

# Austin Park & Chimneystone Drainage Improvements

## City of Sugar Land, Texas



CITY OF SUGAR LAND



October 23, 2023



# Project Background

- 2017 Hurricane Harvey delivered an average total of 31.6 inches of rain to the area.
- 2018 drainage study sponsored by Levee Improvement District No. 2 (LID2) and City identified causes of flooding during Hurricane Harvey.
- LID2 develops drainage system improvements.
- City pursues further analysis to target historical drainage issues.
- City develops needed storm sewer and channel improvements to reduce flood risks and realize benefits from the LID2 system improvements.



## Objectives of Project

- Improve storm sewer capacity to improve conveyance to LID2 outfall facilities – comply with LID2 hydraulic requirements.
- Reduce depth of ponded stormwater in subdivision to provide greater protection from flood risk.
- Phased implementation of City drainage system improvements to adhere to capital program.
- Project included in 2019 voter-approved GO Bond program involves constructing the following:
  - New storm box trunkline and outfall to LID2 Ditch A
  - Storm sewer improvements along Acacia and Mesquite
  - New stormwater drainage channel north of Austin Pkwy

# Overall Site Plan

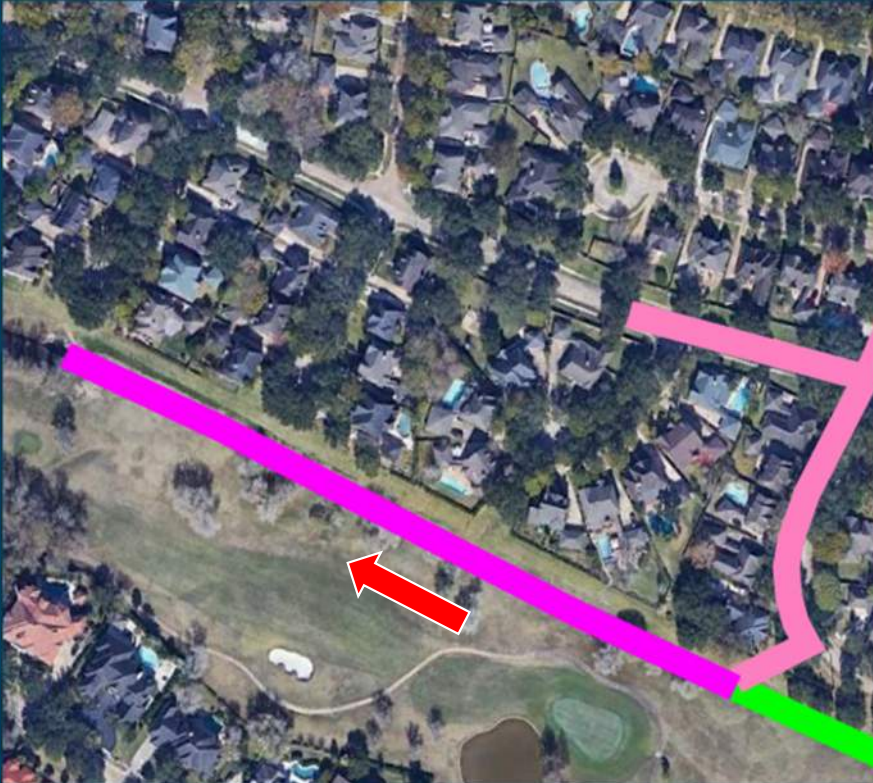
**Phase 1** - Storm box trunkline from Ditch A outfall to Acacia junction

**Phase 2a** - Improvements to existing storm sewer along Acacia and Mesquite

**Phase 2b** - Storm box trunkline from Acacia junction to Commonwealth and up to Austin Parkway

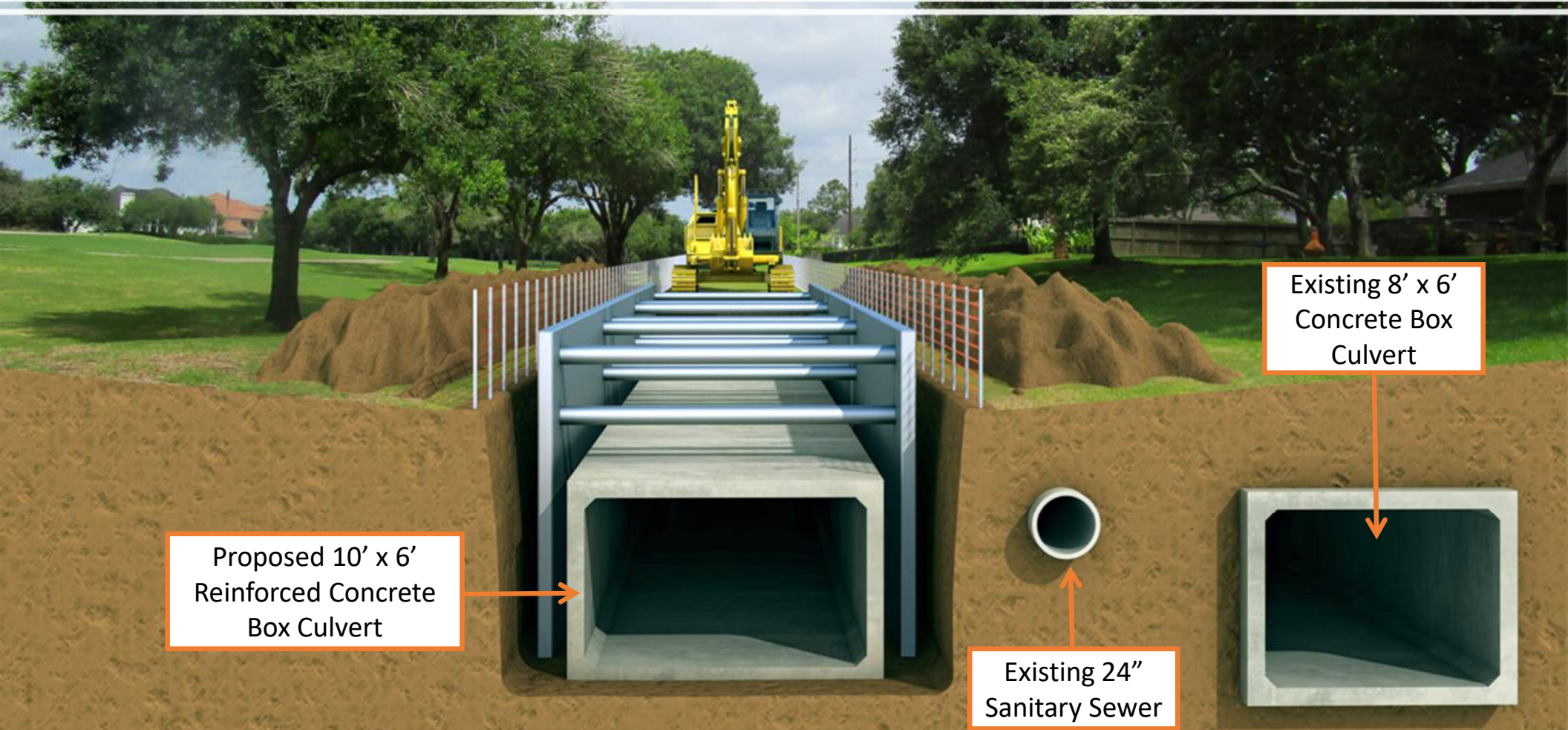
**Phase 3** - Drainage channel along Oilfield

# Storm Box Trunkline



- **Phase 1** – Work in drainage easement along north edge SWCC golf course up to junction with Acacia Drive
- Install 10'x6' storm box along side existing storm sewer and outfall to Ditch A
- Storm box length = approx. 1,200 linear feet
- Construction to last approx. 6 months

## Phase 1 – Storm Box Trunkline



# Storm Sewer Improvements



- **Phase 2a** – Install 42”-60” storm sewer in Acacia right of way to relieve existing storm sewer
- Install 36” storm sewer in Mesquite right of way to relieve existing storm sewer
- Remove and replace pavement where new storm sewer is constructed - length = approx. 1,225 linear feet
- Construction to last approx. 4 months
- Construction concurrent with **Phase 2b**

# Phase 2a – Acacia Drive Storm Sewer Improvements

Existing storm sewer located under sidewalk and trees

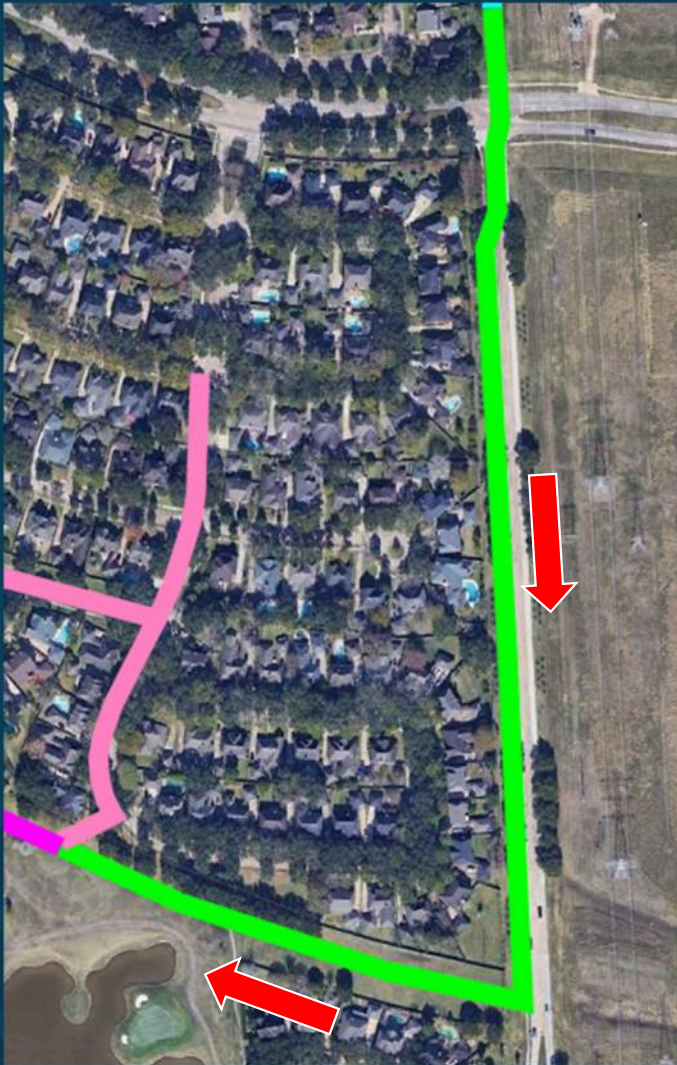
Proposed 42"-60" Reinforced Concrete Pipe



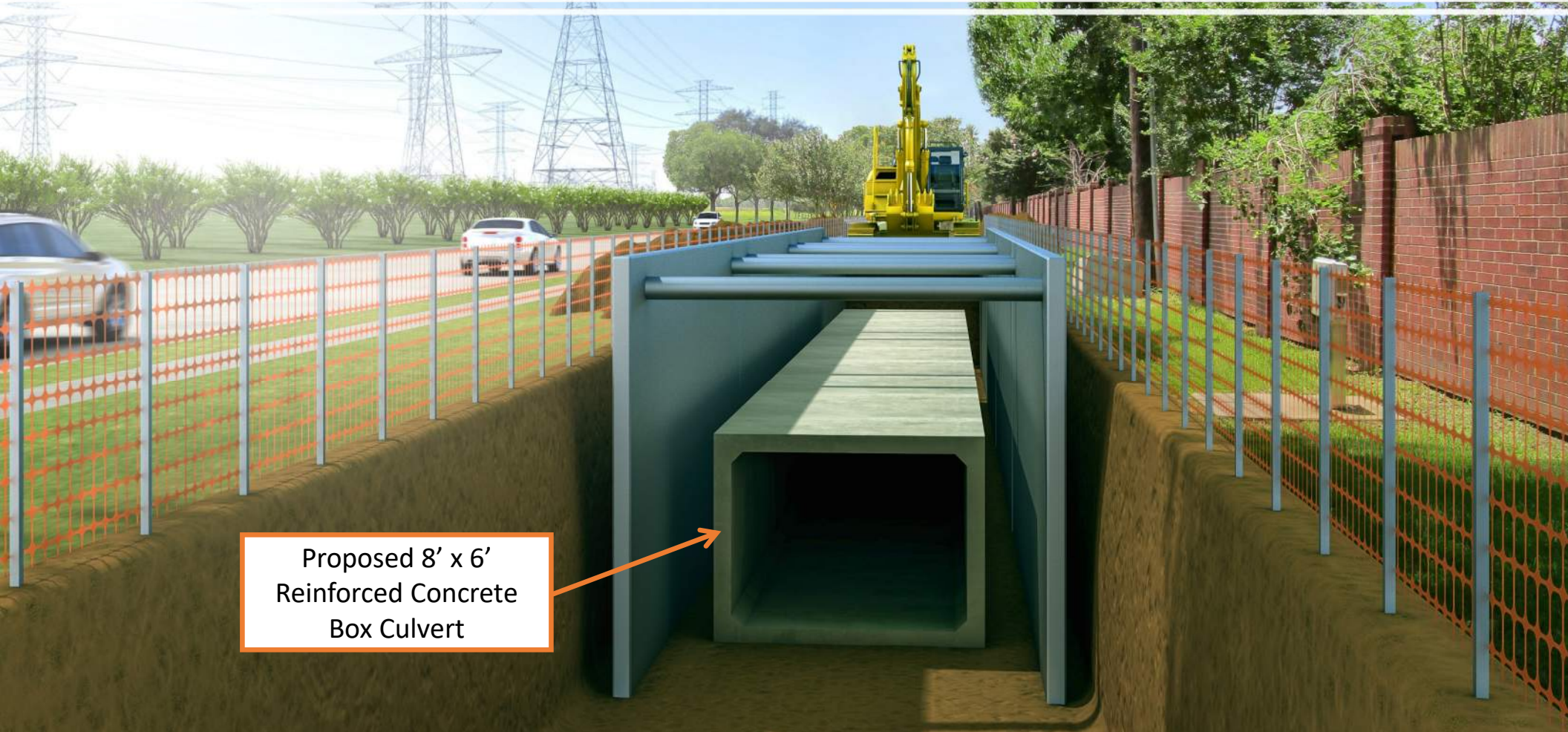


# Storm Box Trunkline

- **Phase 2b** – Work in drainage easement from junction with Acacia Drive along west side Commonwealth right of way
- Install 8'x6' storm box
- Storm box length = approx. 2,600 linear feet
- Construction to last approx. 9 months



## Phase 2b – Storm Box Trunkline

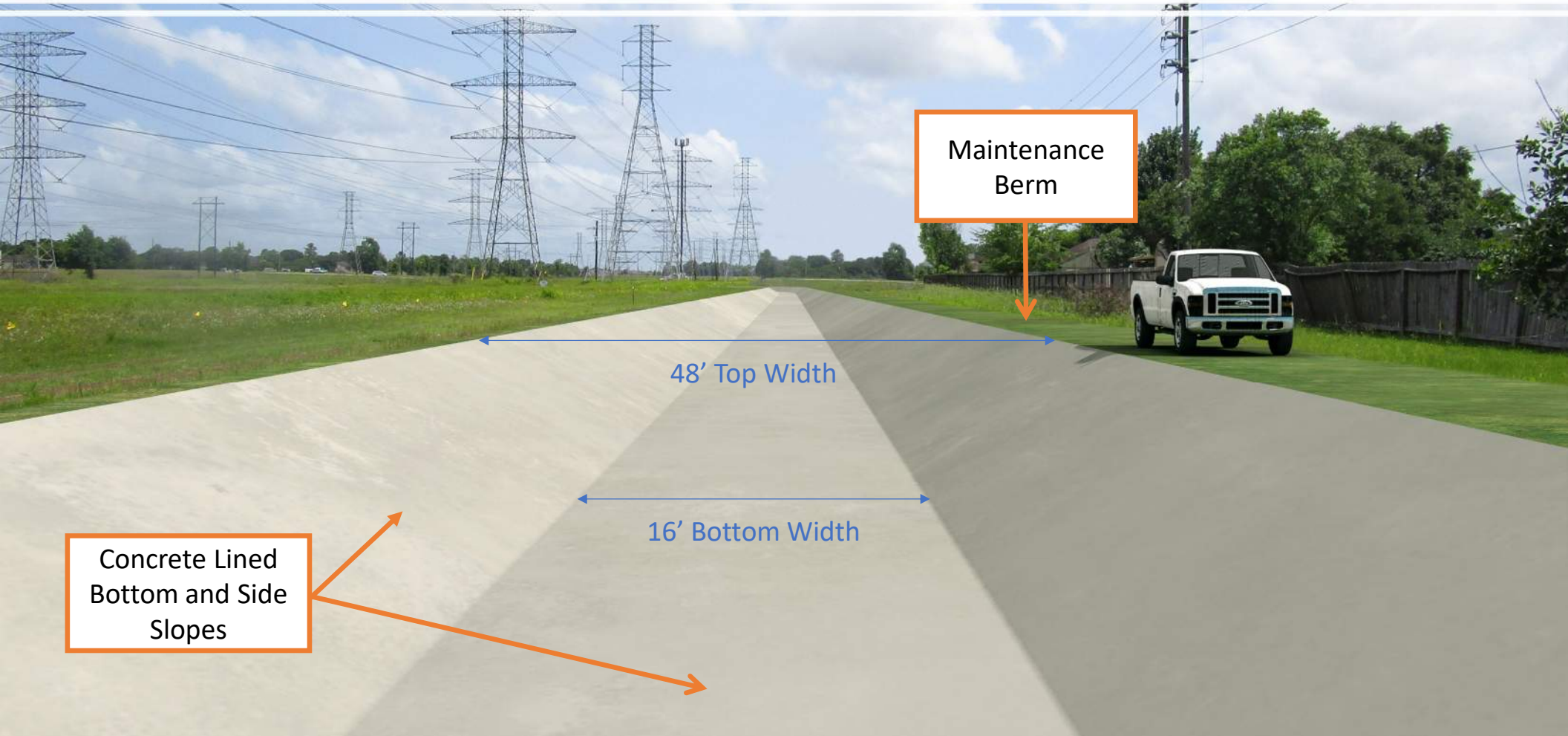


# Drainage Channel



- **Phase 3** – Flood control channel in unused Oilfield right of way starting at Thistlewood
- Channel length = approx. 4,900 linear feet  
Typical channel dimensions = 48' Top Width, 16' Bottom Width, 8' Depth
- Proposed grass swale in Centerpoint easement west of the channel
- Construction to last approx. 9 months

# Phase 3 – Drainage Channel in Oilfield Right of Way



Maintenance  
Berm

48' Top Width

16' Bottom Width

Concrete Lined  
Bottom and Side  
Slopes

# Project Milestones



We Need your Feedback!

Please use the following QR to take a quick survey detailing your experience at today's event!



**Austin Park & Chimneystone Drainage Improvements**

CITY OF SUGAR LAND