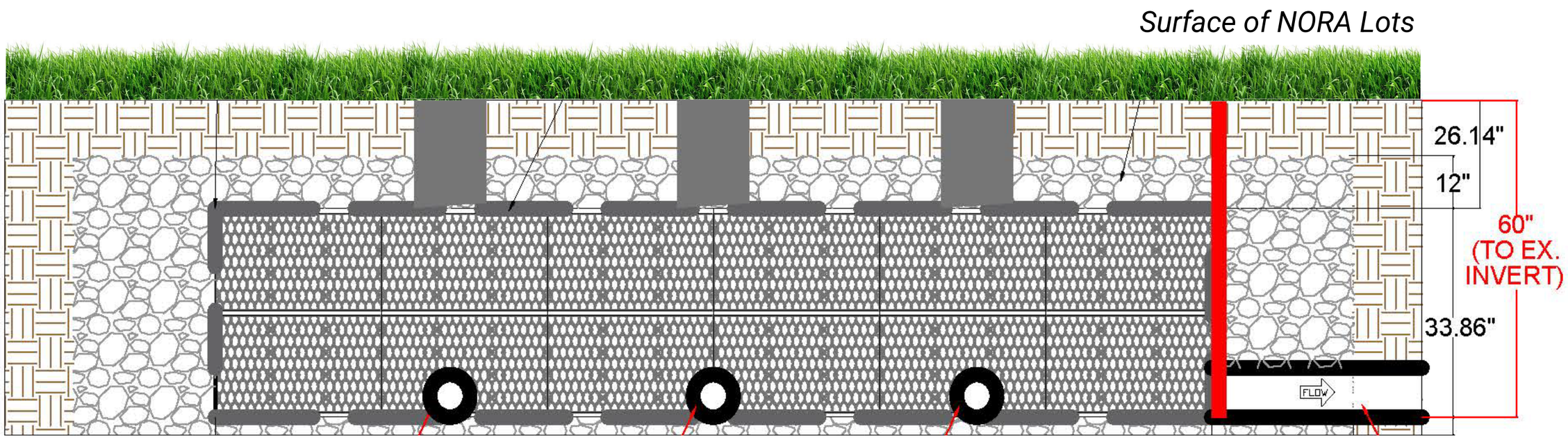
American Crinum Lily

Copper Iris

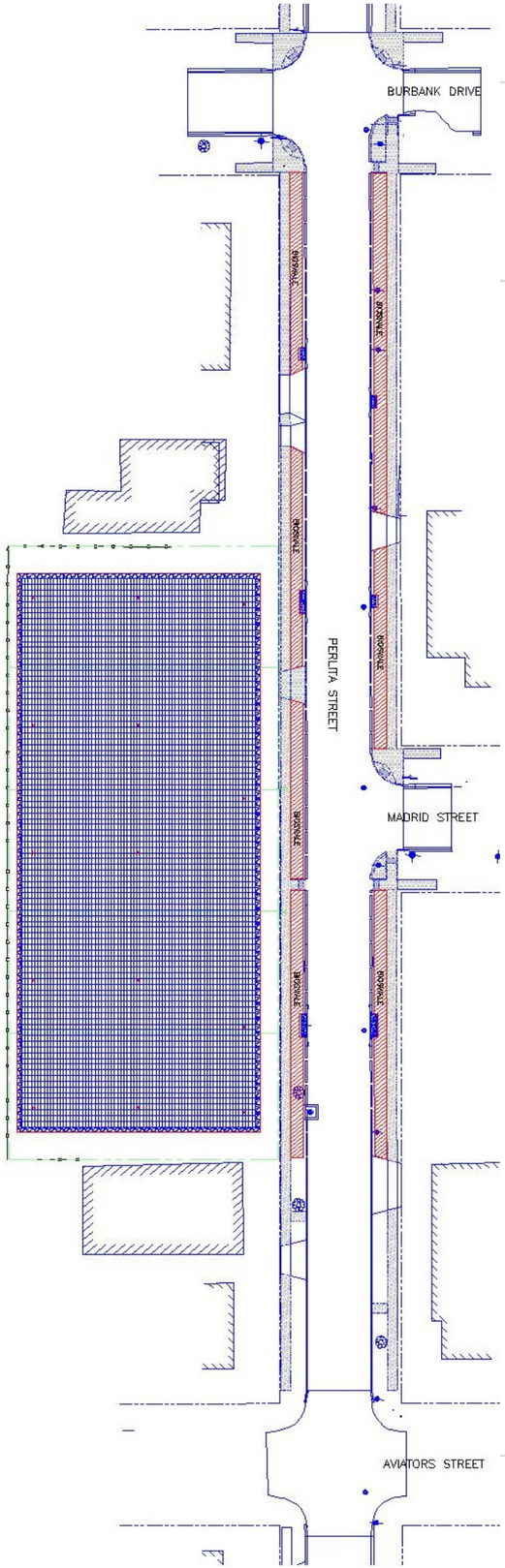
# UNDERGROUND WATER STORAGE TANK

- **RTank**: Large, permeable storage tank
- The RTank system is constructed using “Double Module” units, each measuring 15.75” wide x 28.15” long x 33.86” deep and having an individual storage volume of 8.24 CF.
- The 225’-2.40” x 95’-9.75” RTank system is composed of 7008 of these units giving it a total storage volume of **57,748 CF**.
- The RTank system is estimated to have a 40-year useful life by its manufacturer.

