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# TVA's Gallatin Fossil Plant Litigation and Regulatory Update

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USWAG 8<sup>th</sup> Annual CCR Workshop - 2022

# Gallatin Fossil Plant (GAF) Overview

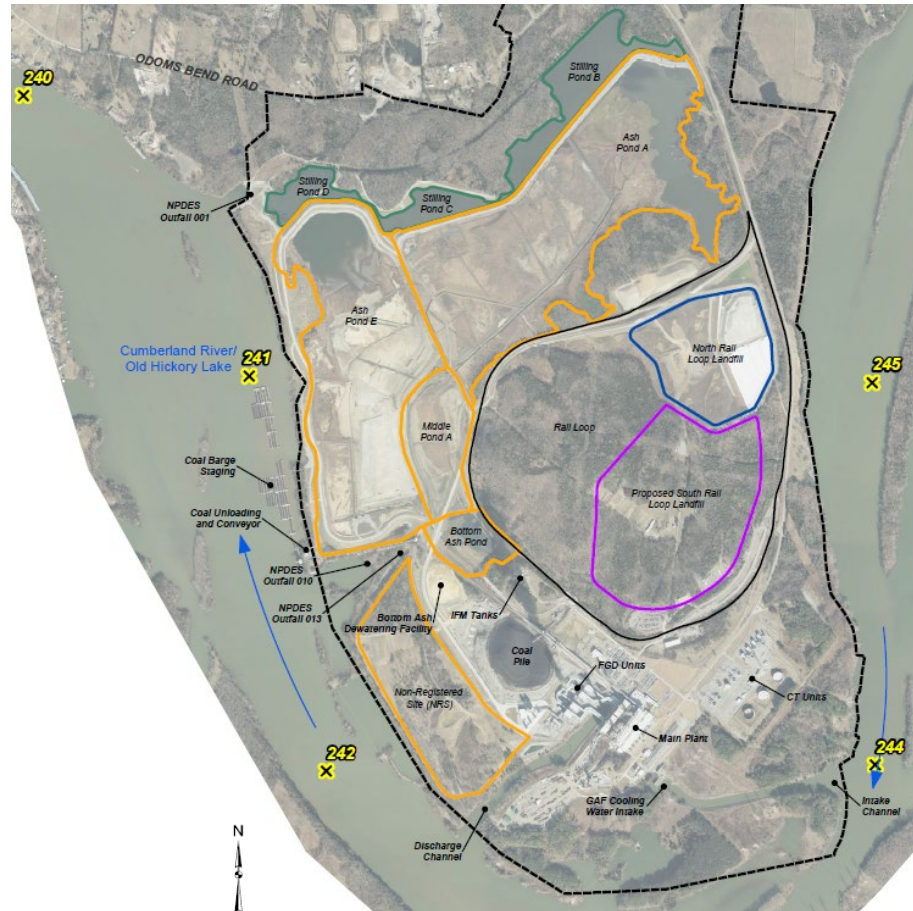
1956  
 • GAF Begins Producing Power  
 • NRS Receives CCR

1970  
 • Ash Ponds Open

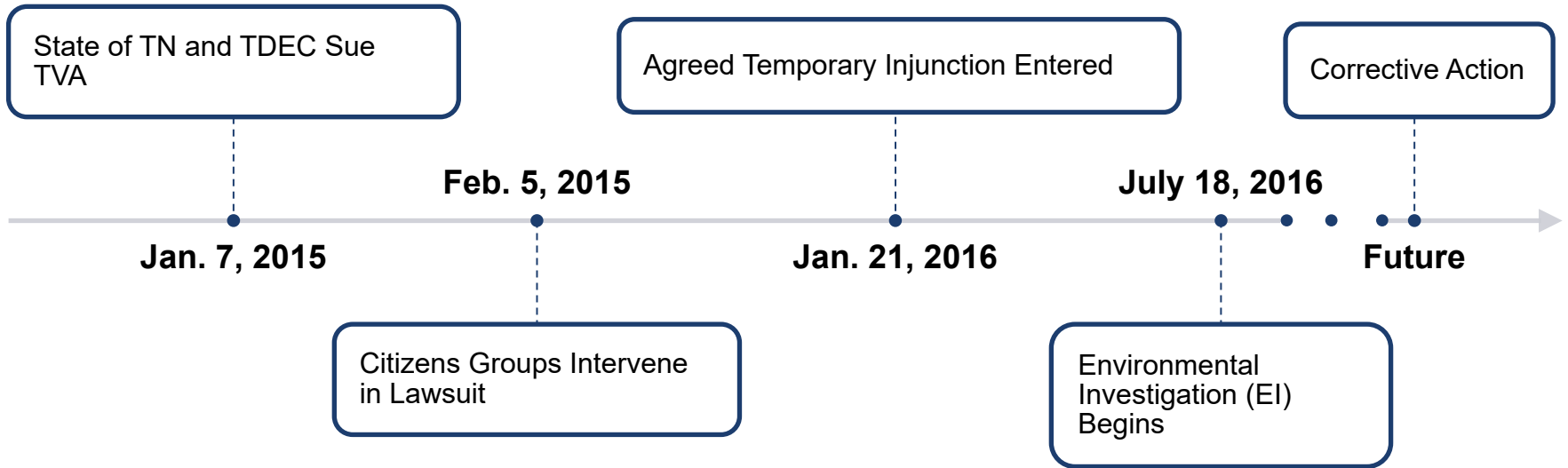
1998  
 • NRS is Closed

2016  
 • North Rail Loop Landfill (NRL) Receives Dry CCR

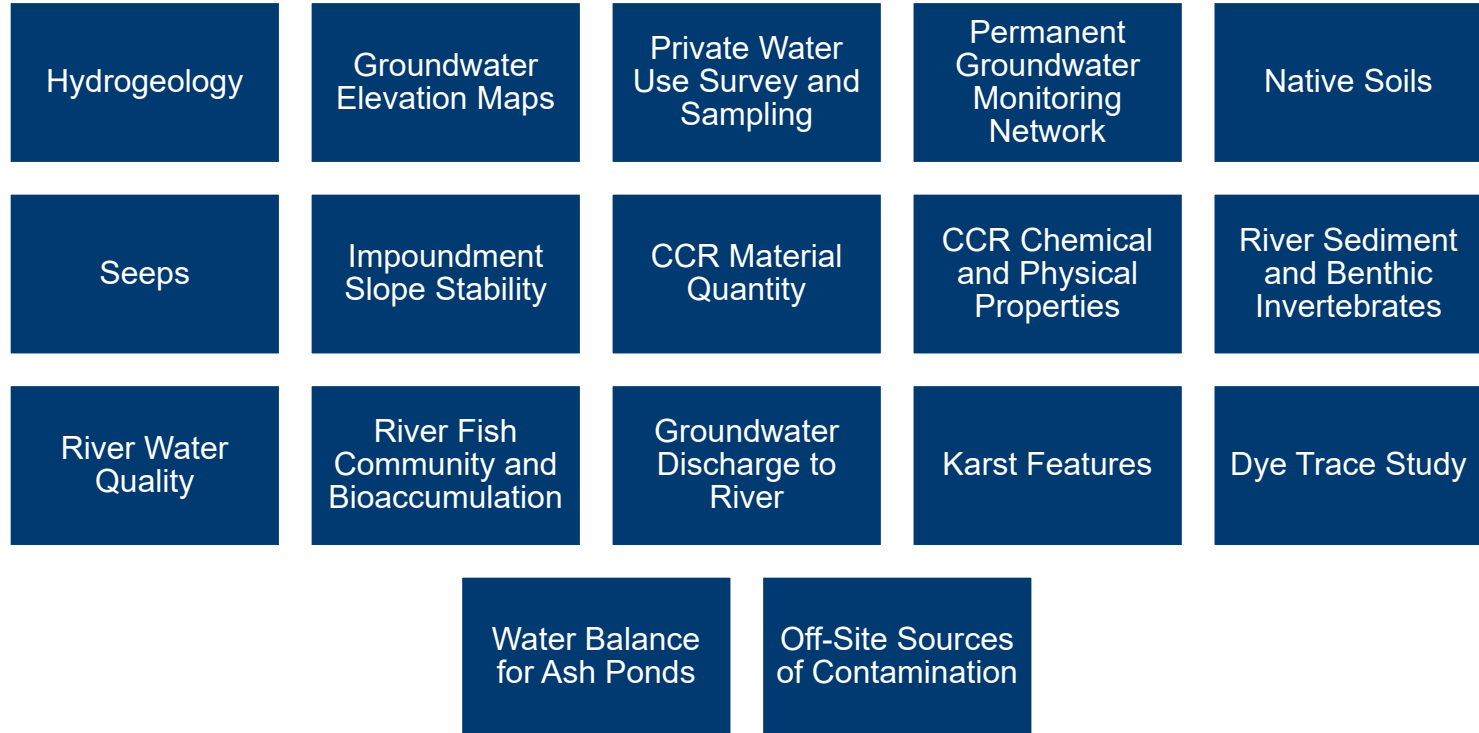
2019  
 • GAF Stops Sending CCR Flows to APC



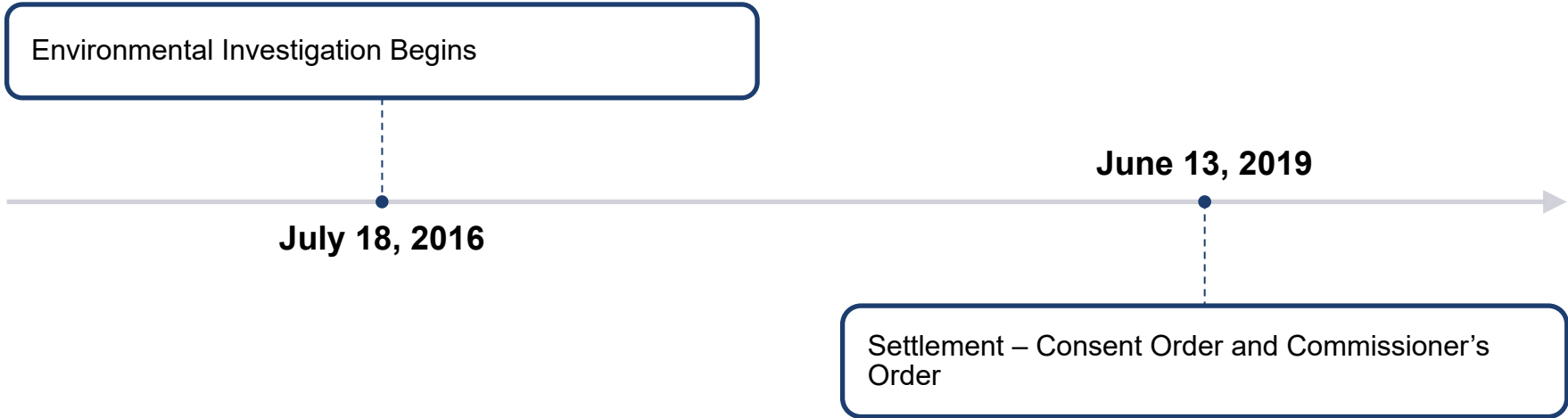
# Original Timeline



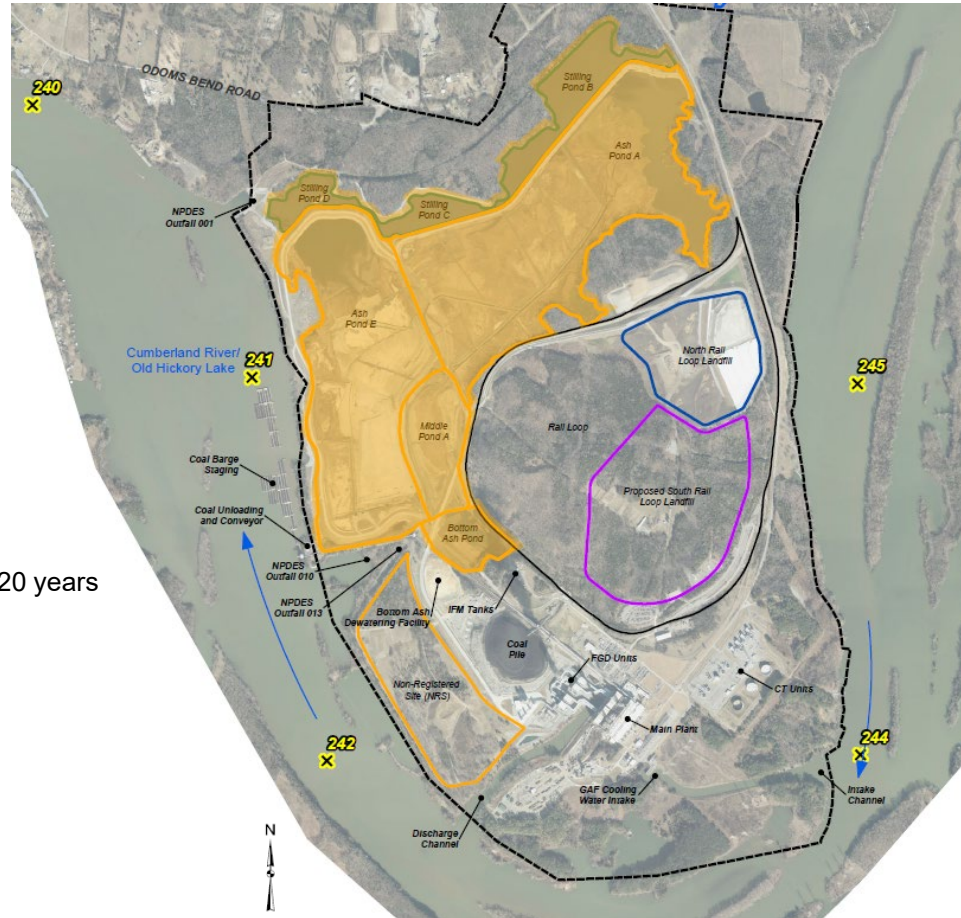
# Investigation Requirements



# Order Developments



# Consent Order



# APC Removal

435 Acres

11.92 MCY of  
CCR

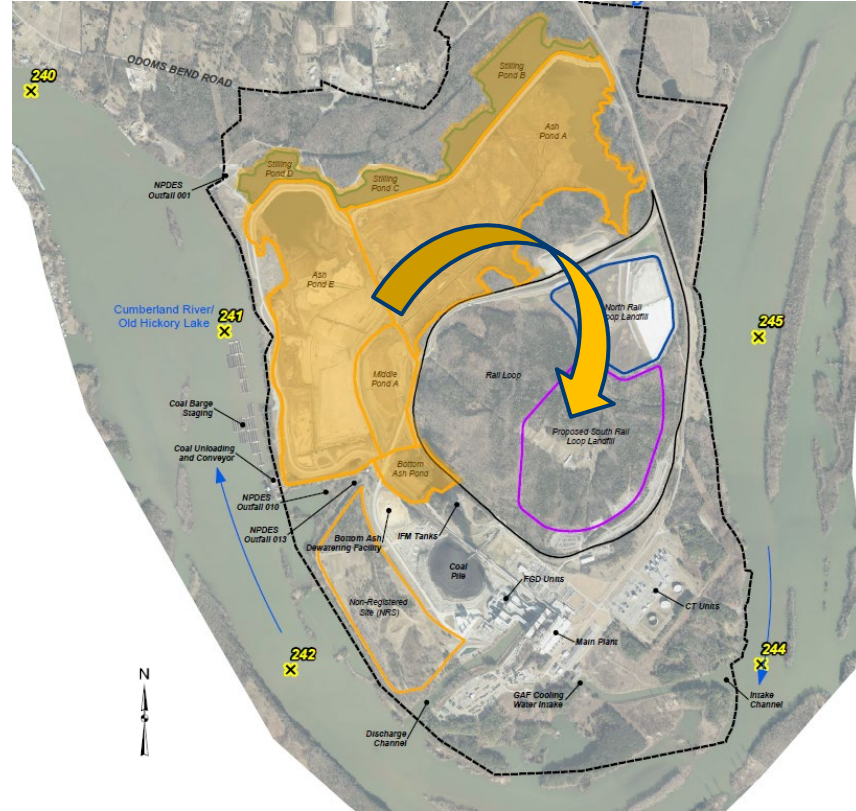
800 KCY of  
Impacted Soils

800 KCY -  
1MCY / YR

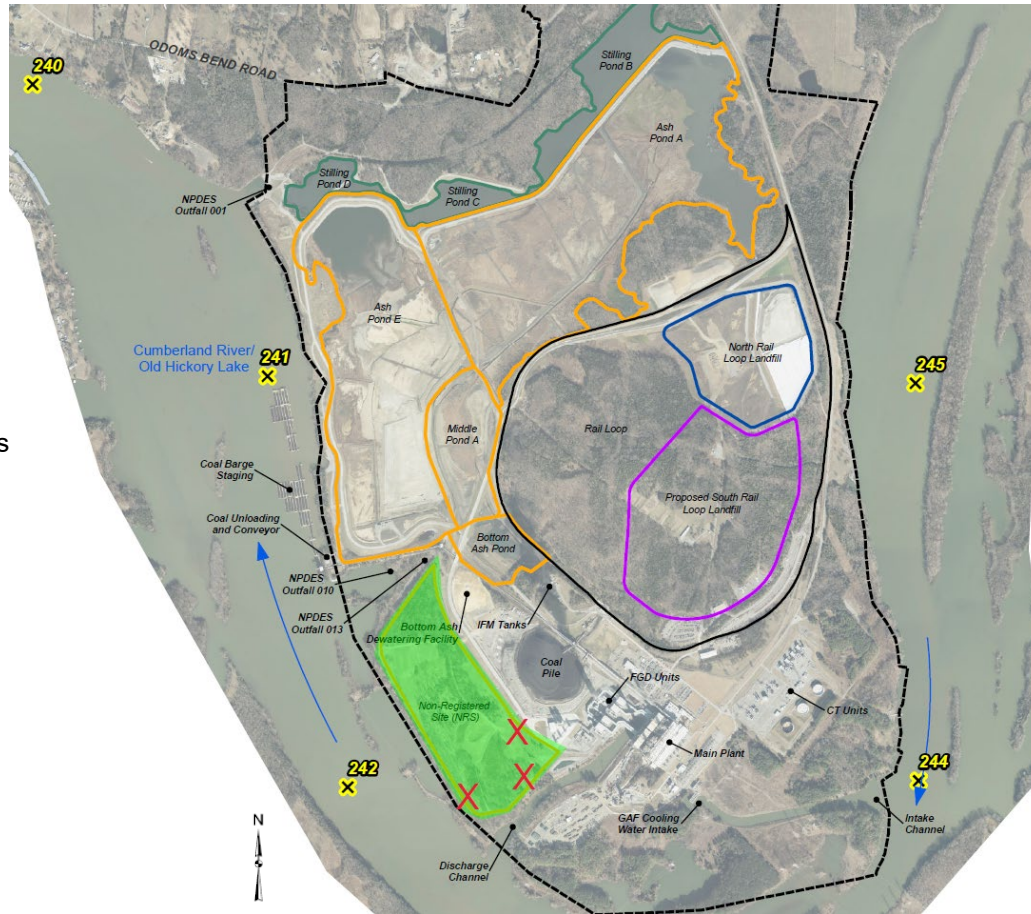
New Landfill to  
be Constructed

- 100.5 Acres
- 16.9 MCY Airspace

Evaluating  
Beneficial Reuse  
Potential



# Commissioner's Order





# NRS Field Demonstration

70-Acres

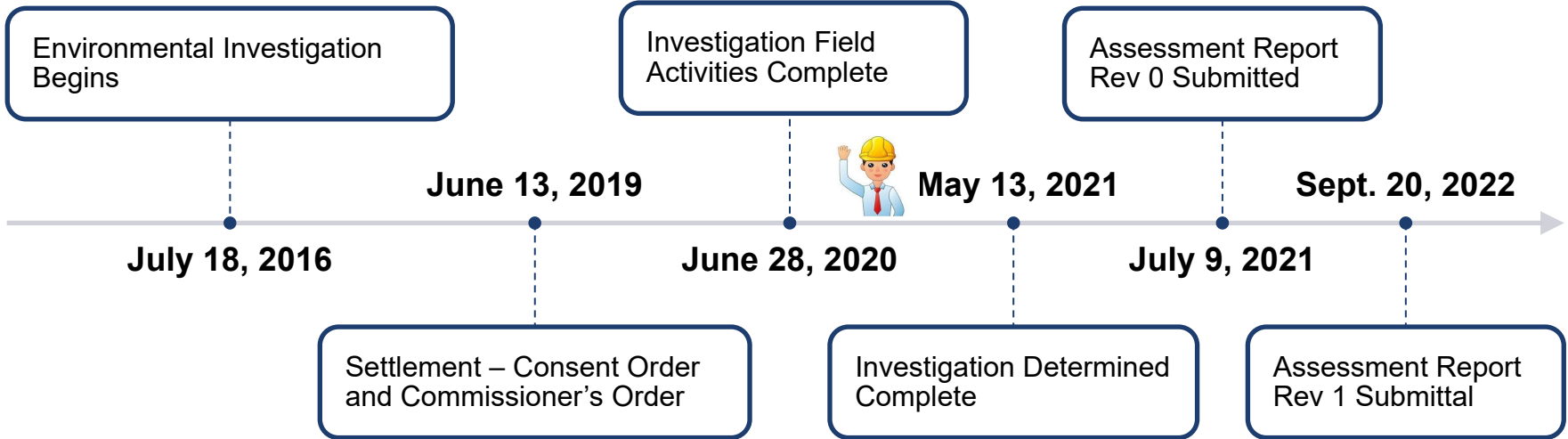
1.97 MCY

Field Demonstration  
to Adjust pH

PRB:  
40-foot-long  
12-wide  
60-feet Deep



# Order Developments



# Strategic Communication

Frequent Connections with TDEC

Weekly 4 –  
Week Look  
Ahead

Monthly  
Progress  
Reports

Individual  
Calls

Quarterly  
Meetings

Technical  
Workshops

# Strategic Communication

## Frequent Connections with TDEC

Work Sequence

Observation  
Monitoring  
Points

NRS  
Interim  
Stability

Landfill  
Working  
Face

Assessment  
Report  
Comment  
Deferral

Permanent  
Monitoring  
Network

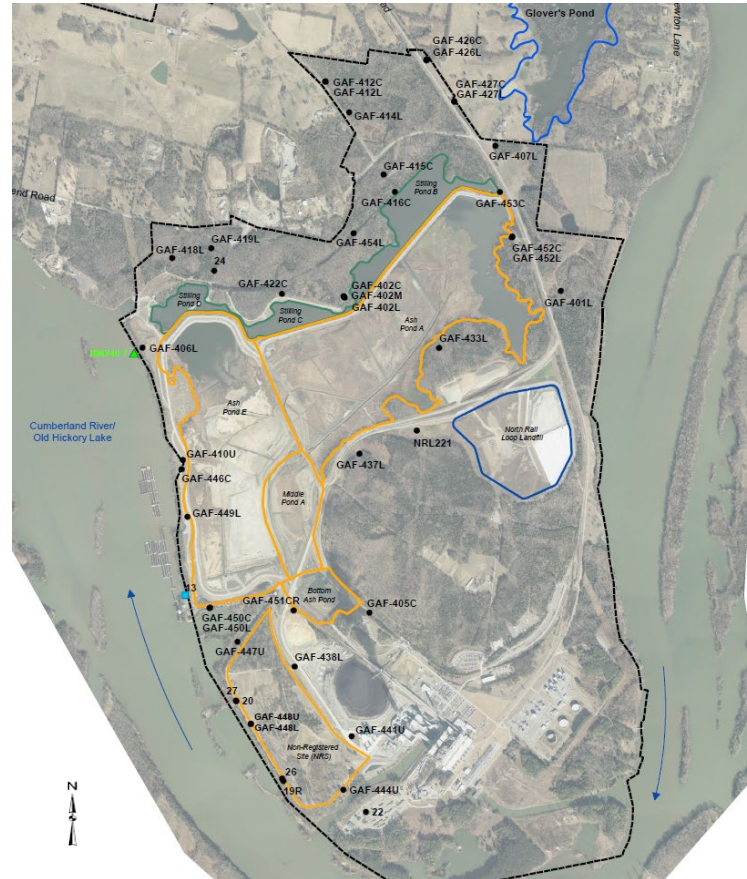
Corrective  
Action / Risk  
Assessment

# Investigation Results – Permanent Monitoring Network

APC Network:  
33 Wells

NRS Network: 11  
Wells

Observation  
Monitoring Points:  
2 Locations



Permanent Monitoring Network

# Investigation Results – Cumberland River Quality

Sediment, Surface  
Water, Benthic  
Sampling

Electrical  
Conductivity and  
Thermal Infrared  
Surveys Informed  
Dye Trace

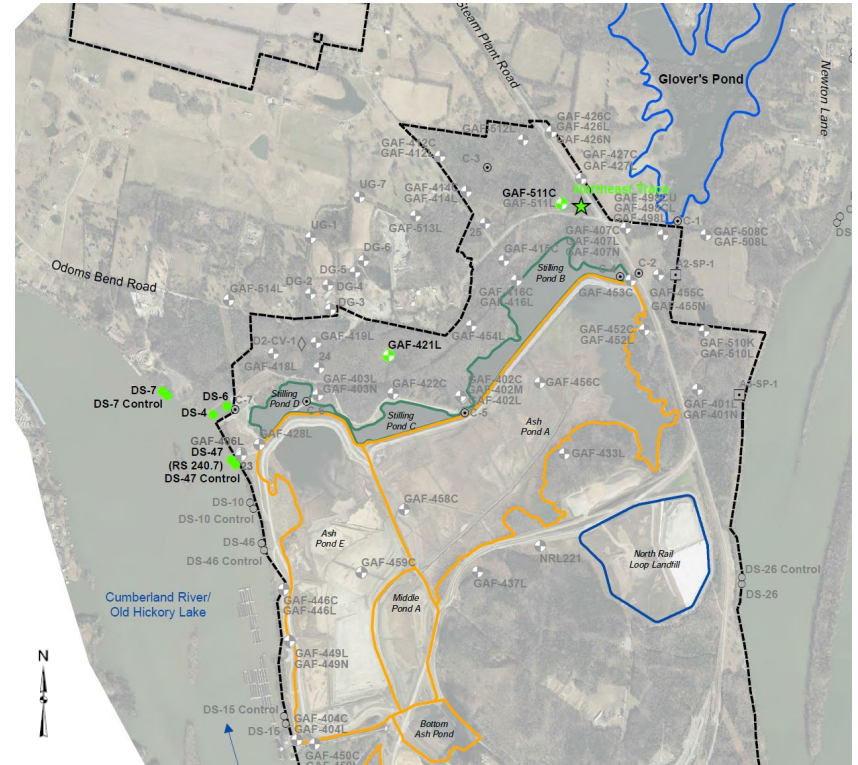
Surface Water  
Quality Protective of  
Human Health and  
Aquatic Life

Aluminum and  
Manganese Exceed  
Chronic Screening  
Level Not Tied to TVA  
Operations

Iron Exceedances at  
a Few Anomalous  
Areas

Sediment Exceeds %  
Ash Screening Level  
in 3 locations

No Adverse Effects to  
Fish or Benthic  
Invertebrate  
Communities



Dye Trace Study Results

# Investigation Results – Karst & Seeps

620 Karst  
Features  
Identified

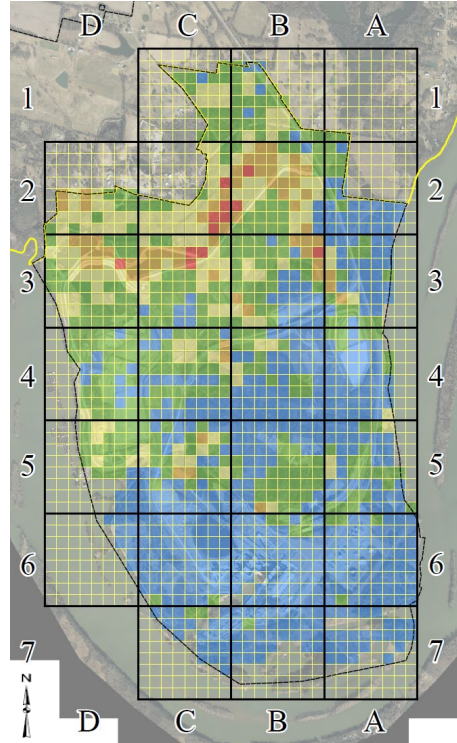
50 Karst  
Features  
Previously  
Repaired

Sinkhole Risk  
Evaluation and  
Karst Mitigation  
Plan Developed

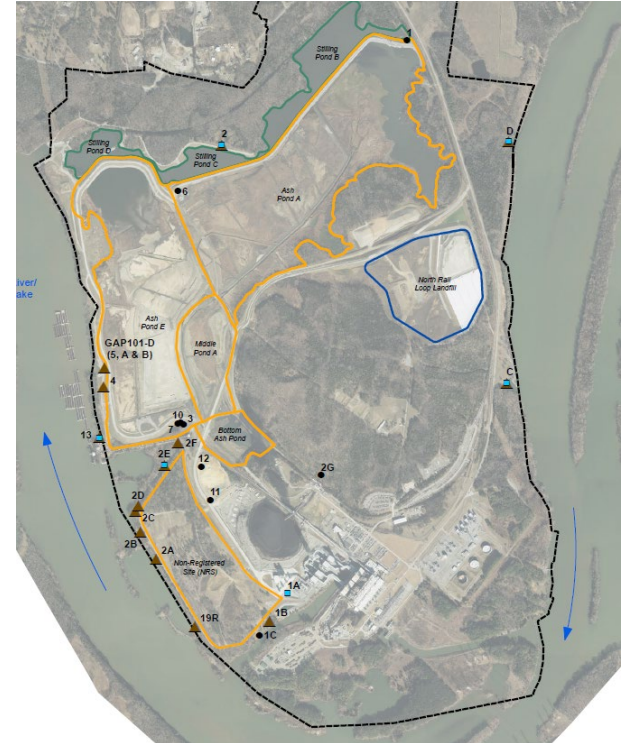
6 Seep Locations  
Sampled

3 Seeps  
Mitigated

2 Seeps  
Unimpacted by  
CCR



Sinkhole Risk Evaluation



Seep Locations

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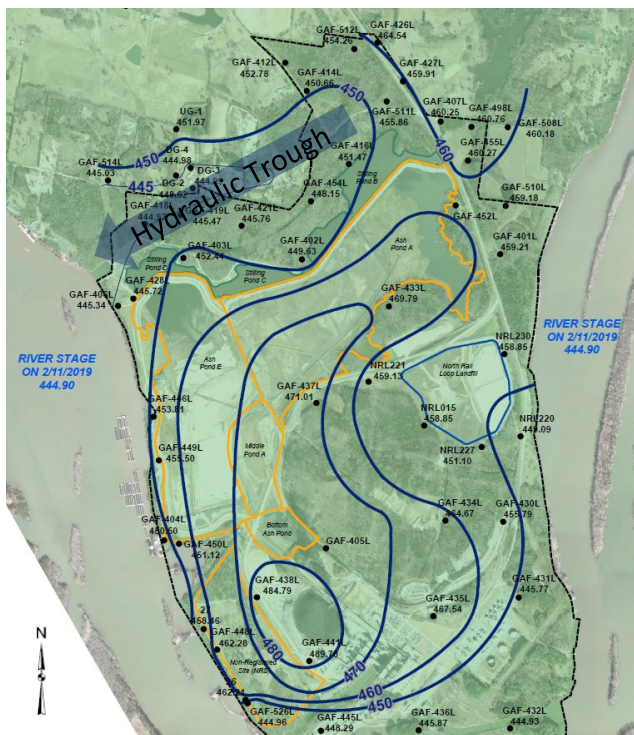
# Investigation Results

## - Groundwater

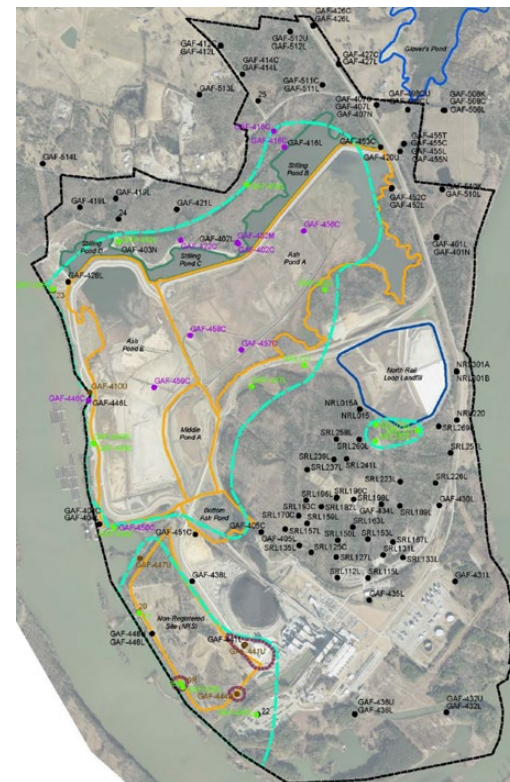
103 Groundwater Monitoring Wells Sampled

37 Wells with Statistically Significant GWPS Exceedance

26 Wells with Proposed Alternate Sources



Lebanon Limestone Potentiometric Surface



Approximate Extents of CCR Impacts

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# Investigation Results – Water Supply Well Survey

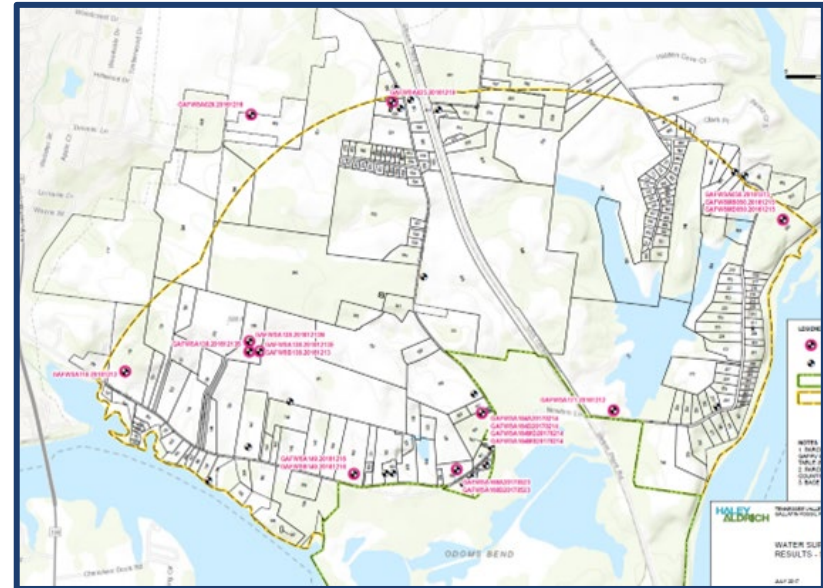
235 Target Properties

162 Properties Surveyed

24 Properties with One or More Wells

11 Wells Sampled

No Drinking Water Standards Exceeded



Target Properties for Water Supply Survey



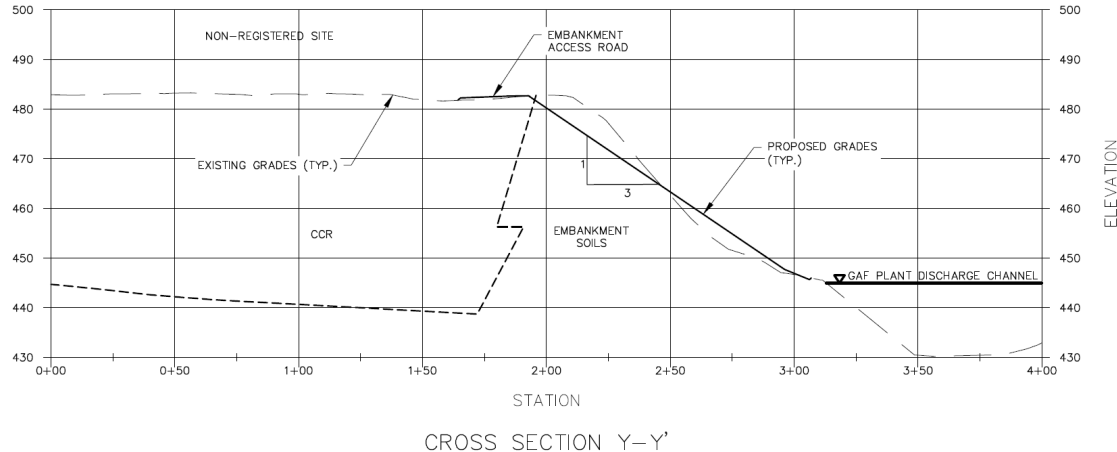
# Investigation Results – Structural and Seismic Stability

APC Current  
Conditions Meet  
Required Factors of  
Safety

APC Stability during  
Closure by Removal  
will be Evaluated

NRS Current  
Conditions do not  
Meet Static or  
Seismic Factors of  
Safety

NRS Interim Stability  
Improvements have  
been Initiated



# Strategic Communication

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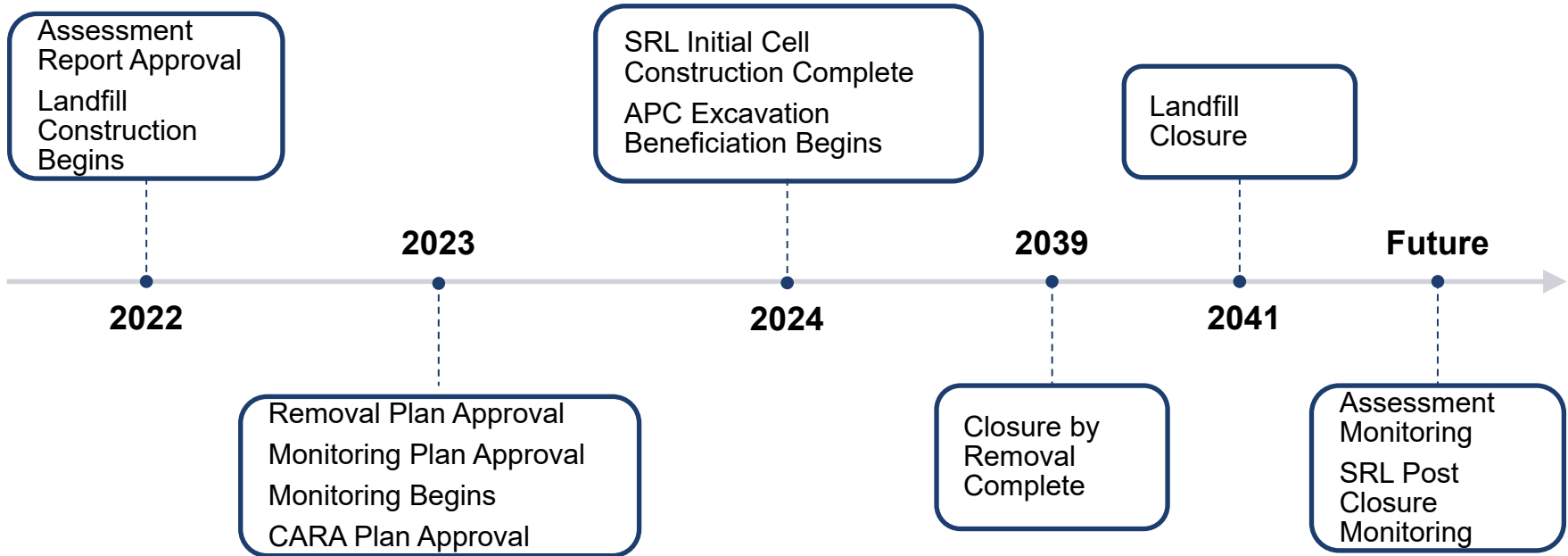
Landfill  
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Assessment  
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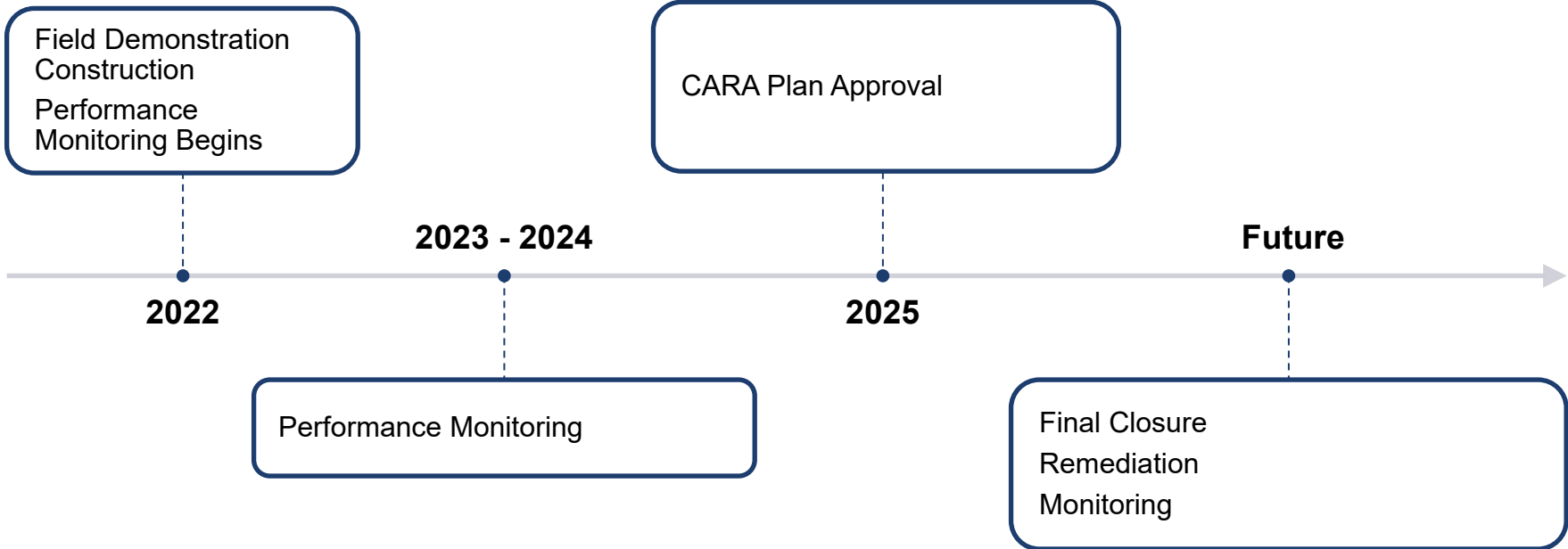
Permanent  
Monitoring  
Network

Corrective  
Action / Risk  
Assessment

# APC Consent Order Future Activities



# NRS Commissioner's Order Future Activities



**TVA**

**TENNESSEE  
VALLEY  
AUTHORITY**