

LCRA's Water Supply Planning Initiatives

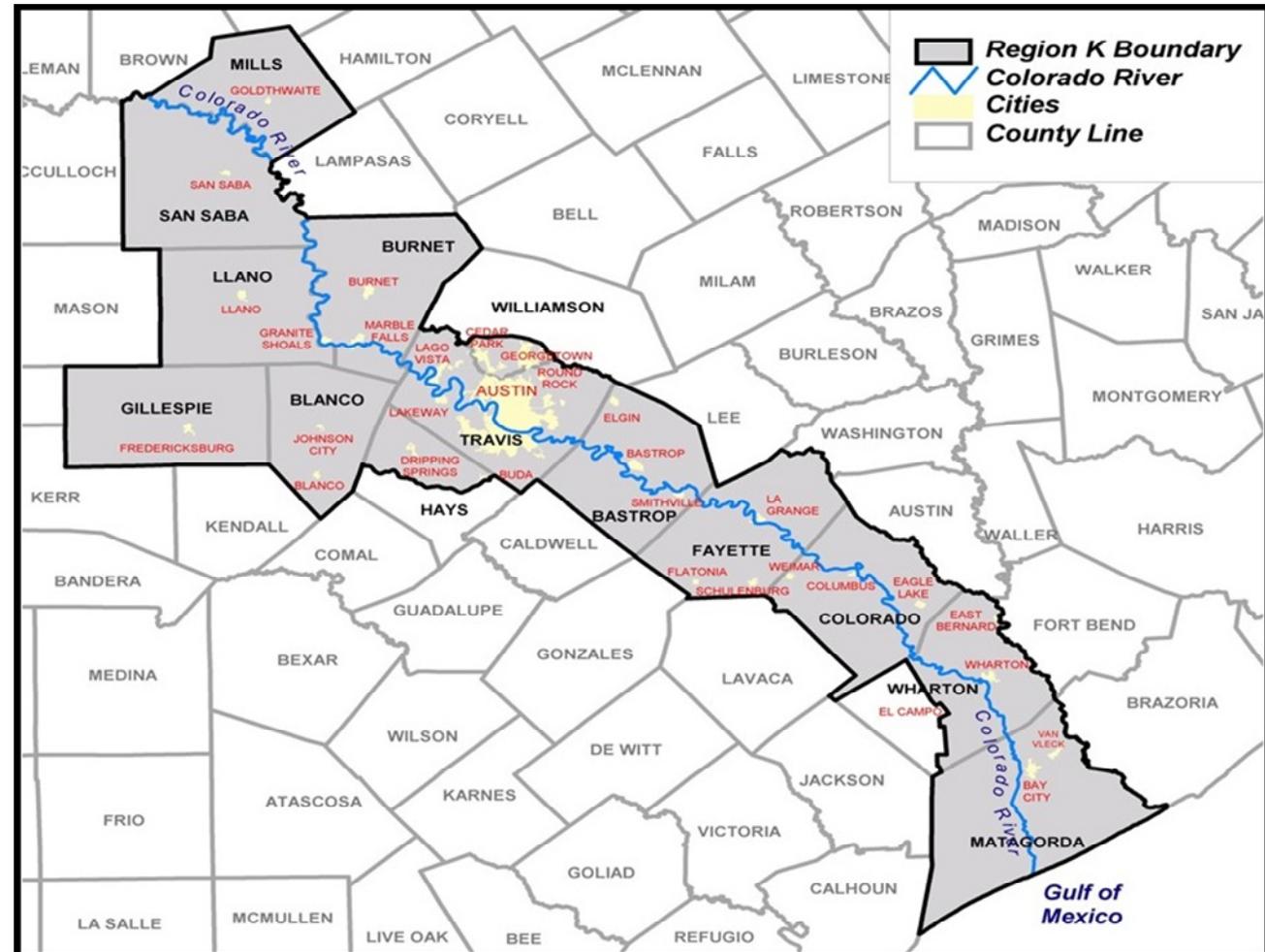
Water Operations Committee Meeting
Nov. 16, 2022



State/Regional Water Planning

Region K Regional Water Planning Group

- Five-year planning cycle
- Provide comprehensive regional water planning for our region
- Twenty-five voting members with representation from all 14 counties



Water Supply Resources Report

- Planning area and demand projections
- Existing supply availability and future supply needs
- Potential water supply options
- Uncertainty analysis

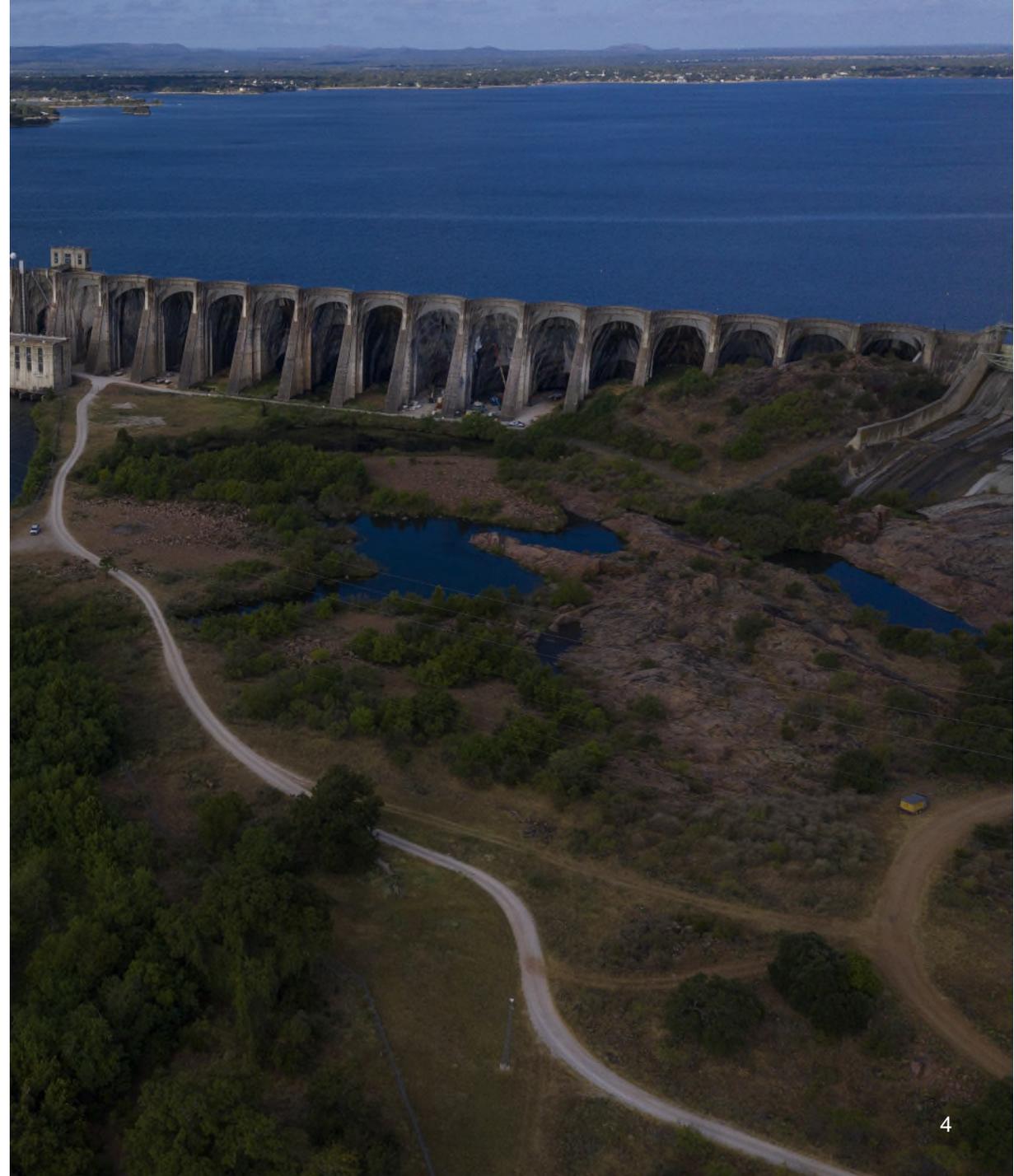


Municipal and Agricultural Water Conservation Programs

- **May 2019 – Board approved Raw Water Conservation Plan**
- **Includes municipal and agricultural five- and ten-year goals**
- **Track goals**
- **To prepare for an update to the Raw Water Conservation Plan in spring 2024:**
 - Had a discussion with our firm customers on what they might want to see
 - Hired Freese and Nichols to review the effectiveness of our conservation programs
 - Reviewing customer conservation plans for continuity

Research Projects

- **Gridded Evaporation Project**
- **Texas A&M Rainfall Runoff Study**
- **Small Pond Yield Impact Study**
 - Water Availability Modeling
 - University of Texas Aerial Photo Study



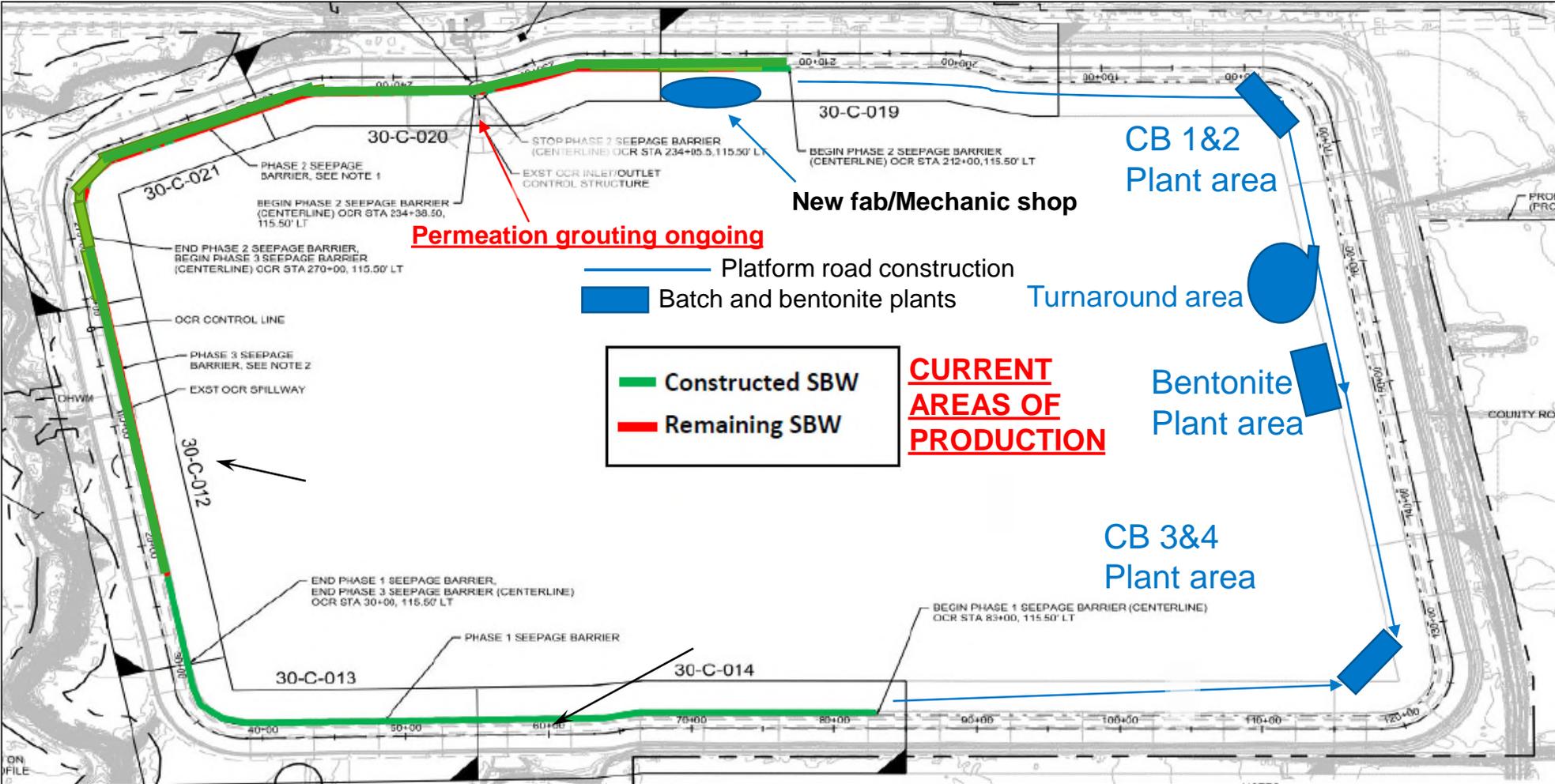
Planning for Future Water Demand

LCRA Water Supply Projects ¹ 50-Year Horizon	Estimated Supply (acre-feet per year)
Ongoing	
Municipal water conservation programs	Up to 15,000
Agricultural water conservation programs	To be determined (interruptible supply)
Construction Phase	
Arbuckle Reservoir	Up to 90,000
Engineering/Design/Permitting Phase	
Griffith League Ranch groundwater	Up to 25,000
Import water from Williamson County	Up to 35,000
Planning/Future Development/Feasibility Phase	
Amend run-of-river water rights to add upstream diversion locations and/or storage	Improved efficiency
Midbasin off-channel reservoir	Up to 20,000
Brackish groundwater to supplement bay during drought ² (stryker wells)	TBD
Ocean water desalination ²	Up to 22,400
Aquifer Storage and Recovery Project	TBD
Additional groundwater	TBD
Lower basin off-channel reservoir	Up to 39,000
Brackish groundwater desalination	TBD
Managed aquifer recharge	TBD

¹ Implementation or planning phase as of fiscal year 2022. Project implementation order may affect supplies created by subsequent projects, therefore the values in the Estimated Supply column should not be summed at the full project amount.

² Alternative strategy in 2021 Region K Water Plan

General Overview of Work Site



Arbuckle Reservoir Video

Griffith League Ranch Groundwater



Access road



Rough terrain for construction



Road conditions



This portion is drivable



Stream crossing



Deep stream crossings to traverse



Houston Toad



The protected Houston Toad

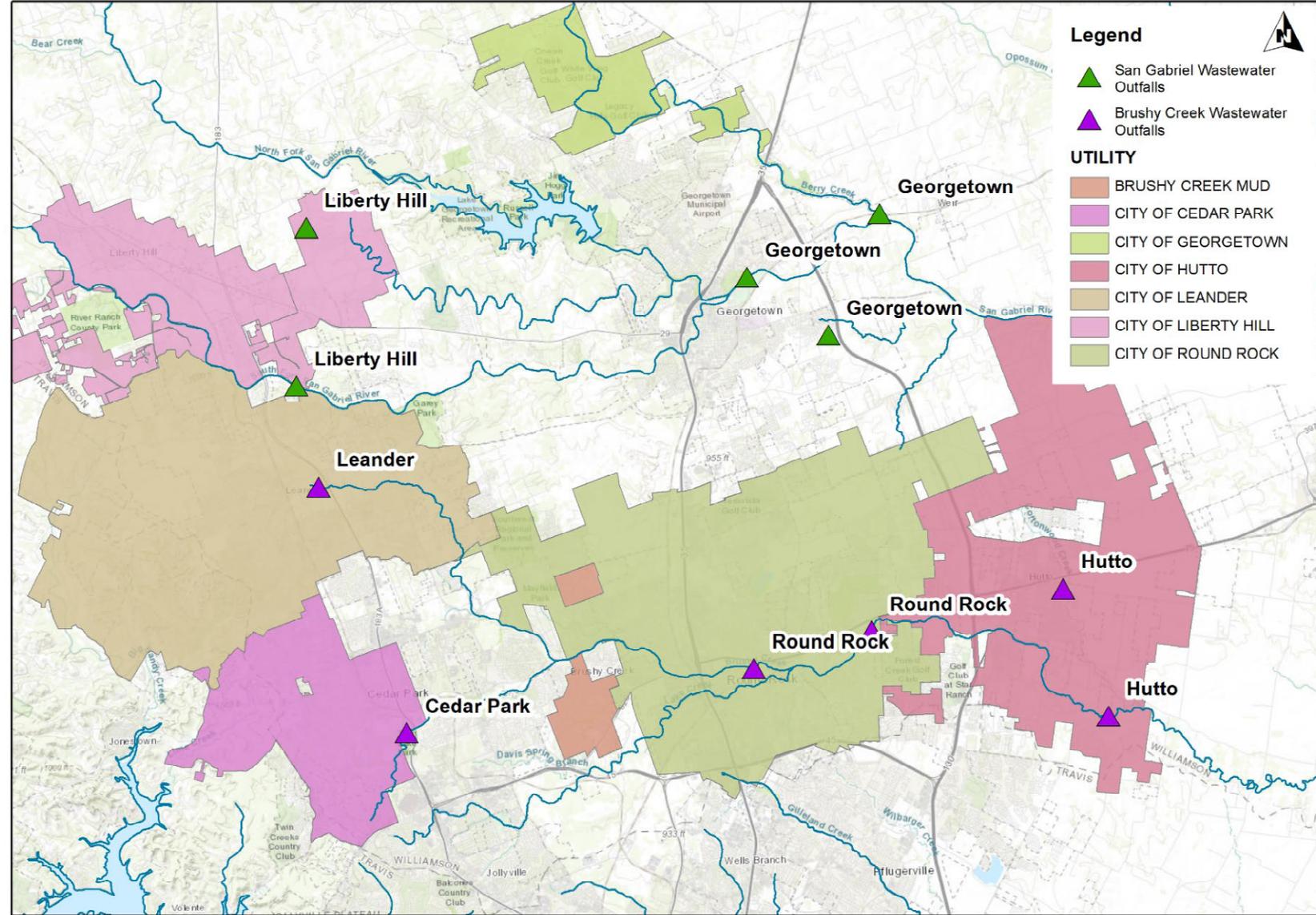
Surface Water Permit Amendments

- **Pending:**
 - Excess Flows

- **In progress:**
 - Garwood Diversion Location

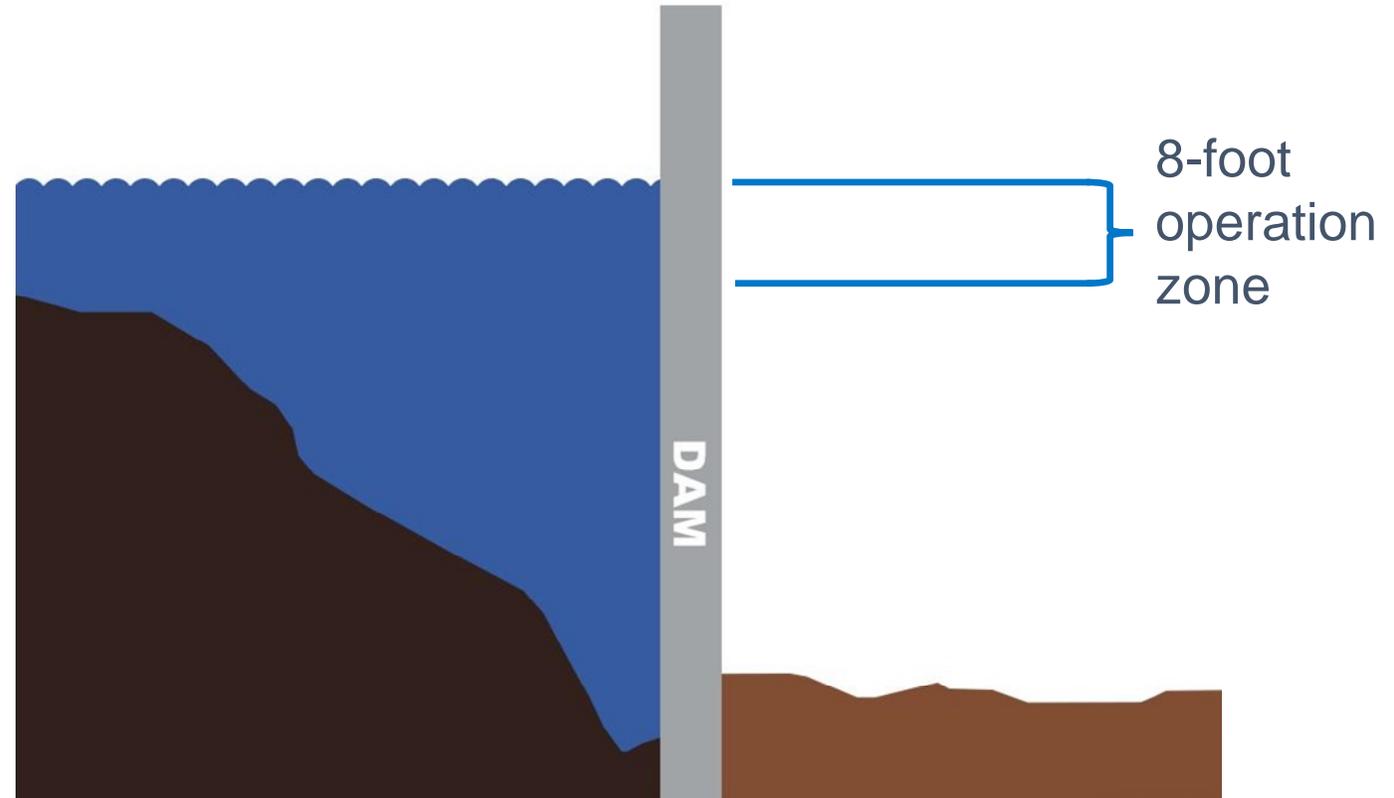
Williamson County Return Flows

- Customer participation
- Potential effluent sources
- Delivery points



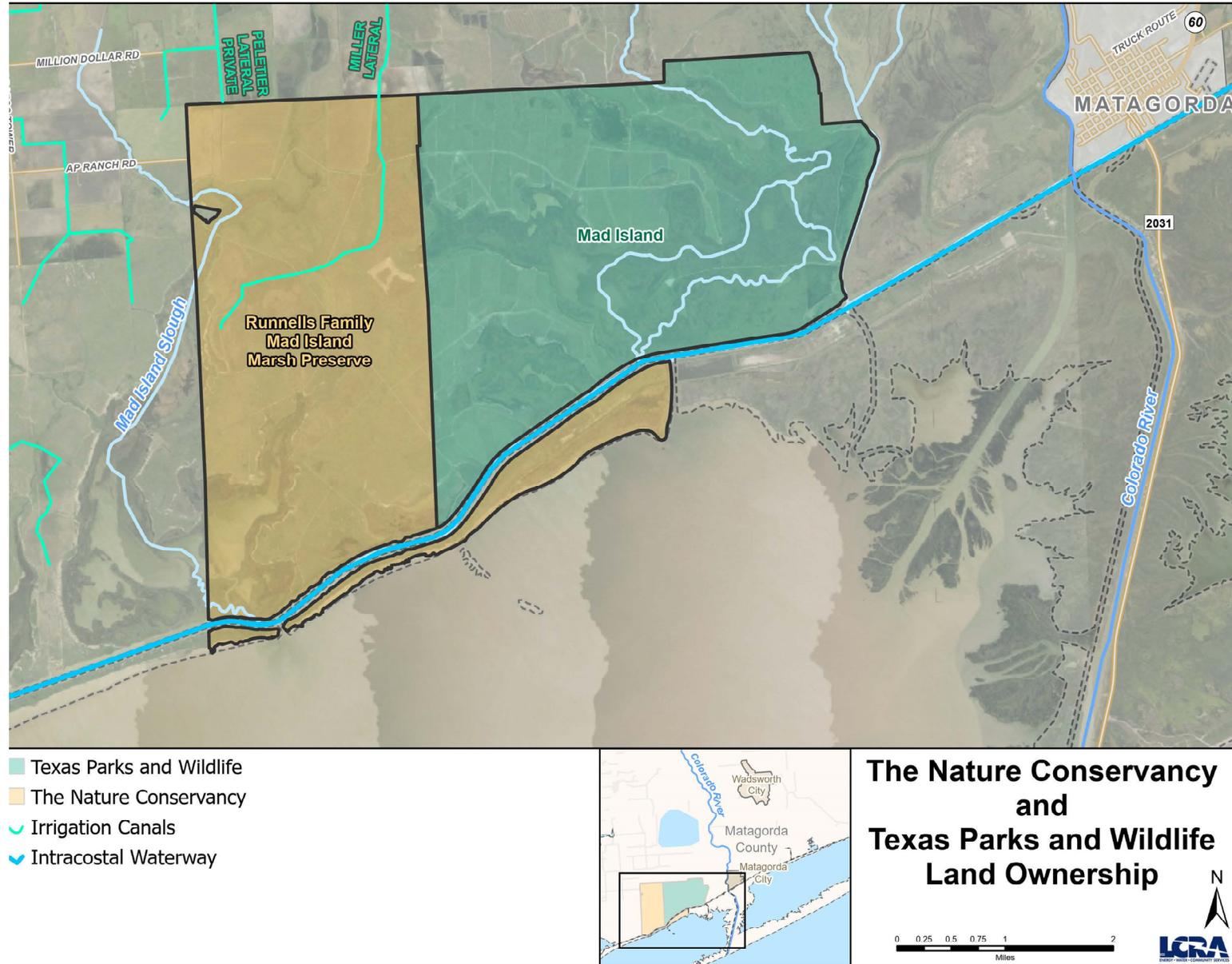
Mid-Basin Surface Water Supply Project

- Total firm yield: 10,200 acre-feet per year
- Additional facility actions:
 - Upgrade existing river intake
 - New river pump station and pipeline
 - Design capacity: 150 cubic feet per second
 - New outfall structure



Brackish Groundwater/ Stryker Wells

- Targeted location for beneficial use to the bays and estuaries
- Potential partners on the project
- Potentially more efficient way to benefit the ecosystem



V:\WaterCo\Project\Water_Planning\OCR\TPWD_TNC_Land.aprx Name: Project_Location

What Does All This Mean?

- **Planning at multiple levels, real-time**
- **Data is current and peer reviewed**
- **New supplies in various stages of development:**
 - Concept level
 - Planning level
 - Engineering/permitting
 - Construction

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LCRA

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