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# TVA Allen Fossil Plant Project Update

June 2, 2021

*Deliberative and Pre-Decisional*



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## Today's Purpose

- TVA's Commitment to the Memphis Community
- Discuss progress and status of ALF project and how it ensures the continued protection of the Memphis aquifer.
- Discuss CAESER's presentation and their "tentative conclusions."



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# TVA's Commitment to the Memphis Community

The TVA project is underway to protect the Memphis aquifer, safely remove coal ash, and restore the retired Allen Fossil Plant (ALF) so the site can be repurposed for future economic development.

This closure-by-removal project includes extensive measures to ensure the continued protection of the Memphis aquifer, which data shows has not been impacted by activities at the Allen site.

We have made the right decision for this site based on the site-specific data, research, and science, and it demonstrates our steadfast commitment to our neighbors to protect precious natural resources and to repurpose the Allen site for the benefit of the community.

This is our commitment to you.

# Our Path to the Right Decision

1950s | 1960s | 1970s | 1980s | 1990s | 2000s | 2010s

1950s  
MLGW Constructs and  
operates ALF



1978  
WADA deactivated

1988  
Groundwater monitoring  
begins at ALF



1965  
TVA begins lease  
from MLGW



1969  
EADA begins  
receiving CCR

1984  
TVA purchases ALF plant



2015  
USEPA CCR  
Rule



2015  
TDEC Order



2017  
TVA enters TDEC  
Division of  
Remediation program

2016  
TVA signs MOA with City of  
Memphis, Shelby County,  
Port Commission, and  
MLGW

2018  
ALF ceases  
operations and is  
replaced with ACC

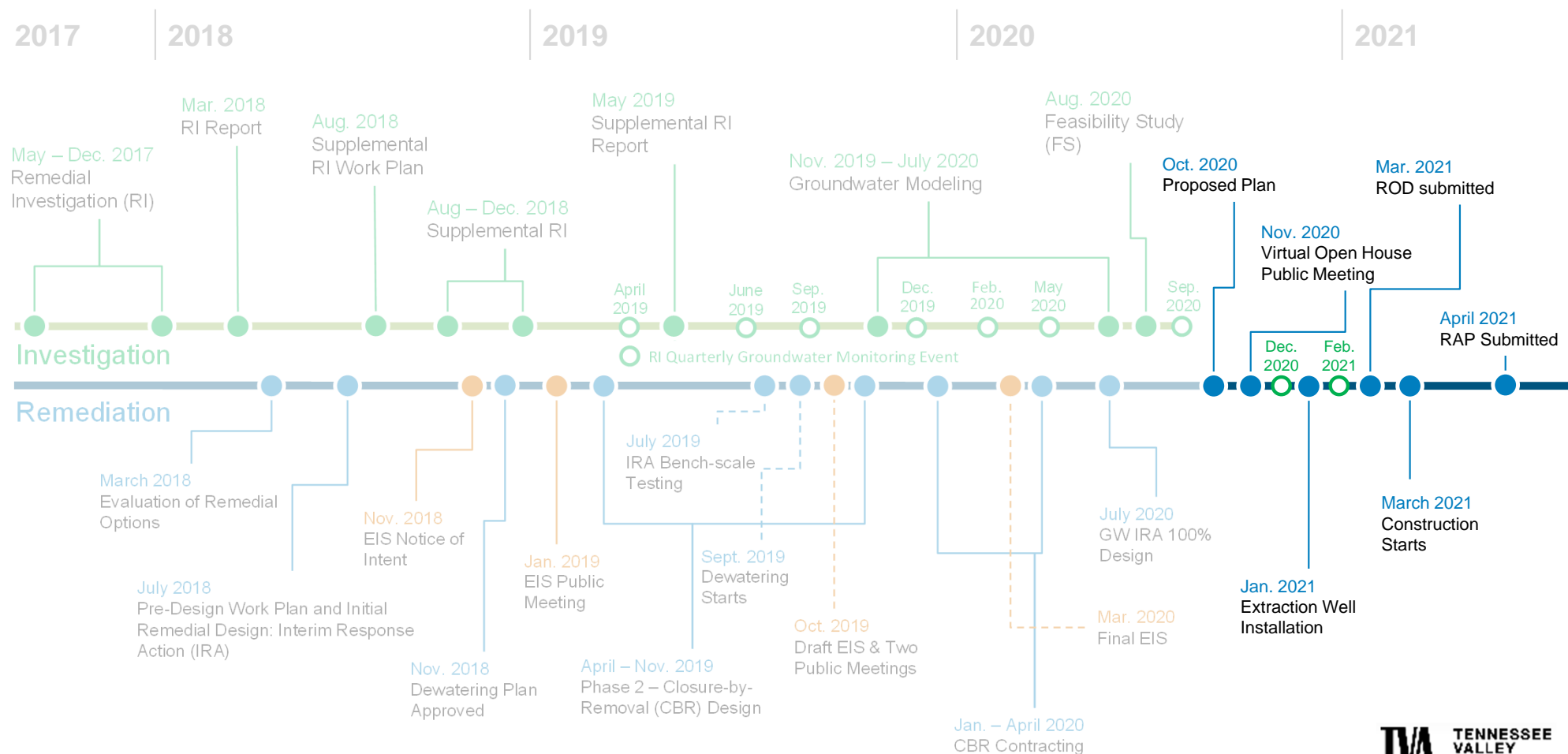


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# Progress and Status of ALF Project

Ensuring the Continued Protection  
of the Memphis Aquifer

# Aggressive Schedule for Investigation and Remediation



# Regular Community Involvement

**November 2018**  
Community meeting at the TO Fuller Park Interpretive Center



**Oct. 8, 2019**  
Community meeting at Mitchell Community Center

**Oct. 30, 2019**  
Community meeting at Benjamin L. Hooks Central Library

**Nov. 2020**  
Virtual Open House - Public Meeting



**January 2019**  
Community information session at the Mitchell Community Center

**Oct. 2019 Outreach Events**  
**Oct. 19** - T.O. Fuller Green Fest  
**Oct. 26** - Walker Homes Neighborhood Association

**Oct. 31, 2019**  
Meeting with Sierra Club and Protect our Aquifer



**Nov. 2019 Outreach Events**  
**Nov. 2** - Westwood Neighborhood Association  
**Nov. 13 & 14** - TVA Board Listening Session / Board Meeting  
**Nov. 16** - Agricenter Harvest Festival



- Quarterly MOA Meeting
- Quarterly TDEC Meeting
- TVA Sponsored Community Event

# Site Restoration Plan

- TVA's site restoration plan was developed specifically to protect the Memphis aquifer and prepare the site for future redevelopment.

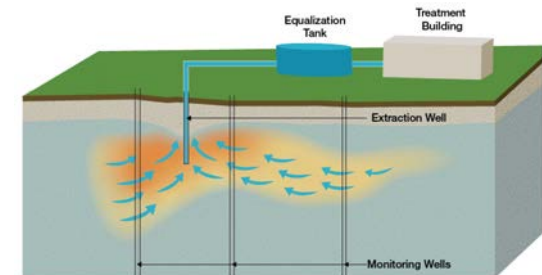
## Groundwater Monitoring



## CCR Removal



## Groundwater Remediation





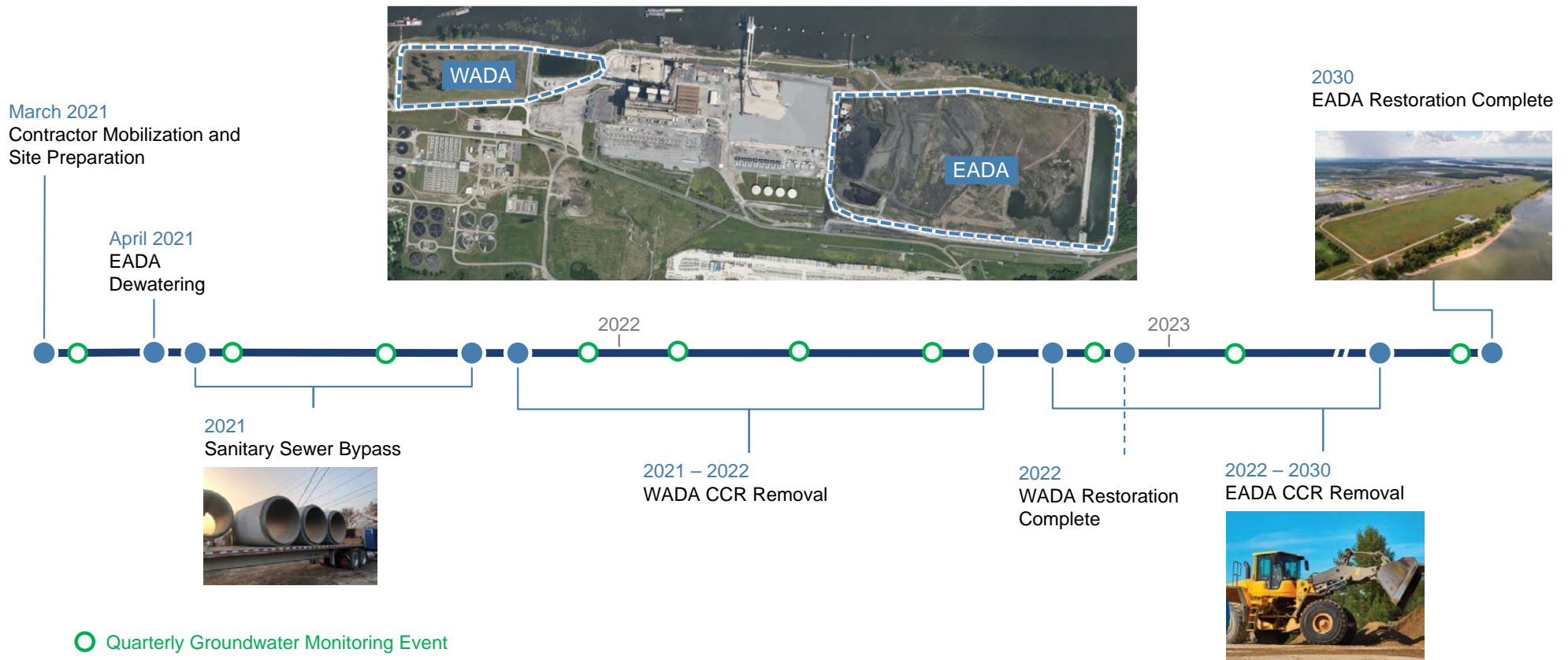
# Robust Groundwater Monitoring

- TVA uses a monitoring network of over 90 wells to confirm stable groundwater quality for the continued protection of the Memphis aquifer.

<u>Year</u>	<u># of Wells</u>
1988	5
2016	18
2017	43
2019	77
2020	91
2021	100



# CCR Removal

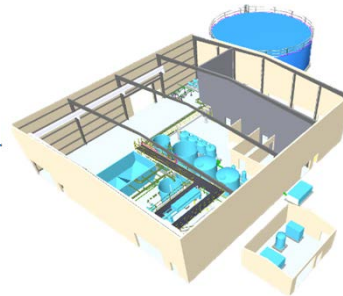


# Groundwater Remediation

December 2020  
Install Groundwater  
Extraction Wells



2021 - 2022  
Treatment System Construction



2021

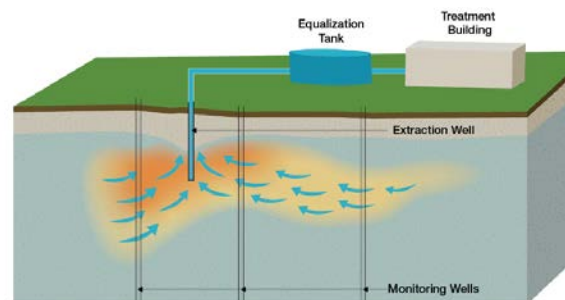
2022

2023

2021  
Install Conveyance  
Piping

2022  
System Startup

○ Quarterly Groundwater Monitoring Event



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## Summary: Project Progress and Status

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- Ensuring the continued protection of the Memphis aquifer has driven every decision to restore the site for future redevelopment.
- Since 2017, TVA has worked aggressively to investigate site conditions and develop the restoration plan.
- The schedule was compressed by performing activities in parallel (not sequentially), while satisfying multiple regulatory programs and agencies.
- TVA continues to engage the local community and regularly meets with TDEC, MLGW, City of Memphis, Port Commission, and Shelby County.
- Robust groundwater monitoring will continue quarterly to confirm continued protection of the Memphis aquifer.

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# Response to CAESER's Presentation

*Identification of Groundwater Recharge Pathways into the Memphis Aquifer using Geochemical Tracers at the Davis Wellfield, Memphis, Tennessee*

*Presented to MLGW – May 5, 2021*

*Presented to TVA – May 18, 2021*

University of Memphis  
Center for Applied Earth Science and Engineering Research (CAESER)





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# CAESER's Presentation

## CAESER's "Tentative Conclusion"

- *"A hydrologic connection between the Horn Lake Cutoff (HLCO) channel and the MRVA aquifer exists and creates a pathway for runoff from the TVA Allen Former Fossil Fuel Plant to affect water quality at the Davis wellfield."*

**This "tentative conclusion" is not supported by the presentation.**

- Their study and "tentative conclusion" relative to ALF are incomplete and speculative.
- No data presented to establish a hydrologic connection between ALF and the Davis Wellfield.
- TVA requested CAESER's data and report, but it was not provided.

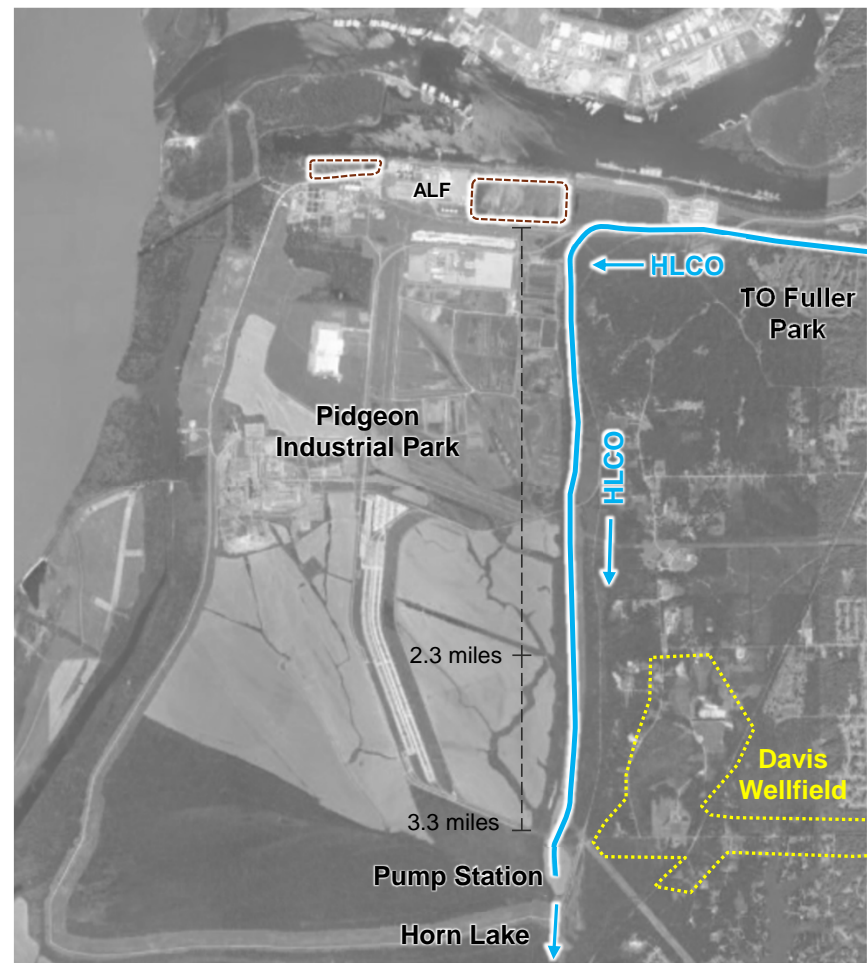
**Critical information is missing from CAESER presentation.**

- Surface water runoff from ALF does not go to Horn Lake Cut-off (HLCO).
- All water streams at ALF are managed and permitted as required.
- The study does not consider that HLCO receives runoff from multiple industries and properties.

# Horn Lake Cut Off (HLCO)

## Background

- HLCO is a surface water drainage channel.
- It starts near T.O. Fuller Park.
- Widened and straightened in 1960s
- Connected to drainage ditches within Pidgeon Industrial Park
- The channel flows intermittently south to Horn Lake
- Controlled by a pump station



# ALF Stormwater Runoff

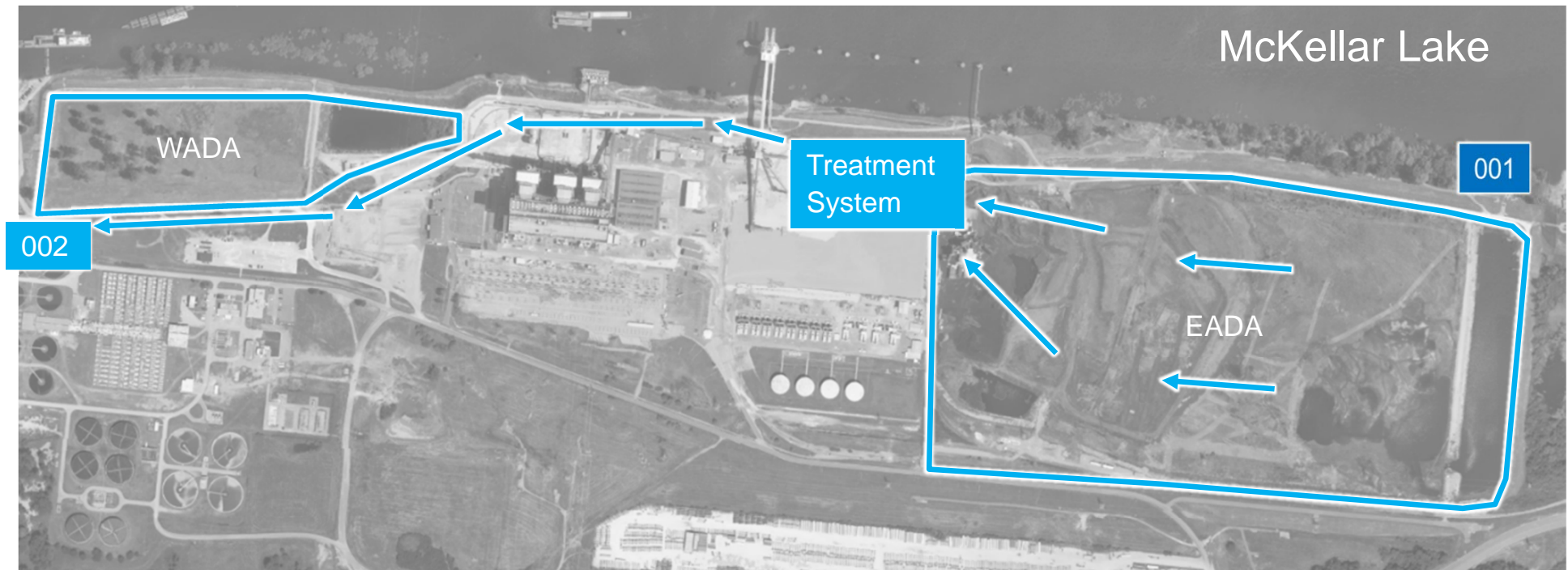
- Flows north to outfalls along McKellar Lake (permitted and regulated)
- Flows south to Stormwater Detention Basin (permitted and regulated)





# CCR Construction Stormwater & Dewatering

- Water treated onsite and discharged to Mississippi River via permitted Outfall 002
- Outfall 001 – Closed and Plugged



# Groundwater Flow Direction

- Groundwater flow has been studied extensively and is understood.
- Flow is predominantly north but depends on McKellar Lake level.
- Groundwater does not flow toward HLCO.



**NORTH & SOUTH FLOW**



**NORTH FLOW**

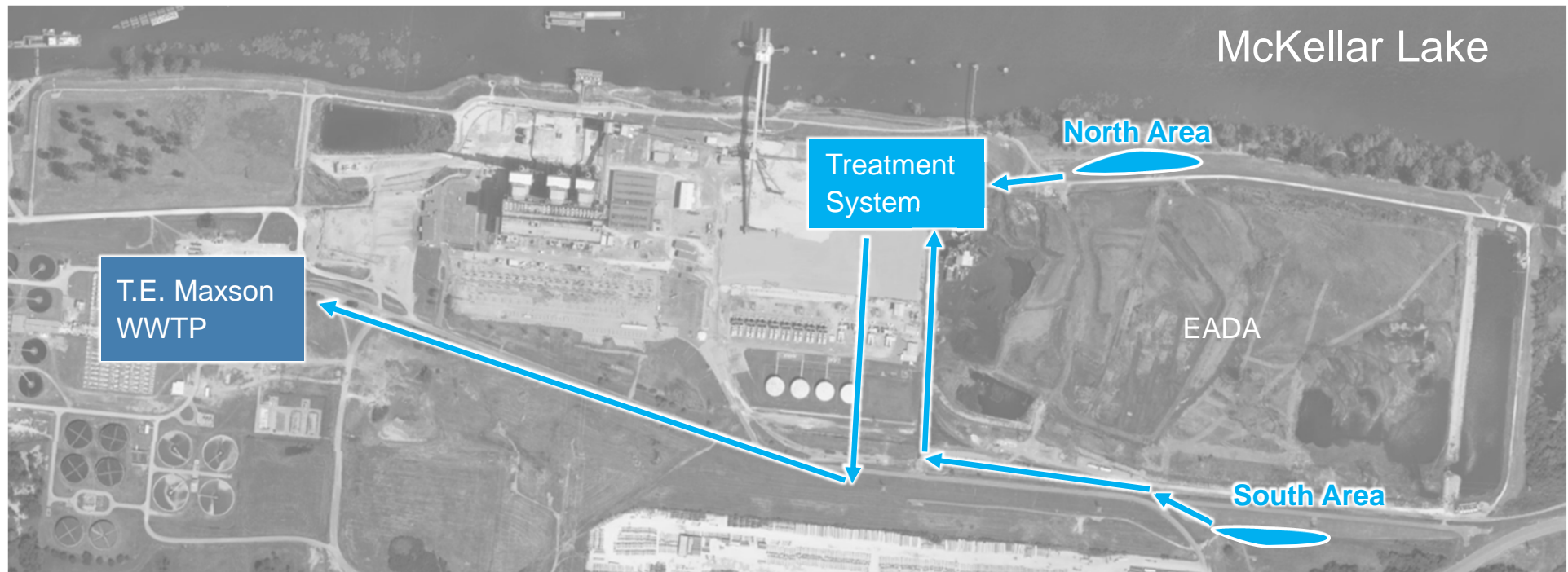
# Groundwater Quality - Impacted Areas Defined

- Based on extensive investigation, two localized areas have been defined.
- The closest area is 1,500 to 2,000 feet west of HLCO.
- These areas are not flowing toward HLCO.



# Groundwater Treatment and Flow

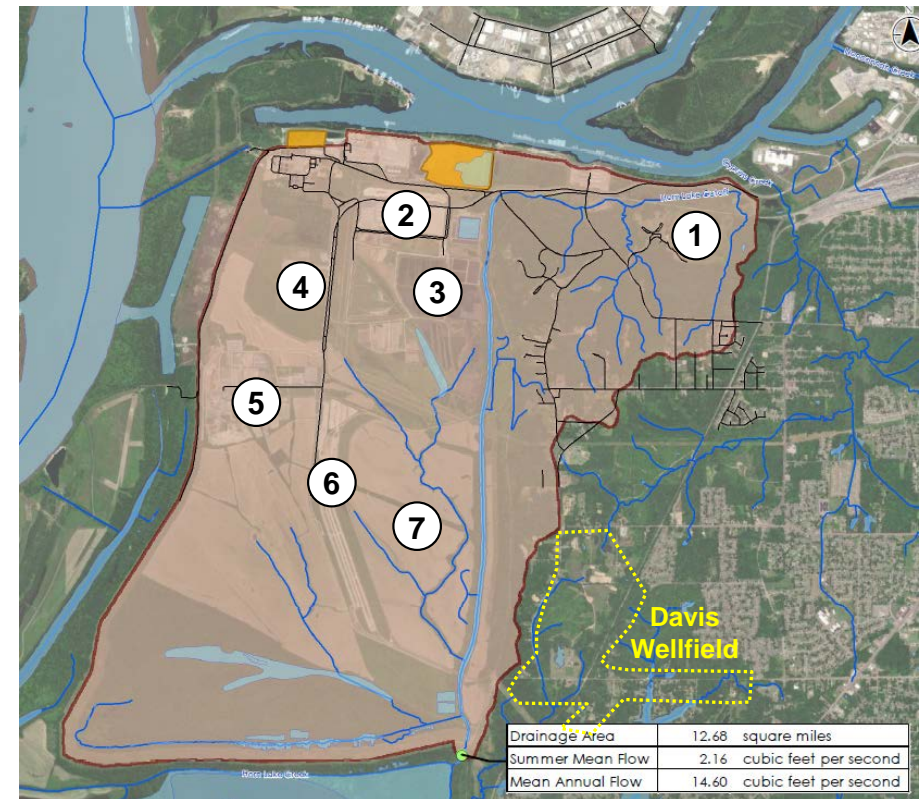
- Groundwater will be extracted, treated, and discharged to T.E. Maxson WWTP.





# Industries and Properties within HLCO Watershed

- TVA ALF represents only 3% of the watershed which covers 12.68 square miles.
- ALF runoff is permitted and regulated.
- ALF runoff does not discharge to the HLCO.
- The CAESER study does not account for multiple industries and properties within the HLCO watershed.



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## Summary: CAESER's Presentation

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- CAESER's presentation and "tentative conclusion" relative to ALF are incomplete and speculative.
- No data were presented to establish a hydrologic connection between ALF and the Davis Wellfield.
- ALF does not discharge to the HLCO.
- All water streams at ALF are managed and permitted as required.
- The CAESER presentation is missing critical information. It did not account for multiple industries and properties within the HLCO watershed.

# Today's Key Takeaways

- TVA remains committed to ensuring the continued protection of the Memphis aquifer. This commitment has driven every decision to restore the property for future redevelopment.
- Data show that the Memphis aquifer has not been impacted by activity at the retired Allen Fossil Plant.
- The TVA project is underway to protect the Memphis aquifer, safely remove coal ash, and restore the property. This is the right decision based on site-specific data, research and science.
- The CAESER presentation does not provide data and evaluations that support their “tentative conclusion” relative to ALF.
- Finally, TVA will continue to communicate updates to the MOA group (which includes MLGW) every three months as we have done the past five years, and TVA will continue to stay engaged with the community.



*Deliberative and Pre-Decisional*