# UNDERGROUND WATER STORAGE TANK

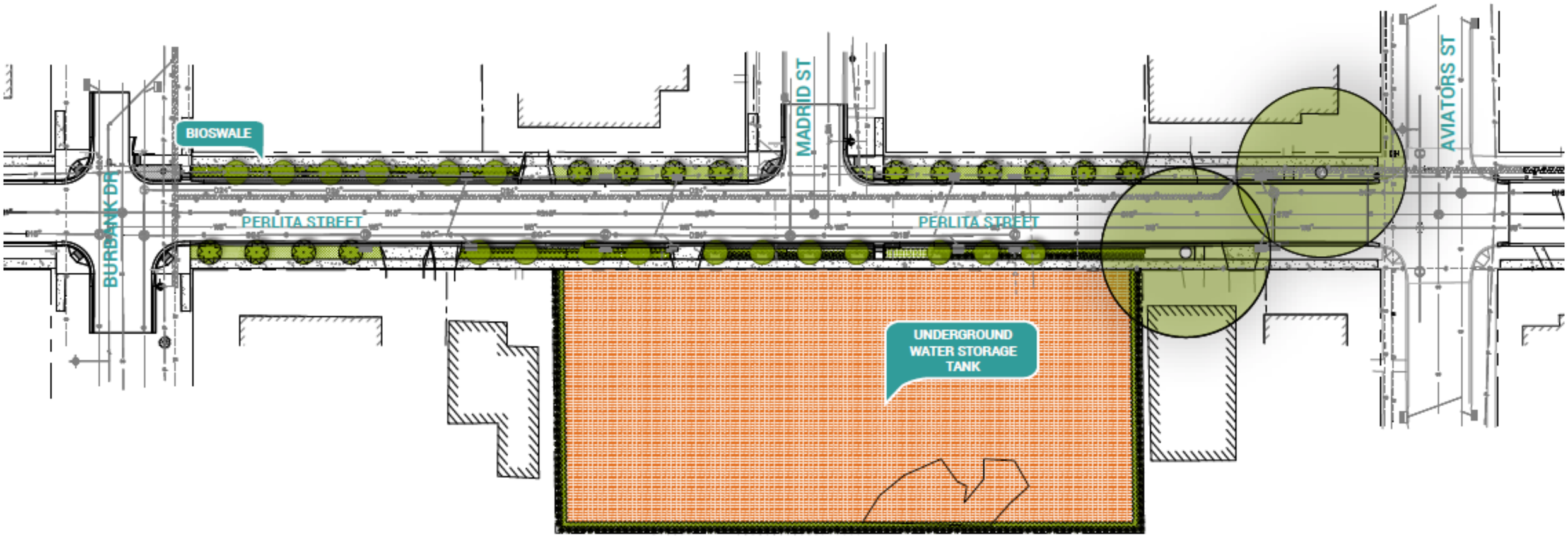



- This image shows the R-Tank buried under the NORA lots. The pipes at the bottom of the tank connect it to the drainage system. There is a pipe on the right side that will drain the tank back into the drainage system once the storm has passed or when the tank gets full.




# BIOSWALES

- Bioswales are proposed to go in the **planting strip between the sidewalk and the road**. These swales will extend along Perlita Street on both sides of the street, between Aviators and Burbank.
    - The new total water management capacity will be **5,492 CF**
- Existing driveways and pedestrian connections will be preserved.

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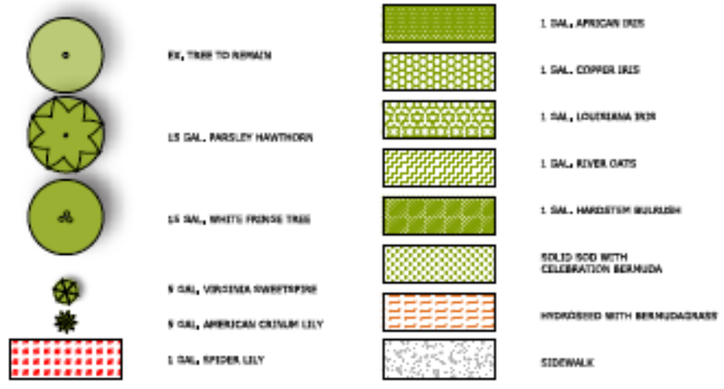


# PROJECT BENEFITS

# FLOODING REDUCTION: 10 YEAR STORM

- The **Benefit Area** of the project includes **209** structures: among these are single-family homes, Lake Area High School, and commercial properties along Robert E. Lee Boulevard.

- **Project reduces average flooding in Benefit Area by 5.28 inches**

- **Project reduces average flood duration by 1.34 hours**: Average flood duration is reduced by over an hour, so streets are safe to drive sooner.


10 Year Storm: Preferred Option

# ADDITIONAL PROJECT BENEFITS

1. Reduce repetitive losses: A repetitive loss multifamily property on Aviators Street will **see one foot of reduction** in street flooding.

2. Reduce losses at other properties: **94 properties in the Benefit Area** are estimated to be less than 0.5 feet above grade and may benefit.

3. Increase access to the neighborhood, services, and jobs for residents by reducing impassable streets: The reduction of flooding depth and duration will allow residents the ability to get to work and access services.

4. Increase access to Lake Area High School: Flooding around the school will decrease by 9.36 inches, allowing increased access to the school for teachers and students.

*Multifamily repetitive loss property on Aviators*

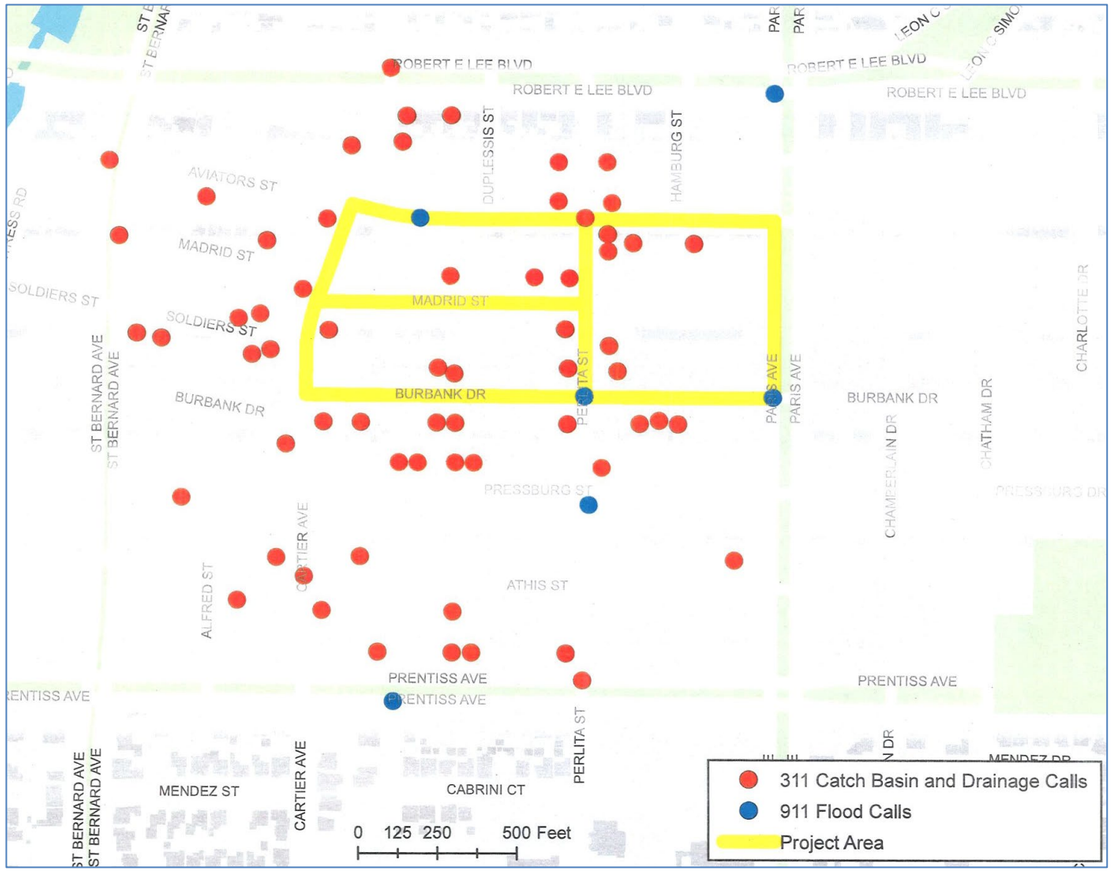
# ADDITIONAL PROJECT BENEFITS

5. Reduce car flooding losses: **84 cars** are estimated to be saved from flooding; a conservative estimate of $5,000 value per car means **avoiding approximately $420,000** in damages.

6. Reduce 311 and 911 calls for service: Six 911 flood related calls were recorded in the first nine months of 2017 alone; decreased flooding will help residents feel safer in their neighborhood.

7. Provide educational benefits: The surface bioswale will provide opportunities for education related to green infrastructure, flooding, and local habitat and ecology.

8. Provide ecosystem services: The project will enhance water quality by filtering water, and provide habitat for pollinators with native plants.




*311 and 911 calls related to flooding and drainage*

# NEXT STEPS

## NEXT STEPS

- 60% Design received a favorable BCR of 1.2.
- 90% Construction Documents and Final H/H Report were submitted to the City on December 6, 2018.
- Incorporate comments received from the City and FEMA, and feedback from the community into the project design.
- Finalize Construction Documents upon receipt of a positive BCR and move into bidding phase.
- Construction is anticipated to begin in **April 2019**.

# Thank You

## Questions and Feedback

Oak Park Stormwater Management and Flood Mitigation Project
City of New Orleans – Hazard Mitigation Grant Program
90% Design

Resilience Design Review Committee – December 17, 2